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Shaping Natural History and Settler Society

Mary Elizabeth Barber and the Nineteenth-Century Cape

Tanja Hammel



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In Memory of Patrick Allan Lifford Harries

PREFACE

‘Probably the most advanced woman of her time in South Africa’¹ created the illustration on the cover of this book. A woman who is hardly known. On 13 November 1864, the Cape-based botanist, entomologist, archaeologist and ornithologist Mary Elizabeth Barber wrote to the Irish botanist William Henry Harvey about a ‘curious little plant’ that her brother Henry had found:

growing upon a sandy hill side, in an isolated spot of not more than 9 or 10 yards square, nearly all of them, 8 in number, were in blossom, & he searched the neighbourhood in vain, for more of them, none were to be found. How curiously a group or two of these little plants seem to stand alone in isolated spots, as if they were the last of their species quietly finishing their course in this world.²

She felt similarly isolated from the world and believed Harvey to be the only botanist truly interested in Cape flora. It was perhaps in 1865 that Barber made a watercolour painting of the plant and sent further specimens to Dublin. These were mounted by Harvey and can be traced in the herbarium today. They are labelled ‘806 Tsomo River on flats [Tsomo River Valley in the former Transkei] – new *Brachystelma*’. And on the sheet, Harvey pencilled ‘*Brachystelma barberiae* MS’.³

Harvey could not publish about the plant as by that time he was seriously ill and no longer able to work regularly. He died in May 1866, and Barber had to find a new authority who would publish ‘her discovery’. She sent ‘a drawing of curious *Brachystelma*’ to the botanist Joseph Dalton

Hooker, the director of the Royal Botanic Gardens, Kew, London.⁴ In her accompanying letter, Barber described the desolate state of Cape Botany without Harvey. Her strategy worked: Hooker published a hand-coloured lithograph and description of it in *Curtis's Botanical Magazine*. The description derived entirely from the painting, as he had never seen the plant alive or dead.⁵ At Trinity College Dublin Herbarium (TCD), there is one herbarium specimen which in its broad outlines resembles the drawing, and could have served as the model for Barber's watercolour. The species was called *Brachystemla barberiae* Harvey ex Hooker fil.

Thanking Hooker for the copy of the magazine she had received, Barber stated that 'all drawings' came 'far short of the original, with its beautiful arches and purple blossoms'. In an apologetic manner, she then continued describing that this plant had an 'abominable' scent, which was 'only appreciated by the "blue bottle" flies'.⁶ It is salient that Barber initially only reported on her visual perception and neglected the plant's scent—one of its key features. Most likely, she had only seen her brother's dried specimens or she might have omitted her olfactory experience due to vision being the preferred sense in science and culture, with the former explanation being the more likely. She did additional research on the plant after sending her specimens to Harvey. With its 'marvelous appearance' and 'strange scent', *Brachystemla barberiae* perfectly matched Barber's botanical research interest which she once described as 'the marvelous [sic] and the strange, either in appearance or in habits'.⁷

Yet, the question arises what the type of now-called *Brachystemla barberae* actually is, as correspondence between two botanists of TCD and Kew from the mid-1980s stored at TCD shows. The type could be the illustration in *Curtis's Botanical Magazine*, the somewhat similar specimen at Dublin (which Hooker never saw), the plant from which Barber made the illustration (if different from the one in the herbarium, no longer extant). The fact that the description was made from a drawing and not from an actual plant raises a problem the two botanists had never encountered before. Thus, the botanist at Kew argued that Barber's original painting 'should be designated holotype', the reproductions of it were 'isotypes' and the specimen at TCD a 'typotype'.⁸

According to the botanist S. P. Bester of the Pretoria National Herbarium, *Brachystemla barberae* is 'without doubt the most spectacular species in the genus'.⁹ The colour and odour of the plant remind of decaying carcasses. Today, it is not but its occurrence depends on its use by people and animals. In rural areas when food is scarce, tubers are eaten as

a food supplement. San use it as a daily food supplement. Porcupines, baboons, rodents and certain insects are fond of the tubers as well. The tubers serve as a source of water in dry habitats where the plant occurs. No specific medicinal use is known, but many tuberous brachystelmas are used for headaches, stomach aches and colds in children.¹⁰

This short history and contextualisation of *Brachystelma barberiae* in many ways serves as a prolepsis to what follows in this book. The woman who is commemorated in its name, who has provided the first herbarium specimens and first watercolour of the plant is at the centre. The Haitian scholar Michel-Rolph Trouillot in his seminal book *Silencing the Past: Power and the Production of History* rejected ‘both the naïve proposition that we are prisoners of our pasts and the pernicious suggestion that history is whatever we make of it’. ‘History’, according to Trouillot, ‘is the fruit of power, but power itself is never so transparent that its analysis becomes superfluous. The ultimate mark of power may be its invisibility; the ultimate challenge’ for historians, ‘the exposition of its roots’.¹¹ In this vein, this book narrates a history of a neglected woman scientist in the Cape and makes power relations in science and society visible. Power relations had a deep impact on whether Barber’s words and illustrations were published, praised, criticised, plagiarised, neglected, ignored, silenced, kept and later archived, destroyed, remembered, forgotten or analysed/written about.

Zurich, Switzerland

Tanja Hammel

NOTES

1. (Glen and Germishuizen 2010, 88).
2. TCD, 806 *Brachystelma barberiae* MS.
3. TCD, 806 *Brachystelma barberiae* MS.
4. Cover, Kew Library, Art and Archives (KLAA), *Brachystelma barberiae*, watercolour on paper by Mary Elizabeth Barber, preparatory illustration for plate 5607, volume 92, Curtis’s Botanical Magazine, 1866, with permission from the Royal Botanic Gardens Kew, all rights reserved.
5. (Hooker 1866). For an open access version of a reproduced hand-coloured lithograph see: <https://www.biodiversitylibrary.org/item/14368#page/286/mode/1up> accessed 2 December 2018.

6. KLAA, Director's Correspondence (DC), Volume 189, Barber to Hooker, Highlands, 26 December 1866, Letter 112.
7. KLAA, DC, V. 189, Letter 113, Barber to J. D. Hooker, Highlands, 26 December 1866.
8. Correspondence stored at TCD. Letter by David A. Webb (TCD) to R. K. Brummitt (Kew), 25 January 1984; Telegram from R. K. Brummitt to D. A. Webb, 10 February 1984. TCD, 806 *Brachystelma barberiae* MS.
9. S.P. Bester, *Brachystelma barberae* Harv. ex Hook.f., September 2008 <http://pza.sanbi.org/brachystelma-barberae>, accessed 2 December 2018.
10. S.P. Bester, *Brachystelma barberae* Harv. ex Hook.f., September 2008 <http://pza.sanbi.org/brachystelma-barberae>, accessed 2 December 2018.
11. (Trouillot 1995, xix).

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- Trouillot, Michel-Rolph. 1995. *Silencing the Past: Power and the Production of History*. Boston: Beacon Press.

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‘*Akukho Ntaka Inokubhabha Ngephiko Elinye* [No Bird Can Fly on One Wing]’ is a proverb (*amaqhalo*) in isiXhosa which comes from bird-catchers who argue that without or with lopsided preparations, the result will be flawed.¹ Being a bird with one wing, I wrote this book with the support of a number of people, each one of them being a feather for my second wing—some bigger, some smaller.

The late Patrick Harries proved an enthusiastic supervisor who was passionate about the project, opened many doors for me and introduced me to inspiring scholars, research topics and literature. For his help, I am immensely grateful. Originally having been trained as a European cultural historian, particularly in what is called ‘Historische Anthropologie’ in German, African History, New Imperial History and the History of Knowledge and Science were new fields to me. Without Julia Tischler, this book would not have been published. She has been supporting me ever since her arrival in Basel and kindly offered to supervise me after Patrick’s sudden passing. I thank her for her keen interest, encouragement and faith in my abilities as a junior colleague. Rebekka Habermas has crucially contributed to the outcome by her own research, in conversation, by introducing me to literature and commenting on my drafts and articles before publication. Christine Winter and Kirsten McKenzie enabled me to spend three stimulating months as an affiliate researcher at the University of Sydney, where I met many brilliant historians, wrote the two best chapters—the heart of the book—and learnt more about Australian historiography. Christine Winter’s constructive criticism enriched this book.

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NOTE

1. (Bradford 2008, 211).

REFERENCE

Bradford, Helen. 2008. Akukho Ntaka Inokubhabha Ngephiko Elinye (No Bird Can Fly on One Wing): The 'Cattle-Killing Delusion' and Black Intellectuals, c1840–1910. *African Studies* 67: 209–232.

Praise for *Shaping Natural History and Settler Society*

“Tanja Hammel has performed a remarkable service in bringing the redoubtable, intelligent and complex character, and the multiple contributions, of Mary Elizabeth Barber into sharp focus. Barber’s shadowy presence in many of the emerging environmental sciences in Southern Africa has long deserved detailed examination. While Barber is shown to be multifaceted and talented, Hammel also employs her life and work to analyse and understand the intricate colonial and imperial world of the nineteenth century.”

—Jane Carruthers, Emeritus Professor, *University of South Africa, South Africa*

“This book is not just a detailed study of Mary Elizabeth Barber, an important woman naturalist, but is an important contribution to the histories of women and science in colonial settings. By analysing the complex power dynamics of gender, science and colonialism, Hammel shows that these three did not merely coexist, but produced, reinforced and modified each other. The result is a rich, thought-provoking study that should be read by scholars in many different fields.”

—Jim Endersby, Professor of the History of Science, *School of History, Art History and Philosophy, University of Sussex, UK* (author of *Imperial Nature: Joseph Hooker and the practices of Victorian Science* (2008))

“Stereotypically, science in the nineteenth century was an activity of prosperous white men resident in the metropolis. In contrast, the subject of this book, Mary Barber, was a colonial woman, who nevertheless was able to make significant contributions to natural history, especially botany. Hammel shows how Barber’s struggle as an outsider shaped both her botany and her socio-political views, as a feminist *avant la lettre*. A truly fascinating and important study of a remarkable woman.”

—Robert Ross, Professor Emeritus in African Studies at the *Leiden University Institute for History, the Netherlands*

“This book exposes a complex politics within nineteenth-century imperial science. As a member of the Cape elite, Mary Elizabeth Barber interacted with the English establishment from the provincial margins. As a woman, she confronted experts who inevitably treated her as a subordinate. As a white person in colonial Africa, she inhabited a racialized hierarchy that devalued indigenous naturalists’ knowledge while exploiting their labor. Hammel deftly shows how Barber negotiated these intersecting identities through her Darwinian understandings.”

—Nancy J. Jacobs, Professor, *Department of History and Institute for Environment and Society, Brown University, USA*

“Tanja Hammel’s painstaking years of labour in recovering the hidden and suppressed archival traces across three continents of the life history and scientific labours of Mary Barber does reveal her to have been a truly remarkable Cape frontierswoman who contributed significantly to Victorian and South African science. Above all, the book exposes the multiple levels on which a mythologised narrative of the progressive development of knowledge by liberal men of science and conservation, here of the modern field sciences, has marginalised the contributions of women and Africans to knowledge production. It is a refreshing and all too rare celebration of the historian’s craft of the close reading of archival sources.”

—Andrew Bank, Associate Professor in History, *Faculty of Arts, University of the Western Cape, Cape Town, South Africa*

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ABBREVIATIONS

CL	Cory Library, Rhodes University, Grahamstown
<i>CMM</i>	Cape Monthly Magazine
HM	History Museum, Albany Museum Complex, Grahamstown
KLAA	Kew Library, Art and Archives, London
MEL	National Herbarium of Victoria, Melbourne, Australia
NELM	National English Literary Museum, Grahamstown
NHM	Natural History Museum, London
RES	Royal Entomological Society, St Albans
TCD	Trinity College Dublin Herbarium
<i>TSAPS</i>	Transactions of the South African Philosophical Society
UCT	University of Cape Town
UWC	University of the Western Cape

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CHAPTER 1

Introduction

Ghosts ‘are a haunting reminder of an ignored past’, Banu Subramaniam, professor and chair of women, gender and sexuality studies at the University of Massachusetts, Amherst, asserts in her exploration of the politics of science. It is our duty as historians to render these ghosts visible by ‘confront[ing] the past, or [else] the dead never go away, history never sleeps, the truth can never be erased, forgotten, or foreclosed’.¹ *Shaping Natural History and Settler Society: Mary Elizabeth Barber and the Nineteenth-Century Cape* addresses a number of interconnected ‘ghosts’, or ‘ignored pasts’, specifically women’s contributions to science, the involvement of the South in global knowledge networks and the role of knowledge production in colonial dispossession.

This is a demythologisation of the male-dominated practices of Victorian science and of ‘colonial knowledge’. It is a reconstruction of the scientific work of British-born and Cape-raised scientist Mary Elizabeth Barber (née Bowker) and her associates. Barber serves as a prism to explore Victorian natural history and to demonstrate the ways it changed throughout the course of her career from the 1840s to the late 1880s. It is an exploration of her compatriots’ and metropolitan colleagues’ negotiations and interrelations of gender, race and class in science. The British historian of science, Jim Endersby, has reconsidered three themes which dominate the understanding of Victorian science: the reception of Darwinism, the spread of colonialism and the birth of science as a profession.² This study adds gender, settler colonialism and

South-North engagement in the making of modern science to the exploration. It illuminates the social, political and economic circumstances which shaped Barber's career and determines the nature of the impact which Darwin's books, on the one hand, and the theories and practices forged at the Cape, on the other, had on natural history and society. It correlates these to topics which have generally been studied in isolation from each other: the historical reception of natural history and science in Europe, the British Empire and beyond.

It contributes to the history of science in Southern Africa and the historical reception of Darwinism at the Cape.³ By focusing on an early botanist, ornithologist and entomologist, this book wishes to contribute to a dynamic recent literature on the role of women scholars as collectors, illustrators and authors in the field sciences in Southern Africa.⁴ Despite developing a strong interest in animal and plant studies and environmental humanities, this study follows an understanding of history as the study of human beings within their temporal and spatial contexts.

When writing about Mary Elizabeth Barber's career, it is important to bear in mind that the word 'scientist' did not exist before the British philosopher and historian of science, William Whewell (1794–1866), coined the term in 1834. Interestingly, he introduced it in a review of a publication by Scottish science writer and polymath, Mary Fairfax Somerville.⁵ There were very few women scientists like Somerville, and most of them devoted themselves to a single field of expertise. The kind of career Barber was constructing for herself had no precedents. From the 1830s to the 1880s, the lines between what was considered an amateur and who was regarded a professional scientist were still being drawn. Indeed, there were very few individuals who could claim to earn a living from science at the time, and those who did, enjoyed only a low social standing in a scientific community which was still dominated by unpaid gentlemen-scientists such as Charles Darwin.

Mary Elizabeth Bowker was born in 1818 in the village of South Newton, some four miles South of Stonehenge, in Wiltshire, where her parents were farming. Desiring a better future for his eight sons and single daughter than the one he foresaw for them in economically depressed Britain, Barber's father, Miles Bowker, sought a move to the US, British Canada or Australia. However, prospects for gentlemen-farmers in the newly advertised settlement at the Cape suddenly became attractive. In 1819, the British government offered hundred acres of land to any British man older than eighteen, who was prepared to immigrate to the Cape

Colony.⁶ The Bowker family did so and arrived in May 1820 among the so-called 1820 Settlers—parties of white British colonists which were granted land by the British government and the Cape authorities and settled in the eastern part of the Cape Colony in 1820. Henceforward, young Mary Elizabeth would find herself growing up in the second richest floristic region in Southern Africa, on an extended farm near the Kleinmond River, about thirteen kilometres east of Port Alfred, on the eastern frontier of the Cape Colony. She would spend the rest of her life in the Cape.

As a child, Barber soon began to explore her environment. She is said to have been an autodidactic genius who taught herself to read and write when she was four.⁷ Her father set up a farm school for all his children and those of his employees. Her parents' or teachers' enthusiasm for botany, natural history and natural philosophy may indeed have been contagious.⁸

She would ultimately paint many more than the one hundred watercolours of plants, butterflies, birds, reptiles and landscapes that remain to this day.⁹ Sixteen of her scientific articles as well as a volume of poems were published.¹⁰ To achieve the publication of her articles, she corresponded with some of the most distinguished British experts in her fields, such as the entomologist Roland Trimen, the botanists William Henry Harvey and Joseph Dalton Hooker, and the ornithologist Edgar Leopold Layard. In doing so, she contributed not only to botany but also to entomology, ornithology, geology, archaeology and palaeontology. While her letters to these experts at the institutions they held an official position at have survived, their letters to her unfortunately have not.

Yet, the remaining sources provide insights into her scientific practices: her many gardens which served as laboratories, where she could observe, paint and experiment with plants and animals, and the collecting and observing of all the natural objects she encountered wherever she went. In her correspondences, Barber emphasised that she did everything in her power to obtain specimens. For example, she reported how, in an effort to procure blossoms from what she thought was the largest aloe species in the world, she began 'shooting off their stems with a rifle bullet!', a method which she considered to be 'rather a novel way of gathering flowers', and which she felt distinguished herself markedly from women collectors.¹¹ Perhaps, fittingly, this particular aloe specimen did turn out to be the largest yet found in Africa, with a height of up to fifteen metres. The tree aloe was eventually named *Aloe barberae* (now *Aloidendron barberae*) in her honour—one among at least ten botanical specimens, genera and butterfly species which were named after or 'discovered' by her.¹²

During the early years of her scientific career, from 1853 till 1868, Barber lived and worked on the farm Highlands, situated on a long ridge about twenty-four kilometres West of Grahamstown (Makhanda),¹³ which was the second highest point in the Albany district, and thus particularly well-suited for sheep farming. This remote farm allowed her to focus on her scientific pursuits and provided little distraction. She could immerse herself in the surrounding nature, observe and experiment for long periods of time. The family then lived on the diamond fields in Griqualand West in the 1870s and then moved to the Vaal River. In the 1880s and 1890s, Barber stayed at Junction Drift near Cradock, in Grahamstown, in Malvern near Durban, in Pietermaritzburg and in various other locations in Albany and the Eastern part of the Cape Colony. She also resided in Cape Town for several brief periods, and once, when she was 70, she travelled to Britain and Europe for a short visit (Fig. 1.1).

Barber shaped key issues concerning the status of nineteenth-century natural history. For example, the acknowledged botanist and entomolo-

Fig. 1.1 ‘Portrait of Mary Elizabeth Barber, Eastern Cape naturalist and writer’, developed from glass negative. (© Western Cape Archives and Records Service, Van der Riet Collection (VDR) 178, no date. All rights reserved)



gist was one of the first Cape-based supporters of Darwin's theory of evolution by natural selection and opened the practices of 'gentlemanly science' to professionals, amateurs and women. As a shaper of scientific practices and a forger of new theories, Barber's career offers a telling prism through which to explore trends in the development of science and society in the nineteenth-century Cape.

By exploring the impact of the colonial 'periphery' on scientific disciplines, a valuable corrective is provided to the hitherto dominant and Eurocentric approaches, which have viewed modern science as having emerged from the global North before disseminating itself throughout the South.¹⁴ The Cape, like other Southern colonial settings, has not yet been recognised as 'a source of refined knowledge', but rather, as Jean and John Comaroff—both professors of African and African American Studies and of Anthropology at Harvard University—have argued, as a 'reservoir of raw fact: of the historical, natural, and ethnographic minutiae from which Euromodernity might fashion its testable theories and transcendent truths, its axioms and certitudes, its premises, postulates, and principles'.¹⁵

Barber also offers a prism to assess the role of women in natural history and society in a settler colonial setting. Women were accepted as collectors and illustrators, roles in which they acted as helpmates to men naturalists without invoking any personal scientific ambitions. Ambitious women, such as Barber, who wanted to be recognised as naturalists in their own right, thus faced numerous obstacles and difficulties. The complexities of their marginalisation and other challenges which women academics faced are explored throughout this book.

This study of Barber focuses on Europeans in Europe, in the Cape Colony and other colonies. It is concerned with how Barber constructed herself as a 'white African' in her 'imagined community' of Anglophone Cape Colonials to legitimise her claim of belonging in her adopted homeland. Barber had internalised the discourses of settler colonialism, which reinforced her conviction in a white 'civilising' presence on the African continent, which, in turn, stood for 'progress' and 'modernisation'.¹⁶ The emergence of her ideas from both the context of the times and her own life experiences, and how these evolved in conjunction with her endeavours in the emerging fields of botany, entomology, ornithology and archaeology are of particular interest. A special focus lies on her construction of systems of knowledge to give meaning to the changing world

around her. The narrative and artistic practices which Barber employed to depict Africans and their environment are also closely analysed.

This book hence lies at the intersection of colonial studies, the social history of science and women's history, and is an analysis of the intertwined relationship between natural history, gender and settler colonialism. To make the connections between these topics visible, certain concepts are used and adapted, which are introduced in the following sections.

THE HISTORY OF SCIENCE IN A COLONIAL CONTEXT

Studies on the history of science have focussed on scientific practices that allowed historians to transcend the externalist-internalist divide in science. Historians of science had for a long time distinguished between internal factors and influences that shaped science (e.g. objectivity, experimentation) and external ones (e.g. politics, religion and economy), and had either concentrated on one or the other in their studies.¹⁷ In recent decades, historians of science have been aiming to transcend the dichotomy between hagiographic and 'cynical' studies. The former celebrate scientific achievements, such as so-called paradigm shifts and inventions, as detached from their social context. The latter reduce the creation of knowledge to a maintenance of social hegemony without analysing the various struggles and social constraints which different scientists face in its production.¹⁸ By concentrating on the social aspects of the negotiation of knowledge, this study aims to move beyond these two divides. The complexities involved in the struggle for symbolic capital are explored. Who co-operated with whom, at what time, in what manner and for what reason are key concerns. At the same time, I am interested in the way boundaries between amateur and professional, colonial and metropolitan, man and woman, as well as European and African experts were drawn and how permeable they were.

Following French philosopher and historian of ideas Michel Foucault's claim that power and knowledge are intrinsically related, knowledge has become a central concern in the study of colonialism. 'Colonial knowledge', it has been shown, enabled conquest and was in turn produced by it.¹⁹ Saidian- and Foucauldian-inspired critics have examined the 'imperial gaze' which 'reflects the assumption that the white western subject is central',²⁰ and the colonised are infantilised and trivialised in contrast to the privileged observer's values. Part and parcel of the imperial gaze was 'colonial knowledge' which has been defined as knowledge that enabled the exploitation of resources, trade and the legitimisation of land appropri-

tion.²¹ As the concept of ‘colonial knowledge’ neglected the internal dynamics and complexities of the non-European societies under scrutiny, a number of scholars began focussing on what they called ‘colonial local knowledge’. Colonial local knowledge not only is a resource to wield power over others, but is also bound up with processes of identity formation and conceptions of self-empowerment and self-affirmation in relation to peers and superiors.²² Towards the turn of the millennium, research primarily concentrated on Europeans’ ‘imperial eyes’, their linguistic imperialism and scientific racism.²³

In reaction to this narrative of passive African victimhood, historians in subsequent years have demonstrated how knowledge produced at various locations in colonial Africa actually emerged through constant co-operation between Africans and Europeans who found themselves in unequal but bi-directional work relationships.²⁴ According to this approach, scientific research was a continuous collective process, as has been demonstrated in case studies of individual African experts, research assistants or intermediaries who had a deep impact on fieldwork practice, especially in disciplines such as archaeology, tropical medicine and anthropology.²⁵ Yet, some of these studies have neglected the implications of the colonial context of research, which left the impression that those scholars justified the longevity of hidden colonialism and Eurocentrism.²⁶

Rather than reducing scientific endeavours in the Cape to ‘colonial science’, I investigate the power structures inherent in scientific research. The concept of ‘colonial science’ has been deconstructed and ultimately abandoned as it does not take the constant exchange between colonies and their respective metropolises into consideration and, in our case, pays little attention to the knowledge and practices of Africans.²⁷ The sites of knowledge creation were translocal nodes where different actors from various parts of the world came together with diverse but often mutually interdependent interests.²⁸ This study aims to transcend an approach which emphasises only cross-cultural alliance or scientific racism. Traditionally, scientific racism has been studied in disciplines related to humans such as anthropology, medicine and phrenology. Yet it occurs in any kind of scientific research that underpins racial hierarchy also in disciplines unrelated to humans, such as entomology. Cross-cultural alliance and scientific racism, in Barber’s case, occurred at the same time and what others have regarded as ‘colonial knowledge’ was actually interwoven with the knowledge of Africans.

A problem with which historians of colonial-era science have grappled in the last few years is an over-dependence on concepts which may have helped scholars to frame their interpretations more easily, but as simplified models they often conceal more than they reveal. They may also invoke an inherent power structure which may not have been intended by the scholar who coined the term.²⁹

Rather than contributing to theoretical discussions of concepts or resolving tensions between them theoretically, this study concentrates on a specific historical case to draw out what the actual relations between Africans, 1820 Settlers, Britons, Europeans, Australians and Afrikaners were and how particular inequalities between so-called professional and amateur scientists came into existence. The tensions between different groups at the Cape and in Europe, and the boundaries constructed around the various 'imagined communities', are of particular interest throughout the book. Rather than employing concepts, as detailed descriptions as possible are provided of the ambiguous ways in which humans collaborated in search of information, and how circulating knowledge was usually based on a mixture of different sources drawn from various people in diverse cultures with distinct traditions already in circulation. Europeans a Boundaries between what has been called 'indigenous' or 'local knowledge', 'settler' or 'white knowledge', 'vernacular' and 'scientific knowledge' are collapsed to describe 'knowledge' as equal no matter where it comes from. I do so as I aim to do more than recognise fluidity, hybridity of knowledge and interaction between different groups of experts.³⁰ Colonialism thus offers me a lens through which the reconfigurations of social hierarchies or the micro-politics of natural history as practised in specific constellations can be examined.

In what follows, it will be shown how science relates to the political and cultural underpinnings of colonialism. The main argument is that natural history, racism and sexism/feminism gender not only closely interacted with each other, but were mutually co-productive. A case in point is how historical actors interpreted natural and sexual selection according to their various perspectives on issues of gender and race. Studies on knowledge creation in colonial contexts have hitherto focused mainly on men, exaggerated hegemonic masculinity and presented gender barriers as stronger than they actually were in nineteenth-century science.³¹ I examine whether, and in what manner, power structures inherent in a woman's knowledge production differed from the results of these studies. To do so, I ask: how did Barber contribute to the exploration of nature?

Did her contributions to science differ from those of her men colleagues? How did different actors broker, challenge and appropriate knowledge about nature and how were these differences in bartering and in her contributions interlinked with one another?

WHITE WOMEN IN THE HISTORIOGRAPHY OF SCIENCE IN A (SETTLER) COLONIAL CONTEXT

One of the main problems which has been preoccupying and dividing women's historians, feminist historians and women's rights activists is whether sex is socially constructed like gender, respectively whether there are differences grounded in biology.³² The two approaches which have developed are equality and difference feminism which have split historians working on women's pasts into two camps: women's and feminist history.³³

Studies on white women in colonial contexts have either presented women as malevolent perpetrators, personifications of the worst examples of colonial behaviour or as victims of (white) patriarchy, constrained by men and restrictive contemporary gender norms. Reality, however, was much more complex and multifaceted than this.³⁴ Sources by and about white women are often ambiguous in terms of whether and in what way they furthered the colonial project.³⁵ Yet, a number of studies have excavated white women's impact in colonial situations, but their thoughts on women's place in society usually only take the form of a brief aside, if mentioned at all.³⁶

While it has often been assumed that European women found freedom in the colonies, this was not the case. In fact, in many colonial settings the cult of domesticity was as strong as in the metropole—if not stronger.³⁷ Colonial women were consciously suppressed for the colonial project and gender inequalities essentially determined the structure of colonial racism and imperial authority.³⁸ Contributions to Critical Whiteness Studies have shown that the structural entanglement of the categories of gender, race and class provides interesting insights into white women's experiences and actions in colonial situations. Many studies have shown how women were constrained by gender ideologies into carrying the responsibility of spreading European culture through family and domesticity.³⁹ White women thus found themselves in an equally precarious position to that experienced by their women contemporaries in Europe.⁴⁰

The field of Gender and Empire has indeed succeeded in restoring and making many white colonial women visible,⁴¹ yet the field 'has paid little

attention to Southern Africa',⁴² with the focus exclusively having been on European women travellers, missionaries, nurses, journalists, teachers, wives and companions in the colonies, while studies on women academics have remained marginal at best. The most observable reporting has come from a number of scholars who have focussed on women's *exclusion* from science or individual women's roles as 'vital components' in helping their academic husbands with research, facilitating male sociability, and sustaining and reproducing an 'intellectual elite'.⁴³

However, the lives and careers of women naturalists have been of serious interest to ecofeminists, particularly since the 1990s. Ecofeminists have argued that there were striking connections between women and nature, namely in their mutual repression and exploitation by men. Women, impregnated with the traditionally 'female' values of nurturing, collaboration and charity, were thus predestined to take an interest in nature and conservation. Canadian literary and women's studies scholar Barbara T. Gates, for instance, maintains that women formulated 'distinctly female traditions in science and nature writing'.⁴⁴ Gates, along with Ann Shteir, a scholar of women and science, and others unearthed sources that proved that there had been women naturalists in the nineteenth century whom they primarily presented as isolated, apolitical popularisers of science.⁴⁵ These ecofeminist studies were accordingly based on the assumption of genuine gender difference.⁴⁶

Many scholars either were not interested in women scientists' attitudes towards women's role in science and society in general, or maintained that they had been unconcerned with the Woman Question—the questioning of women's roles in society, the advocating for women's suffrage, bodily autonomy, property, legal and medical rights, marriage and sexual freedom in the latter half of the nineteenth century.⁴⁷ Efforts by women academics and particularly naturalists to use science as a vehicle for the advocacy for gender equality have hitherto attracted little scholarly attention to this point.⁴⁸ Due to the preoccupation with scientific racism in South African historiography, scientific sexism and scientific feminism have been undervalued. For me, scientific feminism is the use of science for a feminist purpose and the infiltration of feminist ideology into science writing, such as in describing certain kinds of other/more-than-human species in particular ways in order to argue for gender equality among humans.

Going forward, Barber's agency and marginalisation within the confines of a patriarchal (settler colonial) society is the focal motif.⁴⁹ The myth that women scientists were marginalised by default shall be debunked, and

the ambiguities of and intersections between ideologies of sexism/feminism, nationalism and racism are emphasised. The relationship of factors such as ethnicity, geographic location and marital status to gender, race and class is explored through the comparison of Barber to other women scientists of her era. I investigate what enabled Barber's theories about gender and race, and what created her metaphors of difference, sameness and equality when comparing genders and races.

RESEARCH APPROACH

This book is neither a classical biography nor a microhistorical study.⁵⁰ Biographers emphasise the uniqueness of their subject; microhistorians use a life to illustrate a particular pattern or development in the past. Unlike social historians who are concerned with collectives (such as social groups or classes), this study concentrates on individuals. It is an exploration of Barber's knowledge: her career, her networks as well as the scientific debates and exchange processes she found herself in.⁵¹ Southern Africa already has a rich microhistorical and biographical tradition to which historians writing on science in and on the region have generally referred.⁵² Yet, South African biographical studies generally do not cross-contextualise their subjects with as many discourses and historical actors in other parts of the world as this study does.

My chosen methodology, therefore, is, what I call, a relational approach. A variety of voices from different parts of the world are introduced to assist the recapitulation process of Barber's methods of knowledge creation.⁵³ Doing so requires a contextualisation of her scientific practices with reference to various actors, some of which she may or may not have been familiar with. Comparing their analogous or different experiences assists in placing Barber within a broader context and offers new insights about the structures which enabled or halted her career.⁵⁴ Barber's case takes us both to the metropole and the colony,⁵⁵ and raises issues of trans-colonial similarities and differences among persons of interest in British colonies as well as in Britain itself.

Relational history—such as in connected histories or *histoire croisée*⁵⁶—has focused on inextricably enmeshed cultures, commonalities that enable intercultural contact and the crossing of cultural barriers.⁵⁷ In Barber's case, contextualisations and comparisons of events and developments are presented by providing examples of the opposite, analogous and parallel cases from other settler colonies.⁵⁸ The aim then is to show the way in

which different epistemological traditions were entangled and to further offer a nuanced analysis of Victorian science, and particularly natural history.

This includes a contextualisation of Barber's scientific practices with reference to various actors—not unlike the 'montage' genre in biography—in which the past is presented not as preunderstood, but as something which the reader must constantly reconstruct through assessing the historical actor's self-perceptions along with a polyphony of other voices, interpretations and external perceptions.⁵⁹ By the same token, this book invites readers to reconstruct Barber's biography and her thought development through time by reading the chapters—though not necessarily in sequence. Thus, the readers find themselves in a similar position of a researcher or a scientist collecting material and making connections. The chapters are conceptualised and addressed to specific audiences and can be read independently. Yet frequent cross-references to other chapters are interspersed to guide readers and invite them to take additional information in other chapters into consideration. Atmospheric descriptions to provide a sense of how Barber's experiences may have been are provided. At times, the narrative resembles a conversation. This was a conscious choice in reminiscence of the long oral tradition to pass on historical knowledge from generation to generation. I decided to limit myself on how much context I provide and invite readers to consult additional information such as those recommended in the footnotes.

For those wondering why not more information on men scientists or Barber's brothers is provided, I want to stress that it was a conscious choice not to devote too many pages to men as they have already been a sufficiently described demographic. In many instances, references to previous literature on them are provided for independent research. By laying the focus on Barber, readers will get a breadth and depth of insight that allows them to know more about her time, space and situation.

In the matter of terminology, it bears clear specification on some terminological particularities that are offered: the term 'amaXhosa' is used instead of 'Xhosa people', as by an increasing number of scholars.⁶⁰ 'Woman' and 'man' are constantly used as adjectives, as for example, in a 'woman or man collector' not a 'female or male collector', as 'female' and 'male' are purely biological terms which should not carry with them any connotations of gender.⁶¹ When Barber is quoted, her sentences are presented as she wrote them and no punctuation is inserted, which can make them difficult to follow at times. Ever since the end of apartheid, and especially around Grahamstown's 200th anniversary in 2012, there has

been a heated debate about the possible changing of the town's name. In February 2016, the municipal council voted to propose that the name should be changed to Makhanda, and since 3 October 2018, the town is officially called Makhanda. When I refer to the town prior to that date, I refer to it as Grahamstown and occasionally as Graham's town such as when quoting from *The Graham's Town Journal*.

ARCHIVES AND SOURCES

Barber's own writings, as well as sources relating to her, are located on three different continents. My main archive for Barber-relevant manuscripts was at the History Museum of the Albany Museum Complex in Makhanda (Grahamstown). Further sources on Barber and her family could be found at the National Library South Africa and the Western Cape Archives and Records Service in Cape Town.⁶²

Barber's correspondences with the directors of the Royal Botanic Gardens Kew, London, are located at the Kew Library, Art and Archives (KLAA), while her papers which were read and published by the Linnean Society are stored in their archive in London. Outside London, in rural St Albans, the archive of the Royal Entomological Society (RES) holds her correspondence with Roland Trimen. Online archives such as archive.org, the *Biodiversity Heritage Library* and the *Darwin Correspondence Project* proved helpful as well.⁶³

Access was also granted to two private collections. The late Gareth Mitford-Barberton, Barber's great-grandson, kept a family archive in which he stored private letters.⁶⁴ After meeting his brother's widow, Angela Mitford-Barberton, in Grahamstown, she organised for these sources to be sent to her daughter Laurel C. Kriegler in Banbury, near Oxford, at whose house I had the opportunity to view them in June 2015. Moreover, I contacted Alan Cohen through the social media platform academia.edu and was able to visit him at his home near London. Cohen, a retired medical doctor with an interest in archaeology, had assisted in cataloguing South African Palaeolithic artefacts at the British Museum, before being asked with researching the background of donors in the 1990s.⁶⁵ He soon discovered a group of relatives and friends who seemed to revolve around a 'feisty lady whom no one had heard of before'.⁶⁶ He accumulated a large collection of records relating to Barber, and subsequently wrote an as-of-yet unpublished biography which he allowed me to read in two separate versions he had prepared for publication in 2011 and

2015–2016, respectively. Cohen had first attempted to publish this biography in the late 1990s. He explains the rejection of his manuscript with reference to the fact that South Africans ‘were just getting over apartheid and no one wished to point out how important the white settlers were to improving the status of the country’. His research in England has been directed at commemorating the intellectual legacy of the British in South Africa and he has successfully published several articles since the end of apartheid.⁶⁷

I also refer to a broad variety of published sources, such as nineteenth-century scientific journal articles as well as Barber’s book of poetry, which provide insight into social relations between 1820 Settlers, Africans and Afrikaners at the Cape.

Herbaria have also proven to be useful. Not only did I benefit from discussions with many patient botanists that helped me understand past and present botanical and archival practices, I also found passages from letters written by Barber to William Henry Harvey on some of the more than 1000 herbarium sheets at the Trinity College Dublin Herbarium (TCD), which provide insights into the bartering process with plant knowledge between Barber and Xhosa and Mfengu individuals.⁶⁸ I further consulted Barber’s herbarium specimens at the National Herbarium in Pretoria, the Selmar Schonland Herbarium in former Grahamstown, the Compton Herbarium at Kirstenbosch Botanical Gardens, the Bolus Herbarium at the University of Cape Town, at the Royal Botanic Gardens Kew in London and at the National Herbarium of Victoria in the Melbourne Botanical Gardens, Australia.

Throughout the book, there are references to Barber’s watercolours, ink sketches and illustrations to demonstrate what insights are to be gained from their careful analysis. Furthermore, photographs and material sources are discussed. These include objects which belonged to the Bowker and Barber families, as well as collections of their specimens which have been exhibited or stored at the History Museum, Albany Museum Complex, in Grahamstown (now Makhanda), as well as at the British Museum in London, and the Pitt Rivers Museum, Oxford.

These sources are critically analysed by asking: who corresponded with whom, when, about which topics and in which situations and settings. Under which conditions were textual sources written, illustrations drawn and in which social, political and economic contexts? What were the writers’ and illustrators’ intentions, and who were their addressees? What were the writer’s and illustrator’s personal interests and how have the sources

been received, circulated and archived over time? What tropes, metaphors, similes, symbols and scientific jargon were employed in these sources, and what was silenced? For a particularly detailed critical reflection on a selection of sources and archives see Chap. 9.

OVERVIEW

This study is divided into three parts. Part I recounts the close relationships which were forged between Europeans and Africans in the pursuit of knowledge and how, together, they shaped science. To determine what was known about Khoesan, Xhosa, Zulu and Mfengu individuals' plant and bird knowledge, I provide a close reading of a sample of colonial documents. Across generations and centuries, African societies spread knowledge by word of mouth. These oral traditions were reliable and detailed, and recorded and disseminated by white people from their earliest arrival at the Cape.⁶⁹ Africans began to publish their own writings in their own languages from about the 1880s onwards.⁷⁰ Hence, there are no African-authored textual sources available from Barber's most active period of research from the late 1860s to 1880.⁷¹ Although the voices of Africans cannot be directly traced and recovered in colonial records, 'the sediments and influences of their speech can be discerned'.⁷² To discern their influences, I primarily rely on illustrations and photographs from the period, and demonstrate the extent to which information on the practices and knowledge of Africans, as well as the knowledge they co-produced with Europeans, would be lost if colonial sources were read solely for their silencing of African agency.⁷³

Naturalists' engagement with Africans' knowledge systems in the Cape, I argue, did not lessen after the mid-nineteenth century unlike many of my colleagues have argued.⁷⁴ Elizabeth Green Musselman, for instance, claimed that 'South African naturalists of European ancestry stopped acknowledging the centrality of African natural knowledge for their craft'.⁷⁵ She listed related factors such as the colony's intensifying bureaucracy, a more established scientific community, environmental influences such as drought and disease, and the increasingly violent interactions between Africans and Europeans for the developing ambivalence between Europeans and Africans. She argued that the settlers' desire for cheap labour made Africans' natural knowledge increasingly marginal.⁷⁶ Nancy J. Jacobs has argued that 'Linnean systematics achieved an independence and an arrogation of expertise, diminishing their connection with the ver-

nacular experts who had historically known plants or animals'.⁷⁷ Unfortunately, the sources about such cross-cultural collaboration are scarce and fragmentary, which explains the fragmentary nature of Part I. Yet what seems to be very little information is promising with regard to the still strong and persisting collaboration between African and European experts in the Cape, an aspect which requires much more scholarly attention.⁷⁸

I use the term 'experts' for what others have called 'assistants', 'collaborators' or 'informants'.⁷⁹ The collaboration and co-production of knowledge was much more egalitarian than European experts in the nineteenth century wanted us to believe. Unlike Nancy Jacobs, I do not distinguish between birders and ornithologists, botanisers and botanists and so on, but see them all as 'experts' in their respective fields.⁸⁰ There is a tendency to speak separately of Western knowledge and indigenous practices when analysing cross-cultural co-creation of knowledge, which is why I chose to refer generically to knowledge, covering theory and practice wherever they arose. In recent literature, 'intermediaries' and 'go-betweens' are omnipresent.⁸¹ Kapil Raj has distinguished four functions of go-betweens: the interpreter-translator, the merchant banker, the *comprador* and the cultural broker, who in their own way circulated and negotiated specialised knowledge bases between communities.⁸² While this concept is helpful, there is a danger in reducing actors to their mediating role instead of seeing their actions as a whole, and there is a tendency in current literature towards inflationary use of the term that reduces non-Europeans to go-betweens when focusing on exchanges between 'Western scientists' and 'non-Western communities'.⁸³

Often the collaborating African experts were not adequately and explicitly acknowledged in texts such as scientific publications and travel accounts. Nonetheless, pictures provide insight into their contribution.⁸⁴ The historian Gesine Krüger has claimed that in colonial photographs there is always 'an uncontrollable moment'. In the openly racist and colonialist contexts, when colonial photographs came into existence, something 'infiltrated' that did not become part of the photographer's interpretation.⁸⁵ This infiltration can also be observed in colonial illustrations. Colonial photographs and illustrations are 'third images' that were created in third spaces⁸⁶ in which various cultures meet without the space being that of a single predominating culture. In addition, third images contain the supplementary dimension of an external commentary.⁸⁷ Africans who were photographed or became part of these illustrations

were not completely and utterly at the colonial photographer or illustrator's mercy. What is seen in these illustrations and photographs are not meanings frozen in time to be unlocked by the analyst, but dynamic objects entangled with histories and various meanings that come to the fore within particular historical and cultural settings.⁸⁸ Within the New Imperial History, the context in which these sources are discussed changed and thereby what Krüger calls the 'Handlungsträgerschaft' (the capacity to act and of acting) shifted from the colonial photographers and illustrators investigated in previous studies to the Africans photographed or illustrated who had hitherto been neglected.⁸⁹ Due to a limitation of twenty illustrations allowed in publication of this book, the two chapters sometimes describe visual sources which are accessible in online archives such as Google books, archive.org or the Biodiversity Heritage Library. In such cases, please read the endnotes carefully for references.

Chapter 2 first focuses on the everyday life and tacit knowledge that ensured survival for the settlers living at the Cape as well as the European visitors travelling there. It concentrates on how African experts shared the agricultural, nutritional, hygienic and medicinal knowledge that Europeans and settlers heavily relied upon. Chapter 3 is dedicated to African collectors, informants and taxidermists. It is a discussion of their role in the disciplines of ornithology, entomology and archaeology, three of the areas that Mary Elizabeth Barber contributed to.

Part II highlights the competition between metropolitan and colonial, men and women experts, and their negotiations of theories, practices and research ethics. In her critique of modern sociology's genesis and ensuing structures of knowledge production, the Australian sociologist Raewyn Connell posits a domination of 'Northern' knowledge making and a concomitant exclusion of 'Southern' insights. She argues that science had for a long time been based on data gathering in the colonies and theorising in the metropolises, a process which ultimately led to the universal application of theories developed in this manner in the North. This model lingers in the post-colonial era.⁹⁰ The key phase of knowledge production in modern science has been neither the collection of data nor the application of theories, but the stage between the two: namely, that of theory building, the interpretation of information and the theoretical processing of collected data. The 'professional' scientists in metropolitan knowledge centres, institutions with large collections at hand, are thereby usually held to be the originators of theories rather than the 'laypeople' who provided the data on which these theories are built. But was there always such a rigid

distinction between ‘professionals’ and ‘amateurs’? The Beninese philosopher and politician Paul Hountondji has argued that, for science in colonial Africa, there was a ‘lack of these specific theory building procedures and infrastructures’.⁹¹ Yet, as Part II shows for the Cape, the relationship between the metropole and the colony was more complex than that, and there were undoubtedly both ‘laypeople’ and ‘professionals’ who theorised about science and innovated its practices.

Chapter 4 delves into her collaboration and competition with European experts within her transimperial network, both at the Cape and abroad. I explore scientists’ creation of knowledge and negotiations of their standing within their scientific communities as well as the impact which gender, class and location had on this process.

In Chap. 5, I demonstrate that Barber’s articles were readily published in England when they served Joseph Dalton Hooker and Charles Darwin’s purpose of strengthening and circulating the theory of evolution by natural selection. In the second part of Chap. 5, I argue that Barber and other women academics at the time were partly motivated to advocate for the theory of sexual selection due to their own personal experiences of women’s subordination in science and society.

Through the lens of specific examples of how Barber practised science and how her scientific work was received by her colleagues, I demonstrate that the experts at the Cape did not only collect specimens and data to deliver material and corroborative evidence for ‘Northern’ theories. As Chap. 6 reveals, they also forged new scientific practices, interpreted the information which they accumulated and built theories of their own. The last part of this chapter provides insights into how Barber’s personal experiences of the Cape-Xhosa Wars impacted on her methods of butterfly classification. A close reading of excerpts from her correspondence provides insights into ideological controversies and discrepancies between the thinking of liberals and ‘their enemies’ in science, as well as political and social thought in Albany and Cape Town.

Part III—the heart of this book—focuses on Barber’s negotiation of her belonging to the Cape. In the 1870s, Barber, like other settler scientists, engaged with the land and its peoples for political and aesthetic reasons, grappling with issues of governance and control, while attempting to construct her surrounding as a united territory to nurture a shared sense of identity and ownership.⁹² Chapter 7 explores how Barber promoted Cape Colonial nationalism through her work and legitimised the constructed social hierarchy which her brothers and husband had fought to

establish and maintain through military means. Her descriptions of animals and plants as well as her theories about archaeological artefacts were a veiled expression of charged political anxieties. While men engaged in public debates which addressed this political context directly through channels such as speeches or columns in local newspapers,⁹³ Barber's outlets of expression were in her scientific and popular science articles as well as in her poems, travel journal and correspondence. Metaphors and analogies were of particular importance in this regard, as they transformed diffuse political terrors into natural facts. The subsection on archaeology delves into Barber's and her relatives' advocacy for an expanding British Empire on the African continent.

The maintenance of white supremacy was the pillar of her advocacy for gender equality. Reading her work against the background of her life story shows how her personal experiences as wife, mother and aunt, as well as her observations of settler society influenced her view on gender relations and birds. Chapter 8, a close reading of her ornithological texts and illustrations, shows how Barber applied her feminist Darwinism to birds in unique ways. She radically challenged the textual and visual representations of contemporary ornithologists who attributed a secondary role to female birds—she debunked Victorian gender roles and stressed the absence of gendered spheres in bird life. Chapters 7 and 8 thus converge on and examine the connections between issues of identity and her research.

Chapter 9 demonstrates that Barber's legacy and the handling of historic heritage—archival and curatorial practices respectively—are highly political and in turn have a considerable impact on historical research. This chapter focuses on the biographies of some of her archival collections and the backstories of some of the sources she left behind.⁹⁴ It also bridges the three parts with the brief conclusion summarising the key arguments.⁹⁵

NOTES

1. (Subramaniam 2014, 23).
2. (Endersby 2010).
3. See: (Bank and Jacobs 2015); for a timely study of the reception of Darwinism at the Cape, see: (Livingstone 2013; Livingstone 2014).
4. See for example: (Bank 2006, 2016); (Bank and Bank 2013); (Weintroub 2016).

5. (Whewell 1834, 65–66).
6. (Thorpe 1978, 8).
7. (Thorpe 1978, 37).
8. The careers of women naturalists have often been explained with reference to their father's influence. See for example: (Gronim 2007, 34–35); (Shteir 1987, 34); (Slack 1987, 82); (Findlen 1999, 313–349). Yet most women naturalists corresponded with scientists only after the death of their own fathers. See for example: (Le-May Sheffield 2001). So did Barber after her father's death in 1838.
9. See (Schonland 1904).
10. (Barber 1869a, b; Barber 1870; Barber 1871a, b, c, d; Barber 1873; Barber 1874a, b; Barber 1878; Barber 1880; Barber 1886; Barber 1898; Barber 1903).
11. I deliberately use 'woman collector' instead of 'female collector' as I will explain in the terminology section of this Introduction.
12. Genera *Barberetta* und *Bowkeria* are named after her. Plant species *Brachystelma barberiae*, *Iboza barberae* and *Diascia barberae* were named after her. *Iboza barberae* is a basionym to *Tetradenia barberae*. She is said to have 'discovered' *Stapelia jucunda* and *Stapelia glabricaulis*. At least two butterflies were also named after her by Trimen: *Oraidium barberae* and *Kedestes barberae*. For current research on women's impact on plant names, see for example (Leese 2018).
13. Makhanda (Grahamstown) is currently (November 2018) widely used such as in *Grocott's Mail*.
14. See for example: (Basalla 1967); for an overview of similar texts and their legacies, see: (Elshakry 2010). The assumption that knowledge was gathered in the colonies for standardisation in the metropolises has long been criticised, see for example: (MacLeod 1980). The Australian historian Iain McCalman has shown how the theory of evolution by natural selection was a collective effort and forged in Australasia: (McCalman 2010).
15. (Comaroff and Comaroff 2012, 1).
16. Barber presented herself as a 'wild ignorant Africander'. TCD: Pelargonium genus: 985/131–4, including M.E. Barber to W.H. Harvey, no date. In her travel journals, Barber frequently wrote about an imagined community of settlers; for example: 'We, of South Africa', whose 'African feelings' were hurt by the sight of European plants. See for example: Mary E. Barber, *Wanderings in South Africa by Sea and Land*, Vol. 1, CL: MS 10560 (a), 10, 31; Vol. 2, MS 10560 (b), 53.
17. (Endersby 2010, 313).
18. (Schär 2015, 32–33).
19. (Dirks 1996, xi); (Dirks 1992, 1–26). Roque and Wagner have shown that this argument has particularly influenced South Asian Studies. (Roque and Wagner 2012, 7).

20. (Waugh 2006, 514).
21. (Ballantyne 2008, 177–198).
22. (Dubow 2006, 14); (Pietsch 2013, xii).
23. See for example: (Pratt 1985; Pratt 1992); (Dubow 1995); (Schiebinger 2004, Chapter 5; Schiebinger 2007)
24. See for example: (Beinart 1998); (Green Musselman 2003); (Guelke and Guelke 2004); (Huijen 2009). In other parts of Africa: See for example: (Schumaker 2001); (Harries 2007, especially 136–137, 219–232).
25. See for example: (Shepherd 2003); (Bank 2008); (Meier 2015); (Harries 2000); (Lekgoathi 2009). Similar tendencies can also be observed in other colonial contexts, see: See for example (Habermas and Pzyrembel 2013; Habermas and Hölzl 2014).
26. (Cereso 2013).
27. (Tilley 2010, 114–115); (Tilley 2011, especially 322–329). Case studies which have provided evidence for the strong cross-cultural cooperation include: (von Hellermann 2012); (Meier 2014).
28. Roque writes of ‘mutual parasitism’ or ‘parasitic symbiosis’ (Roque 2010, 18, see also 17–39).
29. For a critical investigation of several such concepts, see (Hammel 2017).
30. For research that distinguishes between the listed forms of knowledge, see for example (Schiebinger 2004; Müller-Wille 2005; Schiebinger 2005a, b; Schiebinger and Swan 2005; Jacobs 2006; Delbourgo and Dew 2008; Tilley 2010, 2011; Beinart and Brown 2013; Jacobs 2016).
31. See for example (Hammel 2015a).
32. Laqueuer shows how the idea of the sexes as being both bipolar and complementary emerged in the early nineteenth century. (Laqueuer 1987; Laqueuer 1990). Also see: (Stepan 2000).
33. Women’s history has had remarkably little practical influence on activists and feminist scholars. It has largely remained in the ivory tower and did not make as deep an impact on general historiography as initially hoped for. The field has further split into various sub-fields. See for example: (Bennett 1989); (Scott 1999).
34. See (Law 2016, 1)—she also lists examples, such as (Midgley 1998).
35. See for example (Law 2010).
36. (Law 2016); (Callaway 1987).
37. (McClintock 1995, 15, 34).
38. See for example: (Stoler 1991). For more on Stoler’s idea of intimate colonialism, see (Stoler 2002); (McKenzie 1996; McKenzie 1997).
39. See for example: (Mamozai 1989; Wildenthal 2001, except Chapter 2); (Walgenbach 2006; Dietrich 2007; Loosen 2014).
40. However, Carolyn Martin Shaw has argued differently, see: (Shaw 2008).
41. For an overview see: (Ghosh 2004).

42. (Law 2016, 167).
43. See for example: (Pietsch 2013, particularly 6, 7, 79–80, 200); (Gay 1996); (Prentice 2006).
44. (Gates 1998, 7). See for example (Merchant 1996).
45. See for example: (Trouillot 1995, xix); (Shteir and Lightman 2006; Lightman 2007).
46. They were probably inspired by literary scholars who had argued that women travellers had written for women primarily interested in domestic life. It has therefore been argued that women produced more private and fragmentary autobiographies, while men wrote formal, objective memoirs which contextualised the importance of their life or journey. This line of argument constitutes women as emotional and men as rational. See for example: (Stevenson 1982, 9–10). The content of women’s journals was also deemed gendered: ‘the masculine heroic discourse of discovery’ was ‘not readily available to women’, who were thus compelled ‘to collect and possess themselves’ (Pratt 1992, 159, 160, 213). Others perceived women as morally superior to men, as they were critical of British rule and got personally involved with the autochthonous population. See for example (Mills 1991, 3, 21, 22, 44). Some have argued that while women and men are different, women travel writers have been quite similar to men in their writing styles as they tended to write from the stance of a white man or adopted ‘a temporary male status’ to avoid criticism for undertaking what was a supposedly male endeavour. In so doing, women could behave like men and neglect ‘female culture and family life’ (Murphy 2006, 142); (Birkett 1989, 136, 137, 192, 115, 123).
47. See for example: (Le-May Sheffield 2001). Marianne North, for instance, is depicted as a woman naturalist who did not straightforwardly reject patriarchal Victorian ideologies. See for example: (Agnew 2011); (Murphy 2006). On the Woman Question, see for example: (Helsingier et al. 1983; Crosby 1991; Evans 1994).
48. For an exception, see (Gianquitto 2013).
49. By the concept of patriarchy, I understand what the American poet, essayist and radical feminist Adrienne Rich defined as ‘a familial-social, ideological, political system in which men – by force, direct pressure, or through ritual, tradition, law, and language, customs, etiquette, education, and the division of labor, determine what part women shall or shall not play, and in which the female is everywhere subsumed under the male’ (Rich 1977, 57).
50. See for example (Ginzburg 2002).
51. I am not trained in any of the disciplines to which Barber contributed; therefore, my analysis of her career differs from that of scientists who have previously written about Barber. See for example: (Dold 2001).

52. See for example (Bank and Jacobs 2015, 11, 17).
53. For the outlines of a similar approach, see for example: (Zemon Davis 2011).
54. Elsewhere, I have called this approach ‘relationale Quellenvernetzungsart’, the relational cross-linking of sources. Paper presented at «Österreich in Übersee – GÜSG Tagung Wien 2012», Gesellschaft für Überseegeschichte e.V., 10 June 2012. Similarly, Sivasundaram has introduced ‘cross-contextualisation’, the reading of scarce and unorthodox sources alongside more common ones (Sivasundaram 2010).
55. See (Cooper and Stoler 1997).
56. See for example: (Raj 2007, 2013); (Werner and Zimmermann 2006).
57. (Raj 2016): 39.
58. This approach has proven fruitful, as in (Coombes 2006).
59. (Hahn 2001); (Borchard 2003); (Dausien 2004).
60. See for example: (Ross 2008; Ross 2014); (Wenzel 2009); (Macamo 2012); (Wells 2012).
61. For a discussion of gender terminology, see for example: (Cralley and Ruscher 2005).
62. I also found archival sources on other women botanists from the era at the Amazyana Archive, at the Hulett Sugar Company, in Tongaat, the KwaZulu-Natal Museum in Pietermaritzburg, the Brenthurst Library in Johannesburg and the UCT (University of Cape Town) Manuscripts and Collections in Cape Town.
63. The Darwin Correspondence Project at the University of Cambridge provides edited letters from and to Darwin: <https://www.darwinproject.ac.uk>; the Biodiversity Heritage Library is a consortium of natural history and botanical libraries that provide published materials, such as scientific journal articles and monographs: <http://www.biodiversitylibrary.org>; archive.org is a San Francisco-based Internet library that provides resources online.
64. On the basis of these letters, he published: (Mitford-Barberton 2006).
65. He was given this task by the archaeologist Peter Mitchell, see: (Mitchell et al. 2002, particularly: 209–220); (Mitchell 1998).
66. Cohen to Hammel, 10 April 2015.
67. See for example: (Cohen 1999; Cohen 2000a, b).
68. I refer to folder numbers and botanical names as the letter passages are mostly undated.
69. For a brief overview, see (Glen and Germishuizen 2010, 5).
70. See for example (Wells 2012, 21, 63).
71. Tilley has rightly criticised how African understandings of nature only figure in Europeans’ confirmation of their existence and contribution, as there is little textual evidence of non-literate Africans’ scientific awareness

and knowledge creation. Her call for ‘epistemic pluralism’, such that texts and the exact sciences should no longer be privileged in the historiography of science, has had a deep impact on the study of knowledge in colonial contexts (Tilley 2011, 328–332). A number of innovative studies have followed her call, including: (Braun 2015). This study takes visual and material sources seriously and goes beyond the exact sciences. Since the mid-1990s, a number of scholars have conducted oral history interviews with Xhosa communities and altered historiographical insights into certain Xhosa chiefs’ lives and their importance in South African history. See for example (Stapleton 1993; Wells 2012). Given that the African experts under consideration were of much lower rank and status in local society, their lives did not become part of Xhosa oral historiography and there was no chance of gaining comparable insights from a similar approach, which is why this part is limited to the traces they left in the colonial archive, which are cautiously and source-critically approached. Many of the passages used in Chaps. 2 and 3 are part of a heroic master narrative in which settlers and other Europeans placed themselves and in which they consciously wrote out African experts by rendering them anonymous, presenting them as nameless shadowy figures or silencing them altogether. Much has been written about these processes, yet the very same passages used to show how Western scientists’ engagement with Africans’ knowledge systems diminished after the mid-nineteenth century provide insight into how African experts in the nineteenth century contributed considerably to the emergence of modern science. In Part I, I speak of African experts in the South African context. I deliberately chose not to compare and contrast the cases with similar ones in other (settler) colonial settings in Africa and beyond as frequent comparisons would have made the two chapters unreadable. Despite there being more and more research, such as (Feierman 1992) for medicine in different colonial contexts in Africa, I also chose not to include secondary sources such as the growing body of research on twentieth-century anthropology in South Africa, which may have helped me understand the dynamics of such cross-cultural collaboration, but to my mind would have been anachronistic. See for example (Schumaker 2001; Tilley 2011; Bank and Bank 2013; Bank 2016).

72. (Hamilton 1998, 27).
73. See (Raj 2007, 60–65).
74. See for example (Beinart 1998, 784).
75. (Green Musselman 2003, 369).
76. (Green Musselman 2003, 384, 386).
77. (Jacobs 2016, 95).
78. I thank the African History Lab of the University of Basel organised by Cassandra Mark-Thiesen for allowing me to present this part (25 September 2018). I much benefited from the discussion and suggestions.

79. Ibid. The anthropologist and ethno-ornithologist Ralph Bulmer, for instance, was at the forefront of this change in appreciation during the 1960s from ‘informant’ to ‘expert’. See his collaboration with Ian Saem Majnep, who shared co-authorship with Bulmer in *Birds of My Kalam Country* (1977).
80. (Jacobs 2016).
81. For an overview, see for example: (Raj 2016).
82. (Raj 2016, 41–42).
83. See for example (Schaffer 2009); (Shellam et al. 2016, 15–38, 85–118); (Skuncke 2014).
84. See for example (Shepherd 2003, 336, 339, 340, 343, 344, 345); (N. Jacobs 2006, 571, 574, 590); (Harries 2007, 136, 248); (Bank and Bank 2013, 131, 132); (Jacobs 2015, 280, 294; 2016, 10, 11, 109, 135, 149, 162, 169, 178, 184, 191, 193, 198, 204, 219, 238); (Bank 2016, see for example: title page, 141, 162, 200). Illustrations often constructed inaccurate stereotypes, depicting men on the Southern African frontier in loincloths even though they were wearing trousers, and including clichéd characteristics such as thick lips, or excluding facial features or any hints of social context altogether. See for example Ornithological informant Gert lecturing on the *mâ-hem* (Holub 1881, 1:147), also reproduced in: (Jacobs 2016, 10); Athletic ‘Batlapin boys’ hunting birds with the *kiri*, in: (Holub 1881, 1:opposite 109); Figure 2.2. Behind this ‘colonial foil’ are layers that show much more than the European language of representation—what the literary historian Stephen Greenblatt maintained is the only aspect we can be certain of when investigating colonial texts, illustrations and photographs (Greenblatt 1991, 7).
85. (Krüger 2013, 4).
86. Third Space’ after Homi Bhabha, see: (Rutherford 1998).
87. Frank Heidemann, Transkulturelle Bilder. Von der Kolonialfotografie zu ‘dritten Bildern’, http://www.journal-ethnologie.de/Deutsch/Schwerpunktthemen/Schwerpunktthemen_2005/Visuelle_Anthropologie/Transkulturelle_Bilder/index.phtml (2005), quoted in: (Krüger 2013, 5), my translation and paraphrasing.
88. (Waters 2000, 5).
89. (Krüger 2013, 10).
90. As Australian sociologist Raewyn Connell, among others, has shown: See for example: (Connell 2007a, ix, and see in particular: 89–110); (Connell 2007b). This statement also suggests that the assumptions of Basalla’s diffusionist theory of knowledge productions still linger (Basalla 1967).
91. (Hountondji 1995, 2).
92. (Dubow 2004, 118).
93. See for example (Bowker 1964); see for example: William Monkhouse Bowker in *Graham’s Town Journal*, 23 September 1872; 4 October 1872; 3 November 1873; 23 May 1873.

94. See (Hamilton 2011).
95. While revising the manuscript, I shortened it considerably and particularly deleted passages of similar content to published articles. I therefore refer you to: (Hammel 2015a, b, 2016a, b, 2018; Ramutsindela et al. 2016) and <http://zeitnah.ch/7181/intransparente-privatisierung-wissens/> (23 November 2013), date accessed 14 December 2018.

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PART I

African Experts and Science in the
Cape



CHAPTER 2

African Farmers and Medicinal Plant Experts

CO-OPERATION IN FARMING THE LAND

Once the Bowker family from South Newton, Wiltshire, in southern England arrived on the allotted 1500 acres of land in 1820, they started copying their Xhosa, Khoekhoe and Mfengu neighbours who had cultivated the land and had been experienced pastoralists for centuries. They first built a wattle-and-daub house, using a technique that had been widely spread in Africa for at least six thousand years. Long grass was taken for the thatched roof as was done by ‘everyone both black and white’.¹ From the mid-1820s to the mid-1830s, the white settlers and the amaXhosa, amaMfengu and Khoesan in the area were in close contact and shared their knowledge. Settlers’ attitude towards Africans is highly ambiguous at the time, as articles in the *Graham’s Town Journal* show. In this period, for instance, the Bowker children attended Sunday School meetings together with ‘the native children who were residing in the neighbourhood beneath the shade of a large thorn tree’. They described their African school colleagues as ‘willing scholars’ who progressed and enjoyed their regular mutual exchange with them.² The farm school that Miles Bowker estab-

The original version of this chapter was revised as an incorrect image was placed for Fig. 2.2. The correction to this chapter can be found at https://doi.org/10.1007/978-3-030-22639-8_2

lished in 1834 probably also co-educated black and white boys and girls, as the majority of schools in the area had been established by missionaries and co-education was common practice at the time. Co-education is but one example of the close ties and cross-cultural exchange in that early period.

In the late 1830s, the Bowkers did the farm work themselves. In 1809 the Caledon Code, or Hottentot Code, was passed which stipulated that every Khoekhoe should have a fixed abode and be in a labour contract, of no longer than a year, that had been validated by a magistrate. They also had to carry a pass if they wished to move around and could be shot when suspected of not complying with this ruling. Their children were bound by an apprenticeship law a year or two later. These laws were an attempt to compensate the colonists for their loss of labour due to the Abolition of the Slave Trade in the British Empire in 1807. The Caledon Code did, however, give the Khoekhoe some legal protection against abuse by their masters. In 1828 Ordinance 50 was passed, which rescinded the Caledon Code. Ordinance 50 gave the Khoekhoe the same rights as any free people: they, for instance, did not have to carry a pass and were free to seek labour in a free market. In 1834 slavery was abolished but there was a four year Apprenticeship Period for slaves until 1838. The Bowkers, thus, sowed seed-wheat and barley that they had received from the British government, but wheat did not grow in this soil unknown to them, which left the settlers in great distress for want of bread. Mealies (maize or Indian corn) grown in Africa since the sixteenth century³ had been successfully cultivated in South Africa and locally had been a staple food for a long time. It soon replaced the Bowkers' wheat.⁴ In the hope of introducing merino sheep breeding to the Cape, Miles Bowker imported various breeds from Europe. He soon learned that it was very difficult to rear them at the coast on the Zuurveld and that many already died on their way from Europe to the Cape. Observing his Xhosa, Khoesan and Mfengu neighbours, he recognised that they had cattle but did not value sheep.⁵ He thus began experimenting with cattle, cotton, crops and fruit. He realised that he had to abandon mixed agriculture, and focused on oats and cattle on his farm Tharfield instead.⁶ Three of his sons established sheep farms inland on Willowfontain and Thorn Kloof, both near Carlisle Bridge on the Fish River, and at Elandskop on the Koonap, as the wool industry was flourishing.⁷

With the shift in farming came the need for more staff. The number of Africans working on the Bowkers' farms fluctuated considerably over the years. Before the Seventh Cape-Xhosa War (1846–1847), the Bowkers, according to their descendants, had 8000 sheep, 900 cattle and 100 horses managed by 18 white men and 25 Xhosa and Mfengu herders and guards

who worked day and night.⁸ Later, according to one of Barber's brothers, each Bowker farm generally employed an average of 15 Xhosa and Mfengu workers who had their own goats and cattle depending on their terms of contract and length of service.⁹ Over the years, the number might have risen again. By the end of 1857, a total of 29,142 Xhosa were registered for service in the colony.¹⁰

The Bowker brothers, Mary Barber and her husband employed numerous herders whom they called 'herd-boys' and with whom they communicated in Afrikaans.¹¹ Herders were grown men; the infantilising analogy involves a fundamental denial of equality and was a component of racist, sexist and classist ideologies.¹²

The Xhosa and Mfengu co-workers remain unknown, except a two-year-old Xhosa boy whom Barber's brother Thomas Holden Bowker heard crying in an ant-bear's hole with a stone put over the entrance. The child was fed, tied on Holden's back 'in the Kaffir manner' and given to a Xhosa woman on Tharfield who had a small child of her own and was asked to feed both of them. She was promised a cow if he survived. He did survive, was named 'Resurrection Jack' and became 'a house boy' who lived with the family for many years.¹³ In this feel-good story that the Bowkers have told each other over generations, they stressed the difference between their charity and Africans' cruelty. The story allowed them to emphasise their cordiality while silencing how many Xhosa people they killed or injured. As close to the Bowker family as Resurrection Jack was a Sotho cattle herder called Jafta.¹⁴ There also seem to have been Tswana refugees from the valley of the Caledon River on Miles Bowker's farm. A 'boy' who had taken up English, for instance, is said to have provided James Henry Bowker with information on Tswana life and customs.¹⁵

Mary Elizabeth and her husband Frederick William Barber also set limits on how they related to black people, but they too were open to learn from them. In the winter of 1862, the farmers used burnt bones that were ground by Xhosa women when planting oats, which made the oats they later harvested soft and a much better crop than the Barbers had expected.¹⁶ What was unusual in the eastern as compared to the western part of the Cape Colony was that domestic and agricultural wage labourers were predominantly female.¹⁷ Wages, particularly for Xhosa women, were extremely low at that time. In 1828, a woman employed in Albany received a monthly salary of 1s 3d, plus five goats after completion of her contract.¹⁸ As board and lodging was included, settlers found the low price for domestic service, an 'unskilled' occupation, justified. Presumably, the Xhosa women Barber mentioned were not the only women employed on

their farms, but also women she encountered on her journeys and excursions to observe flora and fauna.

These few glimpses into farm life show that the Bowkers and Barbers benefited from and exploited their African neighbours and that African employees and fleeting acquaintances were willing to share (some of) their farming knowledge with them in English, Afrikaans or the isiXhosa that the Bowkers were in command of. Besides farming, Africans taught the Bowkers how to fish, how to find honey and to rely on local nutritional plants to satisfy their hunger.

LIVING WITH PLANTS

Africans often saved European travellers' and settlers' lives with their knowledge of plants.¹⁹ For instance, the Czech medical practitioner, explorer and naturalist Emil Holub (1847–1902) disclosed that he only survived thanks to a Mosarwa's knowledge of a water-rich berry that helped him when he had been dehydrated, exhausted, confused and disoriented, even unconscious at times, which would have led to certain death. The illustration accompanying his description is revealing (Fig. 2.1).

The illustration drawn by J. Vanione shows how an unspecified Mosarwa was in command of the situation while Holub was clearly not, as signalled by his guns, hat and other equipment lying randomly around as well as by his passive posture. All he could do in this hopeless situation was trust and take whatever he was given. As no name was recorded, it can be assumed that the two could not communicate, but nevertheless the Mosarwa immediately assessed the situation and did what he could to help Holub regain strength. Holub's anecdote is full of colonial tropes. The European adventurer tells us the story of his survival and in the entire account constructs himself as the hero. His saviour, on the other hand, remains nameless in the background. Yet it can be read as an example of how such a journey would not have been possible without African experts who ensured European survival.

In many situations, white settlers and explorers only survived because of Africans' knowledge of medicinal plants. One example is the accident of Barber's son Henry Mitford Barber (1850–1920), known as Hal. He and his older brother Frederick Hugh (1847–1919) went on a hunting trip to Matabeleland in 1877 to get away from the diamond fields. On 16 June, he nearly died after a buffalo bull struck a horn through his left thigh.²⁰ Xhosa associates brought a calabash of water and revived him and went



Fig. 2.1 Mosarwa saves Holub, in: Holub, *Seven Years in South Africa*, Vol. 1, 360–361

back to their camp to get a bottle of brandy to stop the pain. They were thanked with ‘a blanket’ for acting as fast as they could. The incentives such as money and goods—more than loyalty—were most likely the reason for keeping him alive. The wound was sewed with needle and cotton, and he was nursed, ‘poulticing and bathing his wounds with water and a concoction of herbs brought by the local natives’.²¹ The ingredients of the medicine the amaNdebele prepared were unfortunately of secondary interest to the newcomers; what mattered to them was that it helped Hal to recover.²²

The power dynamics among neighbours and the gendered manner in which Barber accumulated information is also striking. Barber was interested in vegetables she could cook. The ‘Matabele tribes, [...] the Zulus and the Swazies’ cultivated a popular vegetable marrow. As a calabash plant, it produced gourds, grew to the size of an orange and was eaten green before it became hard. At the gold fields, this vegetable ‘the best of all vegetable marrows’ was ‘a great favourite’ and usually fetched a high price in the Johannesburg market. Even though the revenues probably did

not reach the African cultivators, it was considered ‘the best of all vegetable marrows’. Marrows were boiled whole, served with spices and eaten entirely including the seeds.²³ Barber was also told that the fungala seed was a very tasty fruit and that from the *Dovyalis rhamnoides* berries one could cook a delicious preserve.²⁴ At times she learned about plants not directly from Africans but from Afrikaner acquaintances who had settled decades ago and accumulated crucial nutritional information from the Khoekhoen, amaMfengu and amaXhosa living in the area. ‘Dutch inhabitants’ presumably learned about a species of *Boerhaavia* from Africans. Afrikaners valued it for its nutritious properties, called it ‘veld batatas’ for its resemblance to potatoes and cultivated it.²⁵ *Brachystelma filiformis* grew in the Cradock district and was much esteemed as a preserve called ‘Kalkonjes’.²⁶ Whether the Afrikaners had heard how to prepare this plant from Africans is unclear; they might also have learned about its nutritional properties and developed a way to prepare it by themselves. Barber mostly referred to Afrikaans names of edible plants and much more often shared meals with Afrikaner than Xhosa or Mfengu farmers. Given that the Bowkers were introduced to their new surroundings by their Afrikaner neighbours and that two of Barber’s brothers William Monkhouse Bowker (1803–1876) and Miles Brabbin Bowker (1805–1864) were married to two Afrikaner sisters Hester Susannah Oosthuisen (1816–1911) in 1827 and Barbara Petronella Oosthuisen (1809–1895) in 1836, there must have been constant exchange and close ties.

Identifying the right nutrition was also important for birds, sheep, cattle and goats. Barber found *Lessertia flexuosa* at the Tarka River, one of the sources of the Great Fish River rising in the Winterberg and flowing through the district of Cradock. *Lessertia flexuosa* was eaten by sheep and goats and was so beautiful that Barber suggested Harvey introduce it in Britain as a garden plant.²⁷ Sheep and goats also voraciously ate *Indigofera*.²⁸ Barber lamented that sheep and goats rapidly altered local flora and pasturelands. She had observed aloes becoming rarer and rarer within the Colony.²⁹ Cattle, sheep and goats fed greedily on stapelias, and so did ostriches when they spotted one, taking the entire plant with them.³⁰ From the amaXhosa, Barber learned about plants that could be used to produce dye.³¹ She became familiar with the leaves of a plant that were used instead of soap and ‘produce a grand lather’.³² Vernacular names were not of interest to her; she contented herself simply with learning the plants’ usage. Classification was left to botanists in Cape Town and over-

seas whose interest for plants was triggered in hope of financial benefit in cases of large-scale import of certain species. She rarely stated where she gained her information from, presumably this occurred on the farms and on her ox-wagon journeys and horse-riding excursions. In these spaces, Africans had much more agency than hitherto seen. There, they decided which knowledge they wanted to share with her.

VETERINARY PLANT KNOWLEDGE

Xhosa, Mfengu and Sotho farmers' veterinary plant knowledge was crucial, and the Bowkers took it into consideration and adapted it into their own veterinary and agricultural knowhow. All of William Monkhouse Bowker's cattle went blind from ophthalmia when he moved to the Fish River in late 1849, during a drought. Two hundred out of 1500 sheep and the majority of goats also got ophthalmia and went blind.³³ In August 1848, many of his sheep became weak and dragged their hind legs behind themselves. In 1854, Bertram Bowker lost three-quarters of the previous year's lambs from taenia (tapeworm), and his sheep continued to suffer for twelve years. A Xhosa farmer told him to use sorrel root (*Oxalis smithii*) that grew abundantly in the Zuurveld. Xhosa farmers also used the bark of the male fern (*Leonotis leonurus*) to kill a large quantity of worms. Bowker experimented with these Xhosa remedies and eventually cured his sheep.

After the Eighth Cape-Xhosa War (1851–1853), Bertram Bowker began having difficulties with his sheep again. They were shorn and dipped twice a year. He sold his farm Oakwell and bought two others nearer to King William's Town. Initially, the sheep did well on the new farms, but then they got sick again, the cause? A mystery.³⁴ It could well have been bovine pleura pneumonia, popularly known as lung sickness, which spread in the 1850s from cattle imported from Holland and moving from Mossel Bay to the northeast (1853), reaching either side of the Kei in 1855.³⁵ Almost all the cattle were affected and more than 80% of cattle, sheep and goats died in some chiefdoms.³⁶ Presumably, Bowker used several medicinal plants to try healing his sheep.

We have seen that Africans' knowledge about living in and with the environment over generations informed settler living and farming practices. In the following section, I focus on how knowledge was shared on journeys.

WAGON DRIVERS' KNOWLEDGE CREATION

While travelling, African wagon drivers were largely responsible for the success of an expedition. Surprisingly little is known about the experience of riding and drivers' everyday experiences. They were looking after the oxen and travellers, explored the routes and were experts on how to handle the challenges the landscapes they travelled through brought with them. They knew how to convince oxen to continue walking and managed to get them out of rivers and soft ground, while European travellers sat helplessly passive in the wagon.³⁷ Praising one's driver was a frequent trope in expedition journals. Europeans often stressed how much they admired how, for instance, the Khoekhoen could ride oxen and how they managed to make them walk, trot or gallop where and how they wanted them to.³⁸ They were also impressed how quickly they knew all the oxen by name and openly admitted that they would not have been competent to control the oxen and much appreciated their skills and expertise. Those 'herders' who had travelled before knew much about the flora and fauna the travel parties encountered and the practicalities of travelling, and shared their valuable insights with their employers.³⁹ Besides looking after the oxen, wagon drivers organised the wood supply when needed, hunted animals to dry meat for stock and collected stapelias or other fleshy plants in the Karoo to provide the travel party with liquid, when water was scarce.⁴⁰

The scope and limits of Barber's wagon drivers' knowledge creation are explored in detail here. On her journeys, African wagon drivers and cooks who allowed her to devote all her time to science always accompanied Barber. In her travel journal about her journey from Kimberley to Durban via Cape Town, she mentioned the 'Matabele boy' Kamel and Klaas from Cape Town—nothing is known about his origins—with whom she probably communicated in a mixture of Afrikaans, English and isiXhosa.⁴¹ The names suggest they could also have been coloured, but this is unlikely. Julia Wells has shown that Xhosa prisoners on Robben Island at the time were referred to 'by meaningless common colonial names such as Jacob, Jan and Klaas'.⁴² Not much is known about how his day was spent and the extent of Barber's and his interaction. He seems to have been responsible for ensuring the travellers had a smooth journey. His tasks combined those of a travel guide, driver, veterinarian, oxen trainer and tamer, cook as well as waiter. Klaas was harshly criticised for being unreliable and dumb, a good-for-nothing. He lost a coffee kettle and the lid of a pot, broke their whip stick, and one might wonder why she hired him or kept him on.⁴³

She repeatedly portrayed him as ‘rather good-looking’. Yet her apparent sympathy to him did not make the relationship last (Fig. 2.2).⁴⁴

From Barber’s description, Klaas remains as unknown and unfathomable as in this pencil sketch. She never mentioned individual characteristics and positive traits. Presumably recompensing him for his services, Barber took it for granted when he fulfilled his tasks to her fullest satisfaction. Yet, Klaas was unhappy and did not like the work that was expected of him, which Barber fully admits. Once he told the travel party that he would leave them if he was not treated better, which Barber found impertinent.⁴⁵ Soon afterwards, she described him looking sulky and out of temper. On another occasion, she disclosed that some of her party had several times ‘given him orders to go “where good manners won’t let me tell”’: sometimes they have threatened to kick him’, an interesting gender and racialised description.⁴⁶ In this passage, Barber seems to understand Klaas and to have tried to mediate between him and the travel group. Probably, they had a short-term contract that both of them wanted to maintain. They had been travelling together for a few weeks before the situation escalated. According to Barber, one day Klaas was in a bad temper and treated one of the hind oxen violently; the travel party could not stand this and one of them ‘kicked him soundly’, which Barber accepted and legitimised. For Klaas, this was the last straw; he was now convinced that it was

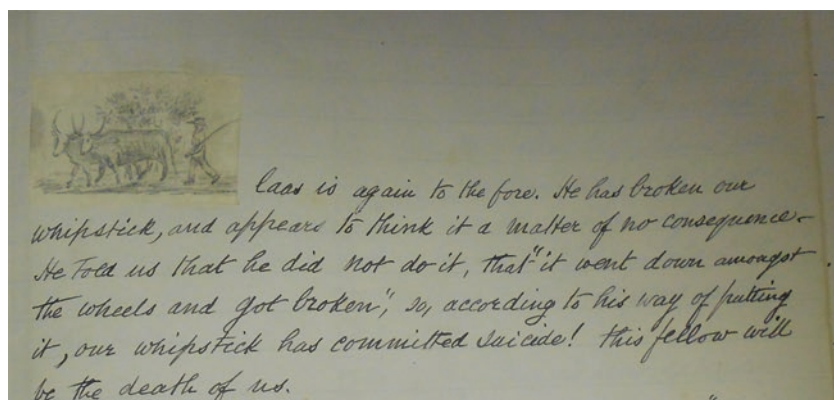


Fig. 2.2 Barber’s pencil sketch of Klaas. Initial of Chapter 4 for ‘K’, MS 10560. (© Cory Library. All rights reserved)

not ‘a good thing for him’ to be with them and left the travellers for good.⁴⁷ These notes show that he was both their driver and cook and probably responsible for much more on their journey. Barber was anxious and aggressive at the time, potentially due to the strained relationship with her husband, as detailed in Chap. 8. She never interpreted Klaas’ losing a kettle and breaking the whipping stick as acts of resistance, but they probably were, since Klaas had been at least as unhappy with the travel group as they with him.

In Victoria West, Barber employed Cobus, who was everything Klaas was not. He treated the cattle well, worked hard, was balanced and ‘a true South African wagon driver’, humorous, experienced on the road, friendly with everyone and diligent.⁴⁸ Cobus seemed an obedient friend and convenient servant who was well adapted to settler society, ‘a reformed, recognizable “Other”’ with ‘a difference that is almost the same, but not quite’,⁴⁹ to use Homi Bhabha’s words. Describing him as a ‘true South African’, Barber stressed the ‘ambivalence’ between herself and him. The Africans mimicked European behaviour and thereby could unintentionally become subversive, as Klaas did. In these cases, ‘mimicry’ became ‘one of the most elusive and effective strategies of colonial power and knowledge’.⁵⁰

Cobus highlighted the difference between how Africans and Europeans treated the oxen. Barber had written the poem ‘The Cry of the Ox’ in Kimberley in 1876 from the oxen’s point of view after tragically losing an ox when it had been four days without water.⁵¹ In her travel journal, she addressed the oxen directly and argued that, just as there were Aborigines’ Protection Societies to protect the health and well-being of indigenous people under colonial rule, there should also be a limit for wagon loads that would prevent unscrupulous, greedy carriers from overloading their vehicles. Her comment that oxen were fattened, slaughtered and remorselessly eaten indicates that she referred to white settlers’ treatment of oxen, as they were not part of Africans’ regular diet. The amaXhosa, for instance, slaughtered cattle for ceremonial occasions.⁵² Xhosa poetry of the period provides evidence: oxen were their favourite subjects, as they were ‘their most valuable possessions’, which they praised in songs and as mediators between the living and the dead ancestors. Hence, the oxen were not tormented.⁵³ Barber might have known about societies and legislation to prevent cruelty to animals in other parts of the British Empire, but her immediate environment was more influential. She did not refer to the English *Act to Prevent the Cruel and Improper Treatment of Cattle* (1822)

under which anyone who did ‘beat, abuse, or ill-treat any horse, mare, gelding, mule, ass, ox, cow, heifer, steer, sheep or other cattle’ was punished by fines up to five pounds or two months imprisonment, legislation that became the *Cruelty to Animals Act* (1835), amended in 1849 and 1876. Neither did she mention the Royal Society for the Prevention of Cruelty to Animals (England 1824, Victoria 1871, Tasmania 1872, etc.) or the Cape of Good Hope Society for the Prevention of Cruelty to Animals (1872).⁵⁴ Barber learned from Cobus that one could be a friend to people and oxen, always treating them kindly, which differed greatly from common practice among the settlers.⁵⁵ She never mentioned the Xhosa cattle killing movement of 1856–1857 when, after Nongqawuse’s prophecy, Xhosa pastoralists killed their cattle in the wake of a cattle lung sickness epidemic.⁵⁶ The analysis of Barber’s examples relied on her written sources such as poetry and her travel journal as well as an illustration. Let us now turn to contemporary photographs.

Her husband’s cousin the Grahamstown-surgeon William Guybon Atherstone’s private photographs of Xhosa and Mfengu co-operators are interesting as they differ much from Barber’s account and illustrations. Atherstone was at the meeting of the Academie des Beaux Artes in Paris where Louis Jacques Mande Daguerre had announced photography. He brought detailed information to Albany. Early photographs were static studio portraits of elegantly dressed settlers taken with the first cameras in the area in the early 1840s and with an exposure of about fifteen minutes in a good light.⁵⁷ Atherstone had studied medicine in Ireland, England and continental Europe.⁵⁸ In 1839, he became his father’s practice partner and succeeded him as district surgeon of Albany from 1855 to 1879. This is one of his photographs with an African co-worker—a photographer, wagon driver or carrier (Fig. 2.3).

He is elegantly dressed and posing for the camera. What is striking is his unwavering, piercing gaze. According to Roland Barthes, every image has a ‘punctum’, the point ‘that pierces, that holds the attention’.⁵⁹ The punctum in this image lies in this man. He returns the camera’s gaze, the photographer’s gaze, the gaze of the viewer back then and now, with something in his expression: Self-Confidence? Pride? Vanity? Mockery? Challenge? Reproach? A feeling of supremacy, knowing how dependent his photographer is on him?⁶⁰ As such he is a counter-example of the half-naked associates in Holub’s illustrations. From travel experts, let us now concentrate on medicinal plant experts and healers, how they shared their knowledge or kept it private.

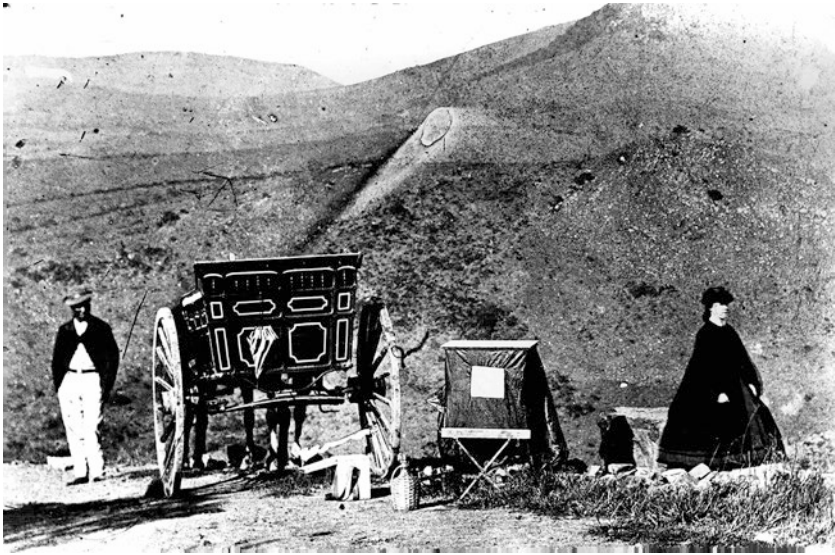


Fig. 2.3 An elegantly dressed African next to a horse drawn carriage, a portable dark room tent and presumably William Guybon Atherstone's wife in the Howieson's Poort Valley near Grahamstown in 1864. (© Van der Riet Collection, HM, Accession Number: AM3816. History Museum, Albany Museum Complex. All rights reserved)

DIVINERS' AND HERBALISTS' CO-OPERATION AND RESISTANCE

The African experts on nutritional, agricultural and veterinary plants helped European and settler travellers to survive, as we have seen, and simultaneously advanced botany and medicine. To live healthily, people had to know medicinal plants and how to use them. Africans knew, collected, used and treasured plants long before the first Europeans arrived at the Cape. The importance of plants in Khoesan life and their knowledge and use of medicinal and nutritional plants—such as *stapelia*—over centuries was recorded in rock art paintings, for example, although plants featured far less than animals, humans and geometrical patterns.⁶¹

Afrikaners in the nineteenth century are said to have continued using the preindustrial ideas of European medicine that they had brought to the Cape, and their contact with the Khoekhoen presumably entailed shared

healing practices. They are said to have been isolated from Western medicine, to have had very few doctors and dated medical knowhow.⁶² It is not clear how far the Afrikaners exchanged medical knowledge with the amaXhosa.⁶³ It has been argued that they ‘borrowed and adapted plant remedies from African people’ to a greater extent than English speakers.⁶⁴ In what follows, I focus primarily on the English-speaking community in the district of Albany and the settlers’ exchanges with Africans.⁶⁵

By the 1840s, when Barber became interested in medicinal plants, there were hardly any publications she could draw her knowledge from. Settlers and European travellers had overlooked the use of native plants in the Cape Colony, assuming that if they were ‘not worth exporting’ they were ‘of small value’.⁶⁶ Western visitors seemingly used the remedies for themselves but did surprisingly little ‘towards working out the pharmacography and precise mode of action’.⁶⁷

Barber was in contact with amaXhosa and amaMfengu—but not ‘with the other numerous races’, as she wrote in 1867, with whom she had ‘had no intercourse and kn[e]w nothing of their manners and customs’.⁶⁸ This led the anthropologist Robert Shanafelt to conclude that Barber knew some Xhosa men and women, but ‘only from a reserved distance’.⁶⁹ This changed with her journey to see the New Rush of miners in Griqualand West in 1870 and the decade she spent at the diamond fields that came to be known as Kimberley.

Leaving Kimberley and travelling to Durban via Cape Town in 1878,⁷⁰ she was deeply fascinated with Khoesan knowledge of the poisonous plants used in their very effective arrowheads. The arrowheads were carefully stored away for war or shooting large game, not for fish or birds. When shot, the shaft fell off and a poisonous piece of wood was left in the victim’s body to do its ‘deadly work’ within an hour or two, while the Khoesan watched keenly from a distance. ‘The ingredients of this poison are not known to Europeans’ and ‘natives’ spoke of various species of plants that they used. One frequently mentioned was the ‘Bushman Poison Plant’ (*Toxicophloea*) common at the coast. Barber noted that a traveller and sportsman called Mr. Jameson told her that in the interior near the Zambezi River, a species of grub or caterpillar was used as one of the ingredients. Barber much admired plant knowledge as a weapon.⁷¹ The examples she gave suggest that she learned more from hearsay about African plant knowledge than from actual personal contact with Africans.

Medicinal plants also cured minor illnesses. The seeds of the baobab tree were as hard as a calabash shell, and the grey pulp around them when

dried tasted like tartar emetic, a poisonous chemical called potassium antimony tartrate, used to make people vomit.⁷² The Afrikaners and Africans of the Moregwa country used the pulp to treat fever just as British settler doctors used tartar emetic.⁷³ *Lippia scaberima* was a valuable medicine for fever used by Free State people between the Vaal River near Rustenburg, and some species of *Helichrysum* could heal sores and inflamed spots.⁷⁴ African farm workers presumably showed Barber how to treat fever, dysentery, diarrhoea, colds and minor illnesses with plants in the vicinity. She had a peach orchard and probably knew how to use the peach leaves as a sedative.⁷⁵ *Bulbine latifolia* and *Salix capensis* were widely used for rheumatism and rheumatic fever, and as she herself suffered from rheumatism, presumably she used them as well. Her grandson used her rheumatism as an excuse for the Barbers' leaving, letting the farm Lammermoor on the Zwart Kei River near Queenstown silencing their financial difficulties, mentioning her attempts to get better by going near the sea or even on boat trips for a while.⁷⁶ Looking after her three children, husband, parents and siblings, she drew richly on this stock of advice that she did not circulate in publications but kept for her personal needs and shared with her relatives. This was tacit knowledge used in everyday practice and held strictly separate from her scientific studies of plants.

Dutch settlers and later English contemporary literature spread other information on Xhosa and Mfengu medicinal plant use. 'The natives' and Afrikaners used large *Monsonia* to treat dysentery, and it was known to cure very bad cases. The whole plant was used, with its root and branches.⁷⁷ It remains unknown who had given Barber this information. She might have read the German physician and botanist Karl Wilhelm Ludwig Pappe (1803–1862) who mentioned that the root and herb of the 'Keita' of the Khoekhoen are 'very astringent, and used with great success in dysentery' or learned it from her sisters-in-law or acquaintances.⁷⁸ Pappe had first published *A List of South African Indigenous Plants Used as Remedies by the Colonists of the Cape of Good Hope* in 1847 which was the basis of his well-received *Florae capensis medicae prodromus* published in Cape Town in 1857, generally held to be the 'first significant contribution to the study of indigenous medicinal plants'.⁷⁹ It informs about the medicinal value of 150 plants, and he gained a prize at the Great London Exhibition of 1851. Pappe acknowledged Afrikaners in the hinterland for their collaboration and not 'native doctors', 'an observation largely refuted in nineteenth-century pharmacology'.⁸⁰ The case of *Monsonia* seems to have been well-known among interested settlers. The Khoekhoen are said to have called

this *Monsonia ovata* ‘*Geita* or *Nceta*’, the amaXhosa ‘*i-Gqita*’ and to have used this geranium to cure ‘dysentery and chronic diarrhoea’, to have used it as a snakebite remedy, a sedative, to keep down inflammation as well as a remedy for anthrax (*milt-ziek* blood poisoning).⁸¹ At the same time as knowledge for everyday usage of medicinal plants for households spread, medicinal science and botanical medicine established a large body of knowledge and professionalised.

Settlers, slaves and Khoesan had shared medical knowledge for a long time, but for most of the nineteenth century, ‘licensed doctors’ did not publicly acquire or apply this knowledge. While some botanists and botanist-doctors such as Pappe published information on indigenous medical plants, few licensed doctors engaged with these, as ‘botany was regarded as a “puerile hobby horse”’, and doctors preferred the established European plant remedies. Pharmacological analysis and extraction in the late nineteenth century caused a shift in perception, but Africans’ knowledge still ranked low for the ‘licensed doctors’.⁸²

Yet before this shift occurred—when botany seemed unrelated to medicine and Africans’ plant knowledge was demeaned—missionaries-cum-doctors published and circulated what they knew of medicinal plant usage among the amaXhosa. Andrew Smith of St Cyrus (1828–1898), a small town on the east coast of Scotland north of Montrose,⁸³ is best known for such publications. A qualified teacher with a Master of Arts degree from the University of Aberdeen, from 1867 to 1887 he was a ‘most devoted’ teacher in the College Department at the Presbyterian mission station of the Glasgow Missionary Society at Lovedale, near Alice, eastern Cape.⁸⁴ It is no surprise that he was interested in medicinal plants, given that the Glasgow Missionary Society particularly required its missionaries to have some medical training.⁸⁵ At Lovedale, he taught history, geography, philosophy and mathematics, and in his free time was a passionate botanist. In 1885, Smith exhibited a collection of medical plants at the South African Exhibition in Port Elizabeth from 10 December 1885 to 9 January 1886. The collection was accompanied by a twenty-three-page pamphlet on how ‘natives’ use medicinal plants.⁸⁶ After the first edition, he received information from various parts of the eastern Cape that helped him extend his manuscript over the next three years and resulted in a second, 163-page edition. In 1895, the final, third and further extended 240-page edition was published.⁸⁷ What Smith recorded was also reproduced in English–Xhosa dictionaries compiled largely by missionaries in the late nineteenth and early twentieth centuries, such as by the German mission-

ary and doctor Albert Kropf (1822–1910).⁸⁸ In these entries on plants, Africans do not feature as individual actors but ethnic groups who are generalised as all using plants for certain purposes.⁸⁹

Smith's two most famous Xhosa co-workers were Dr Jotello Festiri Soga (1865–1906), the first South African veterinary surgeon and son of the Reverend Tiyo Soga, and William Wellington Gqoba (1840–1888), a famous Xhosa poet, translator, journalist and editor of *Isigidimi samaXhosa* (*The Xhosa Messenger*), who had attended mission school at Tyhume and the Lovedale Institute. They were acknowledged by name and introduced as co-workers. Jotello Soga had won a gold medal for his studies in botany while studying veterinary surgery in Edinburgh. Back home, he sent plant specimens to the British colonial botanist and teacher Peter MacOwan.⁹⁰ Smith mentioned Gqoba as a most enthusiastic contributor who did research to learn more about remedies from others which he then shared with Smith.⁹¹ Other experts consulted by Smith also seem to have been mainly within the mission networks. He admired them and described them in most cases as 'native herb-doctors', 'an old Fingo doctor', 'the old Hottentot women', 'a skilful native doctress', 'Native experts', 'Native specialists' and 'Kaffir specialists', but occasionally more negatively as 'Kaffir witch-doctors'.⁹² Smith often listed individual medical cases descriptions where Western medicine failed and local medicinal plants helped to solve a problem. In these cases, when Xhosa medicinal plant knowledge was superior, he referred to individual patients, healers and diviners.⁹³ Men of similar rank to himself such as chiefs and Xhosa missionaries were mentioned by name—for example Chief Kama and Reverend John Mtila, of the amaNgqika, the missionary in charge of Knapp's Hope.⁹⁴ African medicinal knowledge was described as 'largely experimental', and indeed, it was by experimenting that the amaXhosa found out about the effects of plants that looked very unrelated to those used for similar Western remedies but were in fact species of the same genus.⁹⁵

Smith's publications were well received. European doctors and pharmacists at the Cape were particularly interested in Africans' medicinal plant use. The pharmacist Ernest L. Ralling argued that in nine out of ten cases he and his colleagues were 'indebted [...] to the empirical aboriginal inhabitants' use' of medicinal plants and demanded that plants should first be used experimentally and observed by 'the local medical man' and only later should 'scientific investigation' follow.⁹⁶ He thus suggested that Xhosa medical practices were likely to be superior to Western ones and

that Western doctors should open up to their African colleagues in order to learn more about medicinal plants.

Europeans distinguished between ‘empirical’ and ‘scientific’ knowledge. Empirical knowledge was based on trial-and-error experience where Africans applied certain plants to wounds and illnesses. Coming from the West where science had become professionalised, Europeans now saw African experimentation as one link in a larger chain of knowledge creation. For them, science had a wider ability to explain and predict causality. While experimenting and empirical knowledge were based on the past, science opened up a predictable future. Yet, only a few Europeans were as impressed and as favourably outspoken on Africans’ systems of knowledge on plants as Pappe, Smith and Ralling. White doctors often accused African medical practitioners of ‘quackery’.⁹⁷

When it came to curing snakebites, however, Western medicine depended on African knowledge. Premesh Lalu has observed that individual actors such as an anonymous ‘old woman living in Namaqualand’ who had gained a wide reputation as a snakebite doctor were consulted and quoted in the *South African Medical Journal* in the late 1890s. Derogatory terms such as ‘quackery’, ‘superstition’ or ‘witch doctors’ were never applied in this context. Displays of African doctors’ medical utensils and medical sources in plants and animals showed settler doctors’ appropriation of Africans’ knowledge as well as their anthropological fascination.⁹⁸ Barber was also interested in snakes. While in Natal, she and her brother used isiZulu words for snakes and plants such as *umzambete* (*Millettia caffra*), *ibululu* (puff adder), *imamba*, *inblonhlo* and *inblangwana* for deadly vipers.⁹⁹ With regard to snakebites but also more generally, the view of indigenous medicinal knowledge seems to have changed with successful treatment and curing of white patients. White settlers did not record their own doubts about western knowledge as rigorously as they did about information obtained from Africans.

As seen above, Barber did not use African vernacular names. Yet in the late 1870s she favoured vernacular place names as they were ‘much prettier, and less confusing’ and did not repeat ‘threadbare names’ or ‘denote too plainly the utter blank which must prevail the minds unable to select or invent new names for new countries’. She for instance made fun of “‘East London West”, whatever that means?’ She thereby echoed Burchell who had given Dutch names to many places, ‘when I ought to have given the original’. ‘It is certainly bad taste to substitute, in any country, a mod-

ern or a foreign name, for one by which a place has been for ages known to its native inhabitants' and he was bewildered that the Khoekhoen with whom he travelled used Dutch names themselves.¹⁰⁰ The example Barber gave for a native place name was Berea, the ridge of hills overlooking the bay of Port Natal that she mistakenly took for a isiZulu word. She was unaware of its being a New Testament derivation of a place where noble men resided. The name, initially applied to the explorer and ex-navy officer Allen Francis Gardiner's mission station on the ridge above Port Natal in 1835, is said to have been 'gladly received' by the amaZulu living in the area.¹⁰¹

'Colonial' experts on medicinal plants often lamented the amaXhosa's secrecy or unwillingness to share their knowledge. The surgeon Atherstone was in Grahamstown when it was the medical centre of the eastern Cape as the military frontier post, and the first and second hospitals were located in town from the 1820s.¹⁰² In his free time, he built up his own herbarium that he donated to the Albany Museum in 1889, sent specimens to the South African Museum and the Royal Botanic Gardens Kew, and served on the committee of the Grahamstown Botanical Gardens for many years. Parts of his vegetable produce and ethnographic collection as well as photographs of scenery in the eastern Cape were exhibited at the Paris Exhibition of 1867.¹⁰³ He was once called through a settler as a consultant to an Mfengu doctor called Umbon. Umbon refers to the clan of the amaGcina, and *umbona* is mealie in isiXhosa. We can assume that the doctor was a Xhosa belonging to the clan amaGcina rather than an Mfengu. The doctor had been treating an Mfengu girl in the last stages of phthisis with a shrunken non-functional eye for three months. Out of his *mooty* that Atherstone translated as bag—but *muti* is derived from the Zulu word for tree and means medicine—Umbon took fresh euphorbia that he cut into two-inch squares and put into half a cup of warm water, strained it and gave it to his patient. According to the African doctor, this purgative usually worked within five minutes and was also efficient against worms. He explained that he also had snakeroot and *leonotis* in his bag to treat snakebites as well as aromatic grasses and herbs for other ailments. Atherstone was eager to learn more, and the Mfengu doctor promised to bring him fresh supplies and instruct him how to use the plants.¹⁰⁴ This case indicates that Atherstone wanted to learn from African doctors if they initiated contact with him and were willing to share their knowledge.

Atherstone's list of plants and their medicinal purposes suggests that he did not have a general interest in African medicinal plant use, but limited

himself to finding alternative cures for illnesses that his settler patients frequently had such as dysentery, tropical fever, diarrhoea, rheumatism and the like.¹⁰⁵ He was interested in new remedies and regarded them as similar to the homoeopathic treatment that was discussed by European doctors and pharmacists in the wake of the German physician Samuel Hahnemann's *Organon der Heilkunst* (1796). The information that Atherstone accumulated from acquaintances and patients, near and far, as well as from amaXhosa, amaMfengu and Khoekhoen, he passed on in his address on 'Plants with Medicinal Properties'. In it, he, for instance, mentioned that his actual experience proved that crassula, for instance 'Hoender Been', was an effective remedy against dysentery. His brother John was in excruciating pain after three days and tried crassula. 'A handful of leaves was boiled making a cupful of strong decoction. He took a wineglassful twice. Shortly after the first dose, all pain left.' And another settler, Fallegan, in Lower Albany had suffered from chronic dysentery for four to five months and consulted several medicinal practitioners in vain before he took 'a strong decoction of crassula – a wineglass three times a day. After a few doses, he was much better and within a week, he was perfectly well'. Given that crassula were 'found in great abundance on the road from "Tharfield" to Biddulph's as one ascends the hill after crossing the Kleinmond', we can assume that Barber and the Bowkers also used this cure.¹⁰⁶ Atherstone recorded his gathered information on medicinal plants in one of his more than 200 surviving notebooks.¹⁰⁷ He experimented with the information and treated his patients accordingly. The plants for these experiments were grown in his garden on Thursford or collected in the vicinity. He kept notebooks and gave lectures, but does not seem to have published his findings.¹⁰⁸

Settlers and European travellers almost always referred to Xhosa men, not women, in this regard, and they seem not to have understood the difference between *ixhwele* (pl: *amaxhwele*) the herbalist and *igqira* (pl: *amagqira*) the diviner.¹⁰⁹ Early observers such as the naturalist Andrew Smith (not Andrew Smith of St Cyrus) in 1832 had noted that 'Xhosa diviners were almost invariably women', 'while herbalists were more usually men'.¹¹⁰ In an early photograph of a diviner, probably a woman, from the 1850s or 1860s, in the Collection of Sir George Grey at the National Library of South Africa, in Cape Town, the diviner wears the traditional garb of the calling consisting of an animal-skin cap, bracelets and necklaces. The gaze is piercing, demanding and challenging, even though her position gives the impression that she feels uncomfortable. She seems to

protect or distance herself from the camera by crossing her hands. She has a reproachful gaze as if she wanted to say: ‘What is the purpose of photographing me?’ She might also be hiding herbs or something else in her palms (Fig. 2.4).

Barber’s few passages on medicinal plants show that she was in contact with Xhosa women, but we can assume she did not grasp the important role they played in society, otherwise she would have stressed this in her attempt to gain more rights for women, as will be discussed in Chap. 8.

Smith and Atherstone may have been in touch only with Xhosa herbalists, rather than (mostly women) diviners. That women played such a key role in society was a thorn in the missionaries’ side, so it is not surprising that Smith referred almost entirely to men, with whom he seems to have been in much closer contact. Contact with European society altered traditional practices so there could also have been more men diviners by the time Smith was at Lovedale. But I would suggest

Fig. 2.4 Early photograph of a Xhosa diviner, sex not clear. (Collection of Sir George Grey. © National Library of South Africa: ALBX 19, 15,611)



that the predominant reference to men reflected the patriarchal European society at the Cape. In this system, men and their knowledge systems mattered.

‘Colonial’ experts often complained about the amaXhosa’s unwillingness to share what they knew. Smith of St Cyrus lamented that some ‘herb doctors’ ‘keep the knowledge of their virtues to themselves with profound secrecy, and occasionally mislead people by showing them some other plant, or by ascribing to a plant some use very different from its real one’. In cases of typhoid fever, he also observed that ‘native experts’ wished ‘to keep the key to knowledge to themselves’ and ‘The virtue of *Melanthus comosus* in snake-bite has been kept very secret’.¹¹¹ The information often remained within families. European doctors frequently complained that Africans were jealous of their knowledge and kept their most valuable drugs secret, even though doctors such as the Scottish doctor and teacher Jane Elizabeth Waterston (1843–1932) offered a substantial amount of money for it.¹¹² Waterston had been one of the first women to study medicine and gain a medical degree in Britain. If a woman wished to enter the medical profession, it was necessary to qualify in New York, and in 1849, Elizabeth Blackwell, born in England but living in the US, was the first to follow this path. In 1869, Barbara Bodichon and Emily Davies finally founded a women’s college at Hitchin, which in 1873 moved to Cambridge as Girton College. A year later, University College in London eventually admitted women to its classes, and in 1877, they were at last allowed to enter its medical school to train as doctors. Waterston studied at the London School of Medicine for Women from 1874 to 1878 as one of the first students. She ran a medical department at Lovedale from 1880 to 1883, and worked as a physician in a private practice in Cape Town. In another case, a doctor was successfully treated with beans when he suffered from malarial bilious fever at the Lebombo Heights. After testing the treatment later on 200 white miners in the Transvaal, the doctor returned and witnessed how ‘the local native doctor’ had informed his community that the trees had to be destroyed, as they were ‘bewitched’. Time and again, white doctors were suspect and their intrusion was seen as dangerous to local healers’ skills.¹¹³ These examples show how some African experts successfully resisted attempts by colonials to appropriate their knowledge.

BARBER AND HER BROTHERS' SOCIAL DARWINISM

In a letter dating from 1865, Barber voiced her most explicit opinions on what she regarded as the necessary eradication of the amaXhosa from the Albany district.¹¹⁴ This letter was written in the context of the ongoing debate between the missionary John Aitken Chalmers and Tiyo Soga. Soga is said to have been the first African minister, journalist, translator, missionary and intellectual. Chalmers and Soga's discussion on the role of the amaXhosa in Cape colonial society culminated in a fierce exchange of views published in the magazine *Indaba* and the *King William's Town Gazette*. *Indaba* was a magazine in isiXhosa which was edited by the missionary Rev. Bryce Ross and the *Gazette* was a settler newspaper published from 1856 to 1874.¹¹⁵ Barber's message to her brother Thomas Holden Bowker was a response to this debate.

In her letter, Barber wrote that she was of the opinion that 'the black fellows' had to "go to the wall" for they [were] the weakest – both in intelligence and common sense and [could not] stand against the white races'. Either they were to obey the settlers' laws or face being 'driven out' as it would never be possible, she believed, for both groups to 'live together as one people'.¹¹⁶

She echoed her eldest brother John Mitford Bowker's oft-quoted 'springbok speech' from August 1844 which was inspired by Thomas Carlyle and theological racism. In it, 'the most outspoken ideologue' had claimed that the amaXhosa had only looting and homicide on their minds and should thus make way for settlers just as the springboks had done previously for the latter's sheep.¹¹⁷ He was also convinced that the potential of the area would be wasted if a few thousand 'ruthless worthless savages' populated land that millions of 'civilised men' would 'happily' live on and cultivate. In his notorious springbok speech, he said:

I said I felt sorry for the spring buck, and who but regrets the waning herds of them? Yet the merino (sheep) is far preferable to them. And this extinction of races even amongst men is a palpable fact which we have every day experience of, and over which we have no control, and it is well we have not, with our whining nonsense. And Scripture shows, too, in the destruction of the Canaanites, etc., that God at times wills it that one race should summarily make room for another.¹¹⁸

In a speech before likeminded 1820 Settlers, he argued that the amaXhosa could only be incorporated into colonial society as labourers. They could

never take on leadership roles as they would always have to be instructed how to perform manual labour roles such as those of herders, wagon drivers, woodcutters and drawers of water.¹¹⁹ Historians have described him as an ‘anti-liberal extremist’ and his speech as ‘the first manifestation of a genuine racism in South Africa’.¹²⁰

John Mitford Bowker had arrived at the Cape in 1822 when he was 21-years-old and died in 1847 of pneumonia that he had developed after a fall from his horse.¹²¹ His demise has largely been seen as a result of the traumas of the Seventh Cape-Xhosa War and its aftermath, and many sources claim he died in the war.¹²² His premature death had a deep impact on his siblings and radicalised their ideas on settlement and dispossession of land.

Thomas Holden Bowker shared his brother’s views and acted accordingly. He had been a lieutenant in the Provisional Colonial Infantry in the Sixth Cape-Xhosa War. In his war diary he enthusiastically noted his killing of Xhosa warriors without regret.¹²³ During the Seventh Cape-Xhosa War, he had been captain of the Grahamstown Native Levy.

In 1848, after mismanaging the farm Tharfield which he had inherited from his father and facing the prospect of being sent to a debtor’s prison,¹²⁴ Bowker joined a group of 1820 Settlers. One of the group’s most prominent members was Robert Godlonton who in the *Graham’s Town Journal* argued that it was the Albany settlers’ ‘task of colonizing Kaffirland’. A Grahamstown petition submitted that in ‘Kaffirland [...] there is a wide and most fertile tract of country which must, to preserve the advantages of the British forces have gained over the Kaffir tribes, be occupied by British subjects’.¹²⁵

In the process, the petitioners sought to connect the eastern part of the colony with the new colony of Natal and secede from the Cape Colony.¹²⁶ Godlonton, Bowker and kindred spirits had hoped to gain executive power—they were less concerned with legislation, had economic interests as well as a ‘frontier psychosis’.¹²⁷ When the railway came to Albany in the 1870s, separatism outlived its purpose and Bowker focused on other ways to justify land claims.

From 1848 to 1851, Bowker was resident magistrate at the Kat River Settlement. This was a scheme which provided the Khoekhoen with a modicum of land between the Cape Colony and the Xhosa territory. According to Bowker, this was the best-watered and most fertile district in the area and would prosper better under the control of Europeans. However, he had little understanding of the nuances of the inter-ethnic relationships, alliances and allegiances on the frontier. He, for instance,

commented that he was ‘frequently at a loss to tell when a Gonah is a Hottentot, Fingo or Kafir as he appears Proteuslike as each occasionally’.¹²⁸ This was illustrated by his introduction of fines against some Gonas for cattle trespassing on ‘white land’ and his summary confiscation of their cattle in lieu of unpaid fines.¹²⁹ He believed he could rule and take land from them at will. Reverend J. J. Freeman had written about the case while touring the country, and his intervention had been assessed by higher officials who reprimanded Bowker for his imposition of fines which they asked him to return. Bowker and his colleagues responded by burning down more than 300 huts, in the process evicting 500 Gonas and amaMfengu and their 2500 cattle and 1400 goats from the Kat River Settlement during six days of hail, freezing rain and stinging wind in the winter of 1850. These actions were in contravention of Ordinance 50, which had been adopted in 1828 to render race no longer relevant to legal status. Bowker did not discriminate between recent squatters and residents who had been living there for more than twenty years.¹³⁰ There were immediate protests by whites against Bowker’s legal ignorance and hostile rule over Africans. The governor subsequently declared him unsuitable as a magistrate and dismissed him.¹³¹ Before his dismissal, however, Bowker had confiscated some 300 guns which would be useful during the Kat River Rebellion when he was commandant of the burghers defending the settlement of Whittlesea at the northern front, north of the Amathole Mountains, which had been unsuccessfully attacked by the amaXhosa twelve times in January and February 1851.¹³² His racialism was certainly also informed by his reading of works on race, such as by Thomas Carlyle, Herbert Spencer, Ernst Haeckel, Thomas Malthus and Robert Knox.¹³³

Barber’s radicalisation was more implicit. In 1867, she answered Darwin’s questionnaire for his research on human emotions, expressing her opinion that Europeans and Africans shared similar emotional expressions, but not rationality and intelligence. It is not clear how Barber received this questionnaire. J. P. Mansel Weale, who was responsible for circulating it at the Cape, may have sent it to James Henry Bowker who asked her to answer the questions for him. Darwin only received two questionnaires from South Africa, the other from Xhosa chief ‘Christian Gaika, brother of Chief Sandilli’, which would have meant ‘a return of perhaps twenty percent’, compared to his total return of ‘thirty-six questionnaires from throughout the world’.¹³⁴ She was a ‘stout Darwinian’, as she called herself, or a ‘fierce social Darwinist’, as in the words of the anthropologist Robert Shanafelt.¹³⁵

Barber had hoped Darwin would definitively prove Africans' intellectual inferiority. This became particularly important to her in the 1870s while living on the diamond fields in the northern part of the Cape Colony. There, her husband and sons hoped to prove themselves as successful miners after the difficulties which they had experienced while farming in Albany.

On the diamond fields, African miners outnumbered whites by a ratio of more than ten to one. For the first time, Barber, who was used to living on remote farms and being in constant exchange with relatives, neighbours and the settler community in Grahamstown, became acutely aware of the small minority which the white settler community at the Cape actually formed.

Barber was thus disappointed when she received a copy of Darwin's *The Expression of the Emotions in Man and Animals* (1872),¹³⁶ which she found stimulating but 'not exactly in [her] line'.¹³⁷ Darwin had not provided her with evidence for African inferiority and thus a legitimisation for 1820 Settlers' rule. The newcomers placed African experts from various ethnic groups in a racial hierarchy with whites at the top, as will be further discussed in Chap. 7.

Cross-cultural collaboration, as discussed in this chapter, became common practice over time and, according to settlers and European travellers, no longer required constant or explicit mention, as Chap. 3 will show in more detail. Like the herbalists and diviners, the informants, collectors and taxidermists had the power to decide what they would share, when, and with whom.

NOTES

1. Bertram Egerton Bowker, *An Account of 60 Years ... on the Frontiers of Cape Colony & Kaffirland*, Public Record Office, London, Cape MSS Series, CO 48, quoted in: (Cohen 2011, 14).
2. Mary Barber, "In the Days of My Youth", History Museum, Albany Museum Complex (HM), SM 5493, (56 pages, n.p., no date).
3. See (Warman 2003, particularly Chap. 5: "Corn and Slavery in Africa," 51–65 and Chap. 6: "Corn and Colonialism," 66–81).
4. (Thorpe 1978, 11); Bertram Egerton Bowker, *Reminiscences Concerning Immigrants and their Experiences in a New Country*, HM, SMD 57(b), 1.
5. See for example (Reader 1998, 460).
6. (Mitford-Barberton 1970, 23, 29).

7. By 1833, Miles Bowker's October and November shearings alone were yielding 1000 lb. of wool, bringing in a very reasonable income, of about £50. By 1835, the province as a whole was exporting some £26,000 worth of wool per year. Within another seven years, exports of wool through Port Elizabeth had reached over one million and a quarter pounds in weight and a value of some £58,700, and European settlers' awareness slowly increased that there was likely to be a great future for the South African wool industry (Mitford-Barborton 1970, 36–37, 67–68); (Godlonton 1844, 115).
8. (Mitford-Barborton 1970, 68–69).
9. W. M. Bowker examined by Rev. W. Impey, J. Ayliff Esq., J. C. Hoole Esq., W. R. Thomson Esq., Thursday, 23 March, 1848/1854/1865?, HM: SM 5502 (17).
10. (Cock 1990, 78). Also see (Cock 2001).
11. (Mitford-Barborton 1970, 94).
12. See (Cock 1990, 82).
13. (Mitford-Barborton and Mitford-Barborton 1952, 171–172).
14. (Mitford-Barborton 1970, 65).
15. (Bowker 1884).
16. Mary E. Barber to Thomas H. Bowker, HM: SM 5325(9), Highlands, 16 June 1862
17. See (Cock 1990, 76).
18. (Cock 1990, 79).
19. KLAA, Director's Correspondence, Vol. 189, Letter 137, 4 Stoke View Fishponds near Bristol, 28 July 1889. Barber was also told that the fungala seed was a very tasty fruit and that from the *Dovyalis rhamnoides* berries one could cook a delicious preserve.
20. TCD, *Liparis bowkeri*, 6756, Highlands, October [no year]; (Harvey and Sonder 1859, 1:69).
21. (Barber 1880, 204–205).
22. (Mitford-Barborton 2006, 47).
23. (Mitford-Barborton 2006, 48).
24. Africans' knowledge of water sources may even have been more important than their knowledge of plants. See for example (Guelke and Shell 1992).
25. TCD, *Boerhaavia* 761, Letter: Highlands, 16 March 1865.
26. TCD, *Brachystelma filiformis*, 88.
27. TCD, *Lessertia flexuosa*, 1710, 4.
28. TCD, *Indigofera* 5203.
29. (Barber 1870, 82).
30. (Barber 1903, 18).

31. TCD, *Ospeospermum* 4046 (used for soap and eaten by ‘Hottentot children’); *Lyperia* 5234; *Indigofera* (used for dye) 1672; *Angracum* 509.
32. KLAAs, Director’s Correspondence, Vol. 189, Letter 101, Barber to John Croumbie Brown, Colonial Botanist in Cape Town, Highlands, 20 September 1865.
33. (Mathie 1997a, 2:480).
34. (Mitford-Barberton 1970, 70).
35. (Curtin 2000, 222).
36. (Brown 2011, 33); (Reinhardt and Reinhartz 2006, 134).
37. See for example: two illustrations in (Holub 1881, 2:Easter Sunday in the Vaal River’, opposite 208; ‘Mobbed for Spirits,’ opposite 236).
38. See for example Burchell quoted in (Beinart 1998, 783).
39. (Burchell 1824, 1:223, 242–243).
40. (Burchell 1824, 1:223, 242–243).
41. See for example: Barber, *Wanderings*, Vol. 1, MS 10560 (a), 1, 3, 9, 15, 25, 31, 32, 34, 44.
42. (Wells 2012, 217).
43. Barber, *Wanderings*, Vol. 1, MS 10560 (a), 9, 15.
44. See for example: *Ibid.*, 1.
45. *Ibid.*, 31.
46. *Ibid.*, 32.
47. *Ibid.*, 34.
48. *Ibid.*, 34–35.
49. (Bhabha 1994, 122).
50. *Ibid.*
51. Frederick William Barber to Alfred in England, Kimberley Diamond Fields, Good Friday 1876, in (Mitford-Barberton 2006, 40); (Barber 1898, 68–71).
52. See for example (Mostert 1992, 683).
53. (Opland 1983, 6).
54. (Legge and Brooman 1997, 40).
55. Barber, *Wanderings*, Vol. 1, MS 10560 (a), 34–35.
56. See (Peires 1989).
57. See (Waters 2000, 7, 13).
58. Mitford-Barberton claims that Dr. William Guybon Atherstone (1814–1898) had taken an MD degree at Heidelberg in 1839. Yet according to my research in the registers of the University of Heidelberg, he was not a student in Heidelberg at the time. See (Hintzelmann and Toepke 1916); (Toepke 1904). Atherstone studied at the Rotunda Hospital, London, for a few months, at the Trinity College of Surgeons, Dublin, at Meath Hospital and at the Dublin Lying-In Hospital (Maternity). He interrupted his medical studies to return to London for testifying before the

House of Commons Select Committee on Aborigines on 17 March 1837, and after eight months of studying, he passed the examination of the Royal College of Surgeons, London, in April 1838. In 1838–1839, he was at the Pathologic Medicale, the Hospital de Hotel Dieu and the French School of Medicine in Paris, according to Mathie. But she also argues that Heidelberg was renowned as the best Continental University at that time, and for some months in 1839, Atherstone followed a course of lectures there (Smith 1885); (Mathie 1997b, 38–40).

59. See (Barthes 2000).
60. See (Shepherd 2003, 2015).
61. (Wilman 1968, 27, 35, 51–53); (White and Sloane 1937, 73).
62. (van Heyningen 2004, 173).
63. (van Heyningen 2004, 174).
64. (Beinart and Brown 2013, 164). The word ‘borrowed’ is rather euphemistic.
65. For more on European explorers’ strong interest in medicinal plants since the sixteenth century, see for example (Patil 2012, 49–50); (Glen and Germishuizen 2010, 129–131).
66. (Smith 1885, 4).
67. Proposed South African Addendum to the British Pharmacopoeia, *SAMJ* 7:1 (May 1899), 18, quoted in: (Lalu 1998, 144).
68. Barber to Darwin, after February 1867, Darwin Correspondence Project, Letter 5745.
69. (Shanafelt 2003, 827).
70. For more on her travel journal written on that journey, see: (Hammel 2016a).
71. Barber, *Wanderings*, Vol. 1, MS 10560 (a), 29–30.
72. Thanks to Dr. Alan Cohen for explaining its function. Andrew Smith only refers to *Erythrina humei*, the small coral tree or *um-Sintsana* (isiXhosa) as part of an infusion against dysentery (Smith 1885, 90).
73. TCD, *Erythrina* 1793.
74. TCD, *Lippia* 5680; *Helichrysum* 3632. Pappe later described *Helichrysum nudifolium*, *Helichrysum serpyllifolium* and *Helichrysum imbricatum* as ‘a demulcent in coughs and other pulmonary affections’ and mentioned that the amaXhosa used it as a tea (Pappe 1857, 24–25); Also see: (Smith 1885, 100).
75. (Smith 1885, 79).
76. (I. Mitford-Barberton 1934, 76); (Smith 1885, 85, 94).
77. KLAA, Director’s Correspondence, Vol. 189, Letter 127, Kimberley, 18 October 1874.
78. (Pappe 1857, 4).
79. http://www.s2a3.org.za/bio/Biograph_final.php?serial=2622, date accessed 24 August 2016.

80. (Lalu 1998, 141).
81. (Smith 1885, 3, 45, 48, 97).
82. (Deacon 2004, 46).
83. Not to be confused with the zoologist, explorer, surgeon and ethnologist Andrew Smith (1797–1872), curator of the South African Museum.
84. (R. H. W. Shepherd 1941, 23).
85. (van Heyningen 2004, 183).
86. (Smith 1885).
87. http://www.s2a3.org.za/bio/Biograph_final.php?serial=2622, date accessed 24 August 2016.
88. See for example: (Kropf 1915, 49, 54, 71, 73, 74, 76, 81, 90, 99, 104, 105, 150, 156, 160, 163, 202, 204).
89. For very generic information, see for example (Kropf 1915, 228, 238); (Pappe 1857, *Mundtia*, 2; *Monsonia*, 4; *Pilogyne*, 13; *Crassula*, 15; *Msembryanthemum*, 16–17; *Arctopus*, 19; *Tarchonanthus* & *Cotula*, 22; *Erocephalus* & *Helichrysum*, 24; *Leonotis*, 33; *Gethyllis* 39; *Lastrea* & *Adiantum*, 44).
90. http://www.s2a3.org.za/bio/Biograph_final.php?serial=2647, date accessed 24 August 2016. For more on Peter MacOwan see: (Glen and Germishuizen 2010, 281–283).
91. (Smith 1885, Chap. 1, Introduction, 1).
92. (Smith 1885, 1, 58, 108, 122, 125, 141, 227, 146, 178).
93. See for example (Smith 1885, 75 (pelargonium juice helped a young student to cure his wound on his foot that a doctor wanted to take off), 78 (blood-purifying plant that cured an English farmer resident’s leg), 116 (decoction of *Sutherlandia* leaves supported a land surveyor’s recovery from dysentery), 123, 127, 131, 132, 143, 146, 160, 163, 166, 227).
94. (Smith 1885, 33–34).
95. (Smith 1885, 76).
96. From: Ernest Ralling, “Review of Smith’s Contribution”, *South African Medical Journal* 4:1 (1896), 22–24, quoted in: (Lalu 1998, 140–141).
97. See for example (Lalu 1998, 138–140).
98. (Lalu 1998, 142).
99. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 105, 113.
100. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 98; Burchell, *Travels*, Vol. 1, 202, quoted in: (Beinart 1998, 781–782).
101. (Gardiner 1836, 80); See New Testament, Acts 17:11–21; (F. Webb et al. 1990, 1:336).
102. (van Heyningen 2004, 176). It is therefore not surprising that this was the place where Atherstone in 1847 performed the first amputation using an anaesthetic outside Europe and the US.
103. http://www.s2a3.org.za/bio/Biograph_final.php?serial=104, date accessed 24 August 2016.

104. (Mathie 1997a, 2:472).
105. See for example: “‘Boerboon’ – for dysentery (J. Carlisle was cured by it).” (Mathie 1997a, 2:473).
106. (Mathie 1997a, 2:473–474).
107. His notebooks are at the Albany Museum, see (Craven 2015, 516).
108. A selection of notebook entries was edited and published from a first-person perspective by Narnie Mathie. Elizabeth van Heyningen is working on an edition of Atherstone’s papers.
109. (van Heyningen 2004, 170–171).
110. (van Heyningen 2004, 172, 188).
111. (Smith 1885, 1, 93, 33–34).
112. (Lalu 1998, 144). For more on the Scottish doctor and teacher Jane Elizabeth Waterston, see (Bean and van Heyningen 1983);(van Heyningen 1996).
113. (Lalu 1998, 144–145).
114. Preliminary ideas for this chapter have been discussed in (Hammel 2016b, 2018).
115. See for example (Attwell 1997); (Bickford-Smith 2011); (Williams 1978, 1983).
116. HM, S.M.D. No 932, Barber to T. H. Bowker, Highlands, 14 June 1865. Barber stated her adherence to social Darwinism most explicitly in this letter.
117. (Ross 2014, 173); (Bank 1995, 235, 338).
118. (Bowker 1964, 125). The speech was for instance quoted in (Ross 1986, 191); (Bank 1995, 232); (Crais 1992, 140); (Elbourne 2002, 351–352); (Magubane 2003, 105–106); (Marx 2004, 179–180).
119. (Elbourne 2002, 351).
120. (Marx 2004, 179), my translation. Marx cites: (Ross 1993, 69–110).
121. For more on the context, see: (Mitford-Barborton 1970, 94–96).
122. See for example: “Lieutenant John Mitford Bowker”, <http://www.1820settlers.com/genealogy/getperson.php?personID=1157&tree=master>, date accessed 3 January 2017.
123. See for example: HM, MS 951, 6 April 1835.
124. As shown in the surviving correspondence with his mother at the CL and HM, for example: Letters from Anna Maria to Thomas Holden Bowker, CL, MS 18638. Also see (Mitford-Barborton and Mitford-Barborton 1952, 173, 176–177).
125. (Keegan 1996, 218).
126. See (Le Cordeur 1981).
127. (Le Cordeur 1981, 146, 281).
128. (Ross 2014, 175).
129. (Mostert 1992, 919–920, 984–985); (Ross 2014, 173).

130. (Ross 2014, 180, 186, 247).
131. (Mostert 1992, 985); (Ross 2014, 182–185). Mostert speaks of resignation after ‘serious maladministration’, (Mostert 1992, 992).
132. (Ross 2014, 186, 247); (Peires 1989, 17); (Stapleton 2016, 158–159, 173).
133. See for example (Mitford-Barberton 1970, 39, 48).
134. Darwin Correspondence Project, From Mary Elizabeth Barber [after February 1867], Letter 5745; See (Shanafelt 2003, 815, 822, 835–836).
135. Barber to T. H. Bowker, 14 June 1865, HM, S.M.D. No 932; (Shanafelt 2003, 828).
136. Francis Darwin, “Concluding Remarks and Summary”, in (Darwin 2009, 372).
137. RES, Trimen Correspondence, Box 18, Letter 88.1, Oatlands, 10 March 1873.

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African Naturalists, Collectors and Taxidermists

A close reading of Barber's and her contemporaries' sources shows that European travellers and settler naturalists were not diverging from African experts and their knowledge. Drawing on what Bruno Latour calls 'cycles of accumulation',¹ historian Nancy Jacobs has claimed that the more ornithologists knew, the less dependent they were on what she calls 'African vernacular birders'.² It is true that Barber and her contemporaries did not speak of Africans' knowledge and rarely used vernacular species names as they were in the midst of a process of formulating their own terms of this new information and appropriating it to so-called Western science. The more published sources they had access to on how Africans used medicinal and nutritional plants, the more they could build on the results of earlier settler-African knowledge exchange. Primary and secondary accounts of African knowledge now went hand in hand. African expertise translated by settlers or people in Europe was circulated in the same way as directly acquired information. Some European experts in the second half of the nineteenth century might have credited African experts less often or less favourably than their predecessors, but their ties were as strong as ever.

This chapter focuses on collectors, informants and taxidermists.³ These categories were often overlapping, but it is useful to consider them one by one. Given that there are far fewer sources on African taxidermists, the last subsection will inevitably be shorter. The description of the collectors in the next section could have benefited from a closer examination of the

European naturalists. Yet, I deliberately chose not to devote too much space to them and rather focus on the African collectors.

COLLECTORS AS COMPANIONS

African collectors feature in European travellers' accounts throughout the nineteenth century, as the following three examples show: Stoffel Speelman, a Khoekhoe collector, collaborated closely with the English naturalist William John Burchell (1781–1863), who travelled widely in Southern Africa between 1810 and 1815. He was one of various 'Hottentots'—up to ten at a time—who worked with Burchell. None of his African collaborators stayed with him throughout his journey.⁴ African collectors often paid great attention to detail and knew far more of the habits of wild animals than newcomers did, which is why they were much better at finding and killing animals than Burchell and other European travellers. They deduced information from various surroundings and situations, and their knowledge 'proved of the utmost importance' for Burchell's endeavour.⁵ In 1811, Burchell employed Speelman, who had just arrived in Cape Town two months after being discharged from the Cape regiment and was employed 'as herdsman' when he caught Burchell's attention. At the time, Burchell had already found three Khoekhoen collaborators 'one to drive the waggon, another to lead the team, and the third to take charge of the loose oxen'.⁶ Speelman agreed to accompany Burchell if his wife could join him. Burchell negotiated with Speelman's employer, who let him go.

Speelman was about forty years old, tall, thin, upright, active and intelligent. 'His eyebrows were stronger than usual in this nation [more European-like]; his cheek-bones protuberant; cheeks hollow; nose flattened and wide, with large distorted nostrils [...], the chin narrow, [...]; and the beard very scanty, excepting on the upper lip.' He was 'an excellent marksman', 'a great traveller, and had visited most parts of the colony'. He had long wished to go to *Klaarwater* and was motivated to join the travel party by the prospect of seeing the country beyond the *Gariep* (Orange River) again.⁷

His wife Hannah was about thirty years old and unusually big for a Khoekhoe woman. She had small hands and feet, a long jutting chin and short black woolly hair under a kerchief around her head, wearing a 'coarse linen dress made in the Dutch fashion, and shoes of raw hide covered her feet'. Burchell did not want her to accompany them. Realising that Speelman would not join without her, he agreed to her joining on the

condition that he could engage her for cooking and washing. These two occupations, seen as women's tasks by Europeans, did not appeal to Hannah from the beginning and later did not satisfy her at all.⁸ Having a woman cook on an expedition was also rather unusual. At the district secretary's, Burchell and Speelman made a contract, with copies for all three of them, that registered Speelman's wage, his duties and his freedom to leave after the period of employment.⁹

Whatever struck Speelman as 'curious', he would collect and show his companions.¹⁰ He was a creative individualist with a strong sense of fashion that was much admired by his wife Hannah. The military full-dress cocked hat given to him by his comrades in Cape Town he did not find fashionable. He loosened the brim to give it a wider and more impressive appearance and sometimes let it down completely like a parasol. He combined this hat with a short blue jacket, sheepskin breeches, naked legs, his gun on his shoulder and powder horn by his side.¹¹ Even though it was hot, he wore his 'watch-coat' when he went to his new domicile at Klaarwater to appear more important, since few could afford such a dress there.¹² Burchell described him as 'the dandy of their party', as he 'dressed in his own fashion'.¹³ On the one hand, the description of clothing shows how Speelman used it as a sign of status. On the other, it is a colonial trope ridiculing how a Khoekhoe nearly, but not quite, pulled off white conventions. He combined European clothes of various kinds—the hat with a blue cloth jacket, new leather trousers, blue knee-long cotton stockings, a pair of leather gaiters, a new pair of leather shoes (Fig. 3.1).

Speelman's expertise in dressing, and the status he displayed, was matched by his initiative, creativity and knowhow in food and animal collecting. Once he and one of his colleagues came across twenty-six ostrich eggs which they wanted to carry to the camp. To Burchell's astonishment, they knotted bags that enabled them to do so.¹⁴ Initially employed as a 'herdsman', Speelman showed his interest and talent as a 'huntsman', and the more Burchell realised his 'cordial interest in the business of the journey', the more he granted him freedom to collect specimens.¹⁵ He was provided with a gun and was allowed to shoot every variety of bird that he came across, which he had to let others carry to the camp or bring back himself. He could collect what he was interested in, when and where he wanted without supervision. He could choose to sleep elsewhere and happily did, taking his 'budget', which meant his ration of food, and a bundle of sheep skins to lie on slung at his back; his gun over his shoulder, 'a *kéeri* (a short knob-stick)' in his

Fig. 3.1 Portrait of the Khoekhoe collector Stoffel Speelman. Burchell, *Travels in the Interior of Southern Africa*, Vol. 1, Fig. 2, facing page 167



hand; and a short clumsy wooden pipe smoking in his mouth, which to Burchell indicated his pleasure and contentment.¹⁶ Speelman found many birds that Burchell had not seen before.¹⁷ When he came across and killed a springbok, zebra, kudu, rhinoceros or hippopotamus for dried meat, he hired locals, sometimes San, to help with carrying.¹⁸ He also ground corn and played the violin.¹⁹ On several occasions when Burchell had difficulty finding more African co-workers, Speelman helped recruiting them.²⁰ Speelman knew a lot of birds by their colonial names and found very rare ones that they only encountered once during their travels.²¹ Speelman collected more birds than any other of his African colleagues. Burchell openly admitted this fact and that Speelman's knowledge far exceeded his own, which is why he ranked himself below his associate.²² At the same time, Burchell noticed that his African co-operator did not treat his wife Hannah very well, keeping her share of tobacco and brandy for himself, which made her even more frustrated with her work. However,

Burchell did not reprimand Speelman. The male bond was stronger, and Speelman would always bring interesting birds or insect specimens that Burchell valued so much, everything else became secondary.²³

Speelman spent much time hunting, checking when danger or uncertainty was near and educating his companions.²⁴ He told Burchell that the secret in hunting rhinoceros, for instance, was that they could smell humans from a great distance, which is why you always had to approach them from leeward, against the wind. Doing so you had to be silent, as they also heard incredibly well and on hearing the smallest noise would flee very fast. If disturbed, they often furiously followed their hunters, which was dangerous; yet their sight was weak, so you could make them run after you, run away and then have time to load your gun and shoot.²⁵ When Speelman was on special expeditions or missions, he often took Khoekhoe comrades with him whom Burchell put under his command.²⁶ Speelman greatly enjoyed hunting, was the foremost in hunting parties and the most successful. Yet when circumstances required it, he served in a variety of other ways too, as he was found to be very intelligent and adaptable. His companions also regarded him as the grand almanac-maker. He had a good memory of past occurrences that he could relate in great accuracy; if he was in doubt, he would pull out his almanac, which he had always in some part of his dress.²⁷ In short, Speelman did whatever Burchell did and was more successful, which made him his best partner and most dangerous competitor. This becomes more and more apparent in the second half of the second volume of Burchell's *Travels in the Interior of Southern Africa*. Indeed, when reading Burchell's account, one often has the impression that Speelman was more in command of the expedition than Burchell was. Yet, Burchell made clear that Speelman always required 'the superintendence and guidance of a master'. He also complained that Speelman thought he had privileges, as he was 'an old servant' and felt more attached to Burchell than others, which also led to tensions and conflicts within the travel party.²⁸

Of similar importance was Ia to the Swedish collector and ornithologist Johan August Wahlberg's (1810–1856) endeavour while travelling through Southern Africa from the late 1830s to the mid-1850s. Wahlberg left a brief travel account, written in key words, that was edited in 1994 and provides insights into the importance of African collectors to his work. Unfortunately, Wahlberg neither recorded Ia's age, origin nor full name. Wahlberg claims to have been able to communicate in isiZulu and other African languages, yet the names he provides of the African experts he

collaborates with sound bizarre and out of keeping with any African naming practise.²⁹ At times eleven to fourteen African ‘companions’, as he called them, worked with him. If they had achieved something extraordinary, or even if it was just that they had started their work with him, their names were recorded in his chronicle-like account. Wahlberg’s ‘companions’ seem to have constantly changed, which might explain why he never mentioned when somebody left his group.³⁰ Wahlberg constructed himself as superior and more liberal than Dutch and British settlers by criticising them for how they treated the ‘indigenous inhabitants’. He defended ‘a run-a-way servant’, criticised when a Khoekhoe was beaten to death and reported that three Xhosa were shot and the killer got no punishment.³¹ Like Burchell, Wahlberg also established a hierarchy among his co-operators. Those who had proved reliable got the more demanding tasks that required accuracy and trustworthiness. Most of them began as carriers, wagon drivers or translators but could rise to the position of a collector and guide or ‘ghillie Kaffer’ (hunt master).³² Ia had become Wahlberg’s personal assistant. When Wahlberg lost parts of his belongings, Ia looked for them. When Wahlberg wanted to catch birds, Ia helped him arrange stones to do so. Ia shot and collected specimens for Wahlberg’s collection as well as for food. He also followed the honey guide to provide Wahlberg and his team with honey.³³ Ia was trusted and given more responsibility than others, and Wahlberg worked closest with him. When they slaughtered animals, Ia did not have to carry the animals alone. Wahlberg helped him, which indicates that Ia was his partner, and he aimed at equal division of labour.³⁴ There were also ‘Tjobala’ with whom Wahlberg looked for elephants, ‘Kâtjââ, Kaljan, Teillsa and Tângo’ who were ‘hired for a month in exchange for iron for hoes, for combarger’, ten men employed for blankets and small trifles, ‘Swart Boj herdboy’, a ‘younger Kaffer’ carrying stuff around and in dangerous situations such as when wading through a river full of crocodiles, a ‘Kaffer with his assegai ready poised’ had to walk in front of him.³⁵

Similarly, Gert, a ‘Koranna’ from the neighbourhood of Klipdrift, started off as an interpreter for the Czech explorer Emil Holub,³⁶ by merit was increasingly relied on as an informant and collector, and became Holub’s closest African associate. When Holub looked for special insects in a wood, Gert accompanied him and found goat chafers and two kinds of bark beetles (*Bostrichidae*). They observed the environment and upon finding many gnu skulls they guessed together that, in the past, these animals had frequented the area and then retreated into the interior; this

indicates that Gert was not only good at collecting but also theorised about what he observed.³⁷

Gert was paid ‘at the rate of 8s. 6d. a week’ by Holub in the 1870s, where previous explorers had just given their team blankets and goods in exchange for labour. According to the South African archivist and genealogist George McCall Theal (1837–1919), a slave earned ‘between 1s 8d and 2s’ of which it is unclear how much they could keep.³⁸ That slaves earned a salary was a very unusual, period and place-specific practice called ‘renting out’.³⁹ Unskilled coloured workers in Cape Town earned 12.19 grams of silver a day between 1851 and 1875 and 10.70 between 1876 and 1900.⁴⁰ In a week, this would make around 70 grams of silver, which would have equalled 12.5 shillings.⁴¹ Gert also received board and lodging. Presumably, the salary in rural areas was lower, which indicates that the pay was acceptable but not the prime motivation for doing the job. Like Speelman, he seemingly enjoyed the scientific research and travelling. Holub, for instance, relates that Gert told him about the yellow crowned *mâ-hems*, the ‘crowned or royal crane (*Balearia regtdorum*)’, that they encountered and that, according to Gert, everybody knew in Africa. Farmers in the Transvaal and the Free State are said to have kept them as pets, which indicates that he had learned much on previous journeys.⁴²

Gert, ‘a Koranna half-breed’,⁴³ is the *punctum* of the image which Nancy Jacobs uses in her introduction to *Birders of Africa: History of a Network* (2016) to emphasise and illustrate the essential interactions of ornithologists and vernacular birders in Africa.⁴⁴ He is in command of the situation, explaining to three European travellers that the bird he is showing to them is a grey crowned crane (*Balearica regulorum*) that the Europeans see for the first time. Holub, the man with the gun,⁴⁵ is ready to shoot it. Gert explains that the *mâ-hem* has hair on its head not feathers, and was kept as a pet by Afrikaners.⁴⁶ His body language suggests he was ready to defend the bird against Holub or that he tried to persuade him not to shoot.

In other instances, Holub was impressed by the various ethnic groups’ hunting techniques in South Africa. He described how the ‘Batlapins’ used a *kiri*, a popular tool among the amaZulu and Tswana that was used to kill birds and was much better than the European weapons which destroyed their skins.⁴⁷ The *kiri* was generally made of wood.⁴⁸

Men and women scientists at the frontier differed in how they related to their co-operators. The three cases above indicate that men narrowed their dependence on African skill by hiding their wider dependence on

many and emphasising a reliance on one exceptional individual instead. African expertise was thus paradoxically acknowledged, but confined to one exceptional man, the ‘friend’, while African ability at large was denigrated, ignored or silenced. This was achieved by describing men’s bonding across cultures that occurred as a colonial trope; by highlighting one man as their friend, Burchell, Wahlberg and Holub each glorified themselves as exceptional European explorers with whom those remarkable Africans chose to spend periods of time with. They thereby stressed that Speelman, Ia and Gert and themselves were two of a kind and both extraordinary.⁴⁹ Dependency at the frontier was turned into a story of companionship and friendship. Sometimes, there are homoerotic undertones. Jacobs has, for instance, investigated the American naturalist George Latimer Bates’s ‘same-sex longings’ and his ideal of a ‘homosocial community’ with ‘bulu boys’ while ‘birding’ in Cameroon.⁵⁰

While men can in all innocence be companions and friends,⁵¹ women could not enter into such a construction without appearing sexualised and inappropriately close to an African man. Barber therefore remains vague on who collected for her, and did not build her associates into the tale of the exceptional ‘man-servant’ at her side. In 1833, her father had tried to sell ornithological specimens in England via her mother’s brother-in-law James Renshaw, of Westbourne Lodge, Middlesex, but soon abandoned it, as it was no financial success.⁵² Her brother Bertram Egerton sold stuffed birds to a Prussian apothecary in his youth.⁵³ It remains unknown who collected and stuffed these birds, but quite possibly, they came from her and her unrecorded helpers. In one of Barber’s nature tales aimed at publication,⁵⁴ she describes how in the spring of 1854, ‘Gavani a tall strapping Kafir’ on Highlands helped ‘the boys’ remove sparrow eggs and feathers from the swallows’ nests shortly before the swallows returned.⁵⁵ Given that Barber meticulously recorded the names of her relatives and the details of how they collected specimens for her, it is highly unlikely that ‘the boys’ refers to her sons or nephews. ‘The boys’ did so because both the amaXhosa and the settlers believed that the swallow (*inkonjane inethamsanqa*)⁵⁶ brought good luck when it built its nest on or near a house.⁵⁷ Burchell had already written that ‘in most countries there are some few birds to which man has allowed the privilege of approaching him without molestation’, and at the Cape, this was the swallow and the Cape wagtail.⁵⁸ Gavani may well have collected birds for Barber.

Barber had problems ‘killing moths and grasshoppers’ and often waved them away ‘because it was such a struggle to kill them, they cling to their

little lives so ardently that one wonders whether one really has the right of putting an end to it'. She either heroised herself or hinted at having relied on African collectors for this unpleasant task. She was of the opinion that 'butterflies [were] the only creatures that die respectably, a loving squeeze across the thorax and there you have them!', which explains her focus on Lepidoptera.⁵⁹ 'A Kafir wagon driver', who remains anonymous, was interested in entomology and collected butterflies for Barber. It is not recorded how long they collaborated and which specimens he caught. Presumably he was the one who netted much of what she collected during her journey in 1879. One day he brought her 'a fine *Papilio*' that she found 'a little spoiled'. She therefore decided to write 'a few simple rules to aid my friends in making up a good collection'.⁶⁰ Whether she wrote this manual for African collectors, to whom she referred to as her 'friends', or for Western collectors in a radical switch of operation remains ambiguous. Immediately after this passage, Barber wrote about the mantis habitually damaging butterflies.⁶¹ Yet, she did not believe that this insect had damaged the above-mentioned butterfly collected for her. Neither did the thought occur to her that the providing of a damaged butterfly could be interpreted as an act of resistance. The entomological collector could also not have felt appreciated for his work and aimed at irritating her by providing her with a damaged specimen.

In matters of racial mix, particularly, the narrative device of 'the exceptional male servant' for a European explorer, a story of reflected glory, was not available with the same ease for a woman naturalist **scientist**. It is therefore understandable that Barber did not go into detail and remained vague on who her co-workers were and whether they were men or women. The 'Black Peril' discourse in many colonies, and particularly in South Africa and Southern Rhodesia in the nineteenth and twentieth centuries, prevented white women from openly entering such relationships or leaving testimonies of them.⁶² None of the women botanists or botanical artists at the Cape—such as Tongaat-based orchid specialist Katharine Saunders (1824–1901), the British botanical oil painter Marianne North (1830–1890) who visited the Cape in 1883, and one of the first woman members of the Linnean Society Alice Pegler (1861–1929)—referred to close men African associates in detail; instead, they mentioned groups of people or the young women who supported them.⁶³ Literary works also remarkably often circumnavigated close ties between white women and indigenous men. In *Uncle Tom's Cabin; or, Life Among the Lowly* (1852) by the American author Harriet Beecher Stowe, the white woman is a child; in the Australian Jeannie Gunn's (pen name: Mrs. Aeneas Gunn)

novels based on her time in the outback such as *The Little Black Princess: A True Tale of Life in the Never-Never Land* (1905) and *We of the Never Never* (1908), the bonding is between an Australio-European woman and a young Aboriginal girl.

INFORMANTS AS PROVIDERS OF ‘SOFT FACTS’

Coming from communities who had been in place for generations, African informants with their vast experience of local flora and fauna were crucial for every outsider trying to make sense of the environment. In archaeology, African informants, collectors and excavators were of the utmost importance from the start. The German explorer and geographer Karl Gottlieb Mauch (1837–1875), for instance, relied on African experts on his mission to find the lost biblical city of Ophir in 1871–1872. Ophir had been described as the source of the gold given to King Solomon by the Queen of Sheba. Mauch encountered the archaeological ruins of Great Zimbabwe. Mauch often only mentioned them when criticising them: ‘No sleep at night, at day plagued by black, two-legged rabble which feels superior in their foolish pride than the white man; they beg for whatever their eyes see and when not benevolently provided what they wish for, they readily take hold of it.’⁶⁴ He had travelled with a group of about forty African co-operators who had contributed hugely to the significance of the find, as had the Shona people they encountered on the way.⁶⁵ Barber and her brothers all acquired their collections in collaboration with Africans, as examples show where Barber and James Henry Bowker closely collaborated with Xhosa and Zulu experts in ornithology and zoology. Barber and the Bowkers must have acted similarly to the anthropologist Monica Wilson (1908–1982), who in the Pondo community in Ntibané kept a bag of tobacco ‘which helped the conversation along’. This was seen as sufficient compensation for valuable information and made acknowledgement by name superfluous.⁶⁶ Given that Barber, on her way to establish her reputation as a naturalist, first presented herself as a reputable collector and illustrator, it is highly likely that she consciously silenced her collaboration with African collectors in order to appear independent.

The illustrations in Holub’s travel account provide insight into cross-cultural co-production of knowledge, as noted above. In an illustration entitled ‘A Barolong Story-teller’, we see Holub and his European colleague in sceptical postures. The associate on the left (possibly Gert) is

evidently mediating between Africans and Europeans: his stance indicates that he is in-between the two cultures that meet in this third space. This scene shows a men's network of exchange. The agency lies with the storyteller, the proud man behind him and their companion, who are free to share whatever knowledge they see fit possibly enjoying the strangers' dependence on them. They are on eye-level with Holub's colleagues who nevertheless do not seek eye contact with them.

The Tswana gave Holub and his travel group advice on how to travel in their area, warned them that there were daring lions who killed domestic animals and people. Holub described that he wanted fresh bullocks as one of them had died, and therefore displayed goods that he had brought to trade for scientific specimens. Even though the chief personally came to talk to Holub, Holub lamented that he could not negotiate with anyone for what he had hoped for.⁶⁷ Yet, he was grateful that some of the 1000 villagers entered into conversation and shared some insights with the party.

Barber learned about birds from her Xhosa informants. There are no contemporary sources in isiXhosa or by Europeans on what the amaXhosa knew about birds. The oldest written source is the Scottish missionary Reverend Robert Godfrey's collection published in 1941. His study contains isiXhosa and isiZulu bird names, idioms, stories, bird song interpretations and comments on natural history, mostly from pupils' essays.⁶⁸ The information had derived from the time when Godfrey had joined the United Free Church of Scotland mission at Pirie in 1907 and collected bird specimens in that area. Yet, Barber's sources allow us a glimpse into her and the consulted African experts' co-production of data on birds. This was common practice at the time, as Edgar Leopold Layard's *Birds of South Africa* (1867) indicates, to which Barber had contributed. Layard, the curator of the South African Museum, hesitated to travel; instead, he observed and collected birds close to home.⁶⁹ He relied on literature and his wide correspondence network; no wonder, then, that there are few African vernacular names in his publications. Thirteen of the 702 listed species' names probably originated in Africa among speakers of West African, Malagasy, Khoesan, Germanic and Bantu languages. He and his informants did not acquire them through conversing with Africans, but took them from earlier ornithological studies.⁷⁰

Barber accumulated information on birds partly in that way, as this example shows: a bird that has attracted considerable attention and that deeply fascinated Barber is the honey guide. She was convinced that the bird led to honeycombs but not to snakes or leopards as David Livingstone

and other Europeans had discussed at length.⁷¹ That indigenous animals and people were treacherous and led Europeans into danger was a widespread colonial fantasy. Barber argued that many experienced bee-hunters—among the amaXhosa, amaMfengu and Khoesan as well as settlers—had never been led to a noxious animal on purpose and that the honey guide would not waste its time leading to animals such as leopards, jackals and wolves, which were not its natural enemies and would therefore in no way benefit the honey guide. Furthermore, she observed that the honey guide did not alter its voice when encountering animals on the way to honey, which she saw as an additional reason against the popular belief.⁷² In her ‘Plea for Insectivorous Birds’ (1886), a paper read to the local Natural History Society and published in the *Graham’s Town Journal* as one of her attempts at protecting species, Barber also mentioned that the honey guide was not included ‘in the doomed list of “Kill! Kill! Kill!!!”’ due to its pointing to honey stores and being ‘a small brown bird of no beauty’, unlike other cuckoos.⁷³ In a poem entitled ‘To my Brother’, for James Henry Bowker, she wondered:

‘wise little bird whence came thy skill
To know and comprehend man’s will?
Who taught thee’ mid the deep wood’s shade
To call his service to thine aid
To tempt him on from tree to tree
To serve thy purpose cunningly?’⁷⁴

Barber consistently referred to the bird as ‘she’ and stressed the bird’s superiority in understanding humans better than they did the bird. Yet, Barber does not say where she had heard about the honey guide. She might either have learned from the amaXhosa, who described it as *intakobusi* (‘the bird of the honey’) or *intake yeenyosi* (‘the bird of the bees’), a term that the colonists used as the basis for naming it the *honig-wyzer* and *honey-guide*. In isiXhosa, *intakobusi* was—in the mid-twentieth-century—applied figuratively to a human who shared its ‘pertinacity’ in two different senses: ‘it may be used of one who, by reason of his position or his clan, is able to plead sweetly and persuasively for others with a chief or headman; or it may be applied to a garrulous wheedling person.’⁷⁵ These proverbs may already have been in use in the nineteenth century, as many European idioms were. Barber might also have learned about the honey guide from previous European expedition journals, such as the one published by Andres Sparrman.⁷⁶ All in all, Barber’s encounters with the

honey guide and knowledge of its behaviour reveal how she observed birds and discussed observations with others.

Barber did not mention divergence of amaXhosa and settlers' encounters with birds. On the contrary, she stressed their co-operation and shared views on birds. She had no interest in supplying information such as George McCall Theal's in 'The Story of the Bird that Made Milk' in *Kaffir Folk-Lore or, A Selection from the Traditional Tales Current Among the People Living on the Eastern Border of the Cape Colony* (1882), in which he stereotyped the amaXhosa as naïve, greedy, egoistic, patriarchal and violent.⁷⁷ The amaXhosa saw starlings such as the red-winged *isomi* as mediators between humans and ancestors, and birds of good fortune.⁷⁸ Barber learned from the amaXhosa—probably on her relatives' farms—which birds they regarded as 'birds of the house' with a good omen and which birds mediated between the living and the ancestors. Her family equally valued the birds that the amaXhosa treasured, and they never shot any of the birds that took 'their abode with' them. This allowed Barber to observe these birds and 'all their odd ways'.⁷⁹

Similarly, she discussed Zulu bird knowledge. Her encounter with the first Church of England Bishop of Natal John William Colenso (1814–1883) seemingly influenced her view of the amaZulu. Colenso had helped to translate the Bible into isiZulu. His co-worker, a Zulu philosopher William Ngidi (c. 1830–?), had queried some passages, which had initiated Colenso's biblical criticism.⁸⁰ This as well as his appreciative views on the amaZulu had provoked a scandal in both the Cape Colony and Britain.⁸¹ Barber's encounter with Colenso confirmed her religious doubts, and she found that they had much in common. He had also had a deep impact on her brother James Henry Bowker, who was sympathetic to the amaZulu and learned much from them about nature.⁸² He 'very often [found] that there is something behind the scenes in the *queer tales* which the natives relate regarding animals'.⁸³ Barber mentions how the amaZulu in Natal described the crested eagle (*Spizaetus occipitalis*) or bush hawk as a 'Guide Bird', as it guided herders to their missing cattle.⁸⁴ Bowker had written to her about this, which entirely convinced her. She also reports having learned that the adjutant (*Leptoptilos crumeniferus*) followed sportsmen and indicated their quarry to vultures and jackals. She did not believe this at first, but then argued:

I cannot vouch for the truth of this statement. I have merely given it as it has, upon several occasions, been related to me. There may be something in it. I have seen so many instances of the wonderful sagacity of birds, that at

all times I hesitate to cast aside as idle gossip any of these strange traditional tales. The bird may have some ulterior object in feeding the vultures and the jackals, even as the “honey guide” (*Cuculus Indicator*) has in leading the bee-hunter to the hives of the wild bee. Possibly, like that bird, the adjutant may return to the spot to pick up the fragments that are left behind.⁸⁵

By describing Africans’ knowledge of birds as ‘traditional tales’, she differentiated between scientific observation that circulated in journals and other scientific publications, and oral tradition. The term suggests that she saw her observations as more rational and thus superior. She was also highly aware and exercised care in making sure that her readers would not criticise her for being too sympathetic with the amaZulu. So Barber quoted Bowker stating that he was not ‘a negrophilist’, but that he ‘dearly love[d] fair play in all [their] dealings, so that in the years to come [they] have no regrets with regard to [their] former proceedings’.⁸⁶ This statement summarises Barber’s general practice, which was to intermediate between Africans and Europeans, and to appreciate what Africans knew but not see them as equals. Instead, she felt she could adapt the information gained from them to a Western framework, thereby appropriating that data.

Barber and Bowker’s practice continued well into the twentieth century, with more or less requirement for justification of racial politics in South Africa depending on the political situation. Like them, the British ornithologist Jack Vincent (1904–1999) during apartheid argued that it was not his ‘custom to fraternize with natives’, but that his ‘native servant “Ali”’ was ‘an absolute “white man,” and one of the very best’.⁸⁷ More open to insights by his Zulu informants had been his colleague Austin Roberts (1883–1948), the best-known ornithologist of South Africa, who in 1907 had been perplexed by the relationship between the pin-tailed whydah and the common waxbill’s nest. He learned that the amaZulu had a ‘saying that young “King-red-beak” is reared out of every “rooibekje’s” nest’. Apparently, this solved the problem that had occupied him: ‘It is well known how often the *superstitions* of the observant natives have been found to be based upon *fact*, and this, I have no doubt, is another instance’,⁸⁸ that allowed him to explain the case of parasitism. Some of his colleagues criticised him for relying on ‘a negro proverb’,⁸⁹ but Roberts defended his method and the amaZulu were eventually proved right. Barber, Bowker, Vincent and Roberts all stressed their informants’ trustworthiness and their own control over their African associates’ routines.⁹⁰ All of them credited their informants’ ‘soft facts’, but the recording of ‘hard facts’ was exclusively white.⁹¹

TAXIDERMISTS AND THEIR IMPACT ON ORNITHOLOGY

Far less is known about African taxidermists, and the sources are scarcer, which is why the following section is shorter and more speculative.

Taxidermy originated in Africa.⁹² While Western apothecaries and astrologers had displayed single prepared animals since the Middle Ages, taxidermy was later claimed and is still generally misunderstood to have emerged in Denmark, England, France and Germany in the eighteenth century. Yet as early as 2200 BCE, embalmed animals often accompanied Egyptian mummies, the earliest form of the art.⁹³

Since then, animal skins have been preserved for centuries all over the world. By the nineteenth century, there were people everywhere who had mastered the skills of taxidermy. Taxidermy now followed the same principles even though it developed out of independent knowledge and traditions of how to stuff animals. There was no distinct tradition at the Cape.

John Edmonstone, a freed slave from the Demerara region of Guyana, South America, for instance, taught Charles Darwin how to prepare birds in Edinburgh. Edmonstone earned his livelihood stuffing birds which according to Darwin ‘he did excellently’, and he was a popular taxidermy instructor as he only charged a guinea an hour. Darwin took lessons every day for two months between February and April 1826. Darwin ‘often used to sit with him for he was a pleasant and intelligent man’.⁹⁴ This enabled Darwin’s work with birds, which became important as his Galápagos finches, which the ornithologist John Gould classified for him as those of a single genus in 1837, convinced him of his theory of natural selection.⁹⁵ There are no visual sources of African taxidermists in the nineteenth century, and there are no contemporary images of Darwin and John Edmonstone’s collaboration, just a watercolour entitled ‘In the Workshop of Taxidermist’ by the Russian artist Viktor Yevstafiev (1916–1989) from 1948 (Fig. 3.2).

The lighting is interesting and points to a moment of epiphany. Darwin looks charmed, captivated almost to the point of being hypnotised or enamoured, and illuminated just by observing how Edmonstone prepares birds; the watercolour paints this scene as a key moment in Darwin’s career.

At the Cape, there were many taxidermists such as Edmonstone who had previously been shown how to prepare birds and then worked for Western explorers and their museum collections in the making. There was



Fig. 3.2 John Edmonstone and Charles Darwin preparing birds. ‘In the Workshop of Taxidermist’ by Viktor Yevstafiev, 1948. (© State Darwin Museum, Moscow)

no distinct tradition at the Cape, but African taxidermists were important for the development of science and museum archives in the nineteenth century.

Jacobs has shown how European and American ornithologists trained and relied on African taxidermists while doing ornithological research in Southern Africa in the twentieth century. She particularly focuses on the South African museum preparator Saul Sithole (1908–1997).⁹⁶ However, this was by no means a twentieth-century phenomenon. There had been a long tradition of doing so.

The Scottish naturalist Andrew Smith had already acknowledged his batman John Mintern whom he had previously instructed in taxidermy and who stuffed and prepared birds for him.⁹⁷ The birds that Mary Barber donated to the Albany Museum in Grahamstown and the South African Museum in Cape Town had been killed and stuffed by ‘the boys’.⁹⁸ These

‘boys’ were most likely Xhosa and Mfengu men co-operators.⁹⁹ The Albany Museum taxidermist, a Mr. Adams¹⁰⁰ who was the local expert, and Edwin Atherstone, the curator of the ornithological collection, may have had a Xhosa and Mfengu team whom they introduced to collecting and preparing the birds. The German missionary Albert Kropf noted that the older Xhosa boys spent a good deal of time catching birds.¹⁰¹ They may have sold some of their prey. George Latimer Bates in southeast Cameroon in the twentieth century closely collaborated with ‘Bulu boys’, whom he described as ‘good ornithologists’ and included in his community of expertise. While constantly referring to them, he too infantilised these much-respected men with the generic term ‘boys’.¹⁰² While Barber also had her relatives to help her collect specimens and a network of colonial scientists with whom she corresponded, as shall be explained in Chap. 4, Bates was on his own and depended much more on his ‘Bulu’ co-workers, whom he credited accordingly.

While sources on African taxidermists in the nineteenth century are scarce, this does not mean that there were none. On the contrary, little hints in textual sources such as those discussed by Smith and Barber indicate that Western explorers collaborated with African taxidermists. African taxidermists had either previously been trained on how to prepare animal skins or been instructed by their current employers. This enabled labour division and specialisation on expeditions. Settler and European naturalists as well as other African experts could in the meantime focus on other branches of their research. While studies on African informants and collectors have advanced in recent years,¹⁰³ the impact of African taxidermists—particularly on ornithology—has hardly been explored and deserves much more attention.

In line with the Xhosa saying *Intaka yaka ngo-boya bezinye* [A bird builds with other birds’ feathers],¹⁰⁴ Barber and her contemporaries depended heavily on African experts. Scientific knowledge of the natural world in South Africa has always been cross-culturally co-produced. Collaboration did not cease in the last third of the nineteenth century. Co-operation was as intense as ever even though Barber did not go into as much detail as Burchell. Barber’s descriptions of African experts were influenced more by racist stereotypes, but she depended no less on Africans. An aspect I have emphasised is that European experts did not add African experts’ information to ‘Western science’ without acknowledging the source. They definitely did not suppress their African counterparts and silence their knowledge altogether. Instead, there was a series of

transformations, and Africans and Europeans were in a relationship of ‘parasitic symbiosis’,¹⁰⁵ where Gert and Speelman, for instance, both benefited from their salary, and Speelman had the opportunity to travel to places he had long wanted to visit and bring his wife along. He thus had the possibility to choose this work among other available options and could negotiate conditions. These examples are not representative, and African co-workers joined expeditions on varying terms, but they all had considerable agency and with their wishes and expectations could negotiate parts of their contracts, including what kind of work they would do.

The cases discussed above have also shown that European men and women differently related to their African associates. While men narrowed their dependence on one exceptional African man, their confidant and partner, this narrative was not available for women, who would have appeared sexualised and inappropriately close to a black man and therefore tended to remain vague on who their co-operators were.

Part I has focused on the accumulation of information on plants and animals as well as their acquisition. Part II concentrates on collaboration and competition at the Cape particularly between British and Cape Colonial naturalists on how new classificatory and scientific practices were forged and new theories were developed. In the following chapters, I will demonstrate that the dichotomy between colonies as data-collecting grounds and metropolises as places of theorising does not hold. Both spaces thus need to be analysed within the same framework to make sense of how knowledge was created, circulated and what the political implications were.

NOTES

1. Concept established in (Latour 1987, 225–227), discussed in David Jones, “In Conversation with Bruno Latour: Historiography of *Science in Action*” (Fall 2005), particularly 1–2. <http://ocw.mit.edu/courses/science-technology-and-society/sts-310-history-of-science-fall-2005/assignments/paper2.pdf>, date accessed 27 May 2016.
2. (Jacobs 2016, 95).
3. Unfortunately, I can only paint a rather incomplete picture on who Barber’s collaborators were, unlike Jacobs has done on the northern Mozambique-born Jali Makawa (c.1914–1995), the ‘number one African collector of the continent’ (Jacobs 2016, 163), who features prominently in (Jacobs 2016, 148–179).
4. (Beinart 1998, 780).
5. Quoted in (Beinart 1998, 782).

6. (Burchell 1824a, 1:166).
7. (Burchell 1824a, 1:167).
8. (Burchell 1824a, 1:168, 354).
9. (Burchell 1824a, 1:183).
10. (Burchell 1824a, 1:245).
11. (Burchell 1824a, 1:260–261).
12. (Burchell 1824a, 1:354).
13. (Burchell 1824b, 2:102).
14. (Burchell 1824b, 2:279).
15. (Burchell 1824b, 2:353, 379).
16. (Burchell 1824b, 2:354).
17. (Burchell 1824b, 2:372).
18. (Burchell 1824a, 1:374, 422–423, 427, 431, 550; 1824b, 2:69, 72, 238, 455).
19. (Burchell 1824a, 1:500, 518–519).
20. (Burchell 1824a, 1:519).
21. (Burchell 1824a, 1:283, 501).
22. (Burchell 1824b, 2:491).
23. (Burchell 1824a, 1:500).
24. (Burchell 1824b, 2:27).
25. (Burchell 1824b, 2:72–73).
26. (Burchell 1824b, 2:210).
27. (Burchell 1824b, 2:344).
28. (Burchell 1824b, 2:332).
29. (Craig and Hummel 1994, xxiv–xxv).
30. See for example: (Craig and Hummel 1994, 3, 25, 26, 39, 41, 116, 130).
31. (Craig and Hummel 1994, xxvi; 41–42, 109, 115, 144).
32. See for example: (Craig and Hummel 1994, 41, 47, 49, 90, 96, ‘work on the apes all day’ does not indicate whether he referred to ‘I’ or ‘we’, 48).
33. (Craig and Hummel 1994, 63, 70, 74).
34. (Craig and Hummel 1994, 69, 70).
35. (Craig and Hummel 1994, 69, 72, 86, 98, 99, 140).
36. (Holub 1881, 2:124, 134).
37. (Holub 1881, 2:203).
38. George McCall Theal 1888, 124 quoted in: (de Zwart 2013, 40).
39. For more information see (Bank 1991).
40. (de Zwart 2013, 40).
41. <http://www.mises.co.za/2011/12/a-short-history-of-gold-in-the-south-african-monetary-system/>, date accessed 19 September 2016.
42. (Holub 1881, 2:149).
43. (Holub 1881, 2:106–107, 145).
44. Ornithological informant Gert lecturing on the *má-bem* (Holub 1881, 2:147). See (Jacobs 2016, 10).

45. Not the one seated at the front left, as Jacobs has claimed (Jacobs 2016, 10).
46. (Holub 1881, 2:147).
47. Athletic ‘Batlapin boys’ hunting birds with the *kiri*. (Holub 1881, 2:opposite 109).
48. (Holub 1881, 2:108). Also see another hunting illustration that shows how he admired the technique: ‘A Yochom of the Kalahari chasing a Blessbock’, (Holub 1881, 2:259–260).
49. See the stories from the US frontiers, for example, the relationship between the frontiersman Natty Bumppo, Major Duncan Heyward, and the Indians Chingachgook and Uncas in James Fenimore Cooper’s historical novel *The Last of the Mohicans: A Narrative of 1757* (1826).
50. (Jacobs 2006, 580–581; Jacobs 2016, 121–123).
51. See for example: Old Shatterhand and Winnetoe in German author Karl May’s (1842–1912) *Winnetou I–III* or *Winnetou der Rote Gentleman I–III* (1893).
52. (Cohen 2011, 20).
53. Perhaps Peter Heinrich Pohlmann in Cape Town. Bertram Egerton Bowker, Reminiscences, HM, SM 57(b), 3.
54. KLAAs, Director’s Correspondence, Vol. 189, Letter 105, Barber to J. D. Hooker, Highlands, 9 March [1869?].
55. Alan Cohen private archive, London, Nature Tales, no 30, ‘The Swallows’, copy of manuscript.
56. (Godfrey 1941, 73).
57. (Godfrey 1941, 73).
58. (Burchell 1824a, 1:30).
59. Barber to Mary Layard Bowker, Serial No 044 Grahamstown, 16 January 1886.
60. CL, MS 10560 (c), Vol. 3, 88, italics underlined in original.
61. CL, MS 10560 (c), Vol. 3, 91–92.
62. See for example (Brown 1987); (Cornwell 1996); (Law 2016, “Psychological panics: ‘Black Peril’ and the regulation of colonial sexualities,” 29–30, also see: 34, 163).
63. Saunders reported having local assistants who collected botanical specimens, bulbs and seeds for her, see (Bayer 1979); University of Cape Town, Manuscripts and Archives Department, BC 234, Bolus Papers, C, Botanical Correspondence with Bolus Herbarium, Saunders, Katherine 1885–1890; eleven folios of floral paintings, and copies of correspondence with Kew Gardens, Amazyana Archive, Tongaat; Five folios at the KwaZulu-Natal Museum, Archive and Library, Pietermaritzburg; Alice Pegler apparently primarily collected with her nieces, see Bolus Papers BC 234, C, correspondence P, Pegler, Alice 1894–1914; Arabella Roupell

- did not leave any written account, see (Anonymous 1849); Marianne North mainly relied on Dutch and British settlers who might have sent African employees to collect flowers for North, which is not recorded in North's diary, see for example (North 1894, 2:218, 219, 222, 228, 231, 233, 239, 242, 244, 247, 248, 251, 253, 257, 266).
64. My translation of: 'Keine Nacht ruhig geschlafen, bei Tag von schwarzem, zweibeinigem Gesindel geplagt, das sich höher dünkt in ihrem Dummstolze als der Weiße; alles, was die Augen erblicken, bettelnd und wenn nicht gutwillig gegeben, ohne weiteres fassend'. Mauch, Journal No. 4, Sunday, 6 August 1871, quoted in (Schütte 2013, 43).
 65. (Schütte 2013, 42–50).
 66. Wilson 1936, 10–11 quoted in (Bank and Bank 2013, 75).
 67. (Holub 1881, 2:262).
 68. (Godfrey 1941). For more on Godfrey see: Cornelius Plug, "Godfrey, Robert", S2A3 Biographical Database of Southern African Science, http://www.s2a3.org.za/bio/Biograph_final.php?serial=1075, last updated 25 December 2014, date accessed 4 September 2016. Experts and archivists confirmed that this was the earliest source on Xhosa knowledge of birds: Prof. Adrian Craig, Dept Zoology & Entomology, Rhodes University, Grahamstown to T. H., Personal Correspondence, 20 June 2014; Margaret Koopman, Niven Library, DST/NRF Centre of Excellence at the Percy FitzPatrick Institute of African Ornithology (UCT), to T. H., 13 June 2014; Elizabeth de Wet, CL, to Tanja Hammel, 15 September 2014. For a more recent study see (Gijsbertsen 2012).
 69. (Layard 1869, 68).
 70. (Jacobs 2016, 85).
 71. (Jacobs 2016, 4).
 72. *Indicator Major* – White-backed Honey-Guide in: (Richard Bowdler Sharpe 1884, 168–169).
 73. Mary E. Barber, "A Plea for Insectivorous Birds: A Paper by Mrs. F. Barber", HM, SM 5501 (46), (Grahamstown: Richards and Slater, 1886), 10.
 74. (Barber 1898, 80).
 75. (Godfrey 1941, 69–70).
 76. (Sparrman 1776). For more on Sparrman see for example (Jacobs 2016, 3, 19); (Beinart 1998, 778, 781).
 77. (Theal 1882, 29–46). Because he left Lovedale in 1877, it took him until his stay in London in 1882 for its publication (Saunders 1981, 158).
 78. (Gijsbertsen 2012, 47–48).
 79. (Layard 1867, 105).
 80. It started with the publication of *The Pentateuch and the Book of Joshua Critically Examined* (1862). See for example (Guy 1997).

81. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 101.
82. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 118.
83. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 116–17, italics mine.
84. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 116–117.
85. (Barber 1880, 202).
86. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 137.
87. (Jacobs 2016, 108).
88. Quoted in (Jacobs 2016, 106–107), italics mine.
89. (Jacobs 2016, 107).
90. See (Raffles 2002).
91. (Jacobs 2016, 147).
92. For an interesting study on the relations between taxidermy, collecting and the South African Empire see: (Witz 2015).
93. (Browne 1884, 1–2).
94. C. R. Darwin to S. E. Darwin, Edinburgh, 29 January 1826, Letter 22; (Darwin 1958, 51).
95. (Darwin 1871, 2:37); C. R. Darwin to S. E. Darwin, Edinburgh, 29 January 1826, Letter 22; (Darwin 1958, 51); (Freeman 1978). Most information has been collected in (Desmond and Moore 2010, 18–26); (Voss 2007, 27–94).
96. See (Jacobs 2016, 180–210).
97. (Jacobs 2016, 98).
98. Albany Natural History Society, *The Graham's Town Journal*, 22 November 1867; 27 May 1868.
99. Unfortunately, the curators at both institutions were unable to trace an example of a stuffed bird. They were presumably damaged by insects or in the 1941 fire at the Albany Museum and are no longer part of their current collections.
100. He had offered to stuff birds or mammals for the Society and was appointed as the first paid official of the museum in February 1861 at an annual salary of £50. N. Fowler, *A History of the Albany Museum, 1855–1958*, HM, Manuscript 1968, [no archival reference number], 23–24.
101. (Kropf 1889, 124), italics mine.
102. (Jacobs 2016, 121). Also see (Latimer Bates 1930).
103. See for example (Witz 2015); (Jacobs 2006; Jacobs 2016).
104. (Soga 1931, 332).
105. (Roque 2010, 18).

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PART II

From Providing Data to Forging New
Practices and Theories



CHAPTER 4

Gender, Class and Competition

SAFEGUARDING PATRIARCHAL METROPOLITAN PRIVILEGES IN BOTANY

Mary Barber was excluded from the general historiography of botany on account of her gender. Colonial botanists already struggled for acknowledgement from the scientists guarding the metropolitan herbaria, botanical gardens, chairs of botany and collections. In 1886, the British colonial botanist Peter MacOwan (1830–1909) published a historical overview of botanists' achievements in South Africa. In it, he gave vent to his frustration by claiming that 'at best one can only expect to be tolerated. Not applauded, by others than the initiated few'. However, he himself only included men's achievements in the field of botany, illustrating how exclusionary the circle of botanists was at the Cape itself.¹

Barber had long hoped to make a living as a botanical illustrator. In October 1848 and March 1849, William Guybon Atherstone wrote to William Jackson Hooker, the director of the Royal Botanic Gardens Kew, to enquire whether he could pay Barber for her illustrations or employ her as an illustrator for *Curtis's Botanical Magazine*.² This monthly magazine was published in London with six coloured plates in each edition representing 'correct' and 'beautiful portraits' of exotic plants new to British gardens.³ Yet Hooker, the magazine's editor, did not have the financial means to employ or pay colonial collectors or illustrators. After the financial losses which she and her family had suffered during the

Seventh Cape-Xhosa War, Barber and Atherstone might have hoped that she could earn a living as an illustrator as Atherstone detested seeing his relatives in poverty. As a matter of fact, there were painters in Albany who successfully worked as illustrators—one of them was Frederick Timpson I'Ons, who arrived at the start of the Sixth Cape-Xhosa War (1834–1835).⁴ Barber's desire to be a botanical illustrator is striking and significant, a clear glimpse of her own vision of herself which is not always easy to detect in other women academics' careers.

The lack of illustrations in Harvey's *Genera of South African Plants* (1838)—the first book on Cape flora published at the Cape which Barber most likely borrowed from Grahamstown surgeon Dr. John Atherstone, who had a considerable private library⁵—motivated Barber to introduce herself to Harvey by offering her services as an illustrator for his subsequent volume. Harvey's brother Joseph had been made the colonial treasurer in 1835 and William had accompanied him to Cape Town where he botanised in this new environment. When Joseph's health failed and he died on the passage home in 1836, William became his successor as the treasurer and resided at Bishop's Court. Using this as a base, he would wake up before dawn to collect in the mountains or on the seashore, before working on his collected specimens at night. In March 1837, he reported having been on so many excursions that he feared earning 'the sobriquet of Her Majesty's pleasurer general'.⁶ Depression may have been the reason why he left the Cape in 1842.⁷ In 1844, he was appointed the keeper of the herbarium at Trinity College Dublin where, twelve years later, he became the professor of botany.

Shortly after reading *Genera of South African Plants*, Barber began sending Harvey specimens and information anonymously. In the beginning, she had acquaintances from Albany, such as Atherstone and Peter MacOwan, to forward her letters to Harvey.⁸ In reply, he is said to have addressed Barber as M. Bowker Esq. during the first year of their correspondence before she would introduce herself properly.⁹ This was common practice at the time. If Darwin received letters with only surnames, he naturally replied 'Dear Sir'.¹⁰ It is likely that she did not reveal her gender out of fear that he would perceive her as a 'lady-friend', Harvey's, in Barber's eyes disparaging, term for the target audience of his *Genera of South African Plants*.¹¹ Instead, she was determined to be recognised as a botanist in her own right.

She may also have been dependent on men forwarding her letters due to the financial difficulties the family experienced after the Seventh Cape-Xhosa

War. Presumably unable to afford postage, she had to ensure she could convince Harvey to cover for the costs successfully so. Harvey accumulated 22,800 specimens in total, and the Barber/Bowker collection was one of seven which contained more than 1000.¹²

Barber also convinced Harvey of the importance of illustrations, particularly for addressing a broad readership, and Harvey would later produce an average of one lithographed plate a week.¹³ Illustrations thus became Harvey and Barber's shared interest and allowed them to exchange knowledge about plants more efficiently than through their letters. Indeed, they despised writing long letters and welcomed the possibility of circulating knowledge in a much more condensed form.

Barber, however, was not satisfied with merely providing the basis for Harvey's illustrations. Harvey copied from her and her specimens when creating the 100 sketches for *Thesaurus Capensis, or Illustrations of the South African Flora* that accompanied *Flora Capensis* (1860–1865). While Harvey never published any of her illustrations, Barber was zealously determined that a broader public should be able to see them. In 1863, she wrote to Trimen offering her services as an illustrator, highlighting that illustrating was 'no easy task and no little trouble'.¹⁴

In a similar fashion, Katharine Saunders in Tongaat, Natal, simultaneously claimed that illustrating was difficult for a woman at the time, as time was scarce when she had many children and a large household to take care of. Saunders had to contend herself with painting at night under bad candle light while using unsuitable equipment, all of which she frequently noted on the back and side of her watercolours, a valuable source for understanding the circumstances under which women at the time contributed to science.¹⁵

Towards the end of Harvey's life, a period during which he suffered from grave illness, Barber was afraid that he would not name a *Brachystelma*, which she claimed to have discovered, after her. Foreknowingly, she contacted Joseph Dalton Hooker (1817–1911), William's son and successor¹⁶, to discover that Harvey, in fact, had already named the plant after her, as *Brachystelma barberiae*, before he died, but had not published the new name. Hooker thus decided to publish a lithograph of Barber's watercolour. The magazine plates were then individually hand-coloured in *Curtis's Botanical Magazine* in 1866.¹⁷

This success encouraged Barber to continue using watercolours. She was convinced that watercolours would help her authentically represent what she observed. For an article on birds, for instance, Barber asked

Trimen to send her stuffed specimens from the South African Museum collection, so that she could illustrate them.¹⁸ Time and again, she attempted to persuade the editors of the *Transactions of the South African Philosophical Society* to publish her illustrations, even though the society had never included any plates for financial reasons.

In England, black-and-white line drawings were the accepted means to illustrate scientific publications, as only a few journals could afford to produce colour editions and just a small number of readers had the financial means to buy them. Having witnessed the financial difficulties of his predecessors as well as his own struggles to publish coloured plates, Joseph Hooker avidly advocated for cheaper line drawings, such as in the series *Icones Plantarum* which his father had launched in 1837. Joseph Hooker had intended to use black-and-white contour-lithography in octavo format in his *Flora Antarctica: The Botany of the Antarctic Voyage* (1844–1859). Yet, the English government which employed the director of the Royal Botanic Garden Kew and co-financed his publications saw coloured reproductions as a chance to legitimise their investment to the broader public and disseminate botanical knowledge throughout the entire nation. The selling price, however, was so high that his work became unaffordable for most botanists. Due to low demand, he was forced to co-finance the publication.¹⁹ For him, black-and-white line drawings were thus ‘the only model for what a Botanical work should be’.²⁰

Barber favoured coloured illustrations but had no influence on whether and how her images were reproduced. In 1867, after reading Darwin’s *Fertilisation of Orchids* (1862),²¹ she, for instance, wrote an article on the pollination of *Duvernoia adhatodoides* by the large black and yellow carpenter bee (a species of the genus *Xylocopa*).²² She illustrated the moment of pollination in a watercolour in original size and with anatomical sketches of individual sections of the plant to demonstrate the constant structure of both the blossom and the bee’s head. Hooker received this article, forwarded it to Darwin and read it to the Linnaean Society on 15 April 1869. Darwin then supported its publication, but Barber remained unaware of their efforts. Presumably, they assumed she had access to the journal, would not require being informed by letter and provided a copy or she was informed but the letter did not reach her.²³ It was not immediately published, as the president of the Linnean Society, the botanist George Bentham, had doubts about the cost of its illustration, informing Darwin that a coloured plate would be too expensive.²⁴ Darwin replied that reproducing two images—one with and one without a bee entering a flower—



Fig. 4.1 Mary Elizabeth Barber: *Duvernoia adhatodoides* 1867, watercolour, pencil-ink drawings, SP 57. (© Linnean Society of London, photographed by Tanja Hammel, February 2012)

on wood would suffice.²⁵ He, who realised how important illustrations were for readers of his own publications, predominantly used selected black-and-white frames to make his publications affordable (Figs. 4.1 and 4.2).²⁶

Other scientists in London had different arguments against coloured plates: Hooker aimed to open up botany for less affluent people when John Lindley was the first professor of botany at the University of London. Lindley sought to distance the scientific study of botany from botanising and botanical art in order to raise men's interest in botanical research and

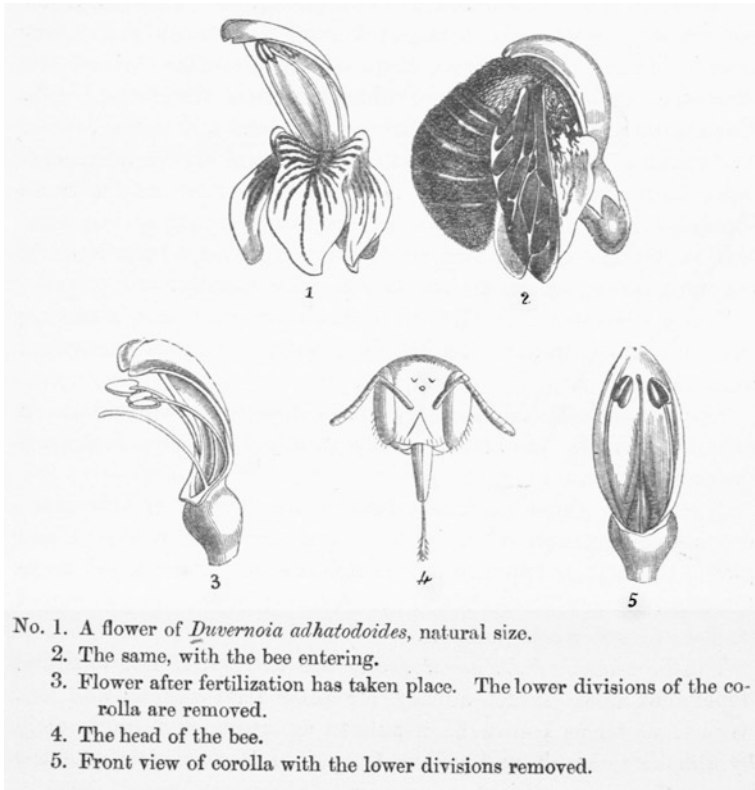


Fig. 4.2 Mary Elizabeth Barber: On the fertilisation and dissemination of *Duvernoia adhatodoides*, *Journal of Linnean Society (Botany)* 11 (1871), 470, woodcut, ±13×16 cm

distinguish their efforts from women’s work. By defeminising botany, Lindley aimed at moving away from the Linnean, aristocratic and polite science in order to shape botany as a rigorous, utilitarian pursuit. He also published *Ladies’ Botany* (1834–1837) to ensure women’s educating their children in botany. With this publication, he accorded ‘women a niche in botanical practice as mothers and teachers’. He marginalised women as amateur-collectors and leisure time illustrators.²⁷ And Bentham was concerned out of pragmatism by rising costs. The Linnean Society itself was an exclusive society with selected members and did not aim to include the broader

public in its ranks. Like other scientific societies at the time, it had only scarce financial means for the publication of its proceedings and transactions.

Bentham subsequently published black-and-white diagrams of Barber's illustration.²⁸ Botanical illustrator and lithographer John Nugent Fitch (1840–1927) printed lithographer of *Curtis's Botanical Magazine* Walter Hood Fitch's (1817–1892)—his uncle—and British botanist and publisher Alfred William Bennett's template. Bennett is best known for his subeditorship of *Nature*, an early publisher of photographs and a supporter of higher education for women.²⁹ Fitch selected aspects from Barber's illustration to make readers better understand her text, yet the reproduction misaligned the original.³⁰ When it came to Barber's illustrations, she thus had no influence on the publication process or the final product.

For Barber, illustrating scientific publications was more than a simple means to supplement her income. In an attempt to assert her scientific standing, Barber hereby entered into another ambivalent space in which professional and lay status overlapped. Like the reading of a scientific paper to the South African Philosophical Society, a space open to 'lay participation', scientific illustration was a sphere that was free to both naturalists and artists, men and women alike. However, professional scientific recognition itself was harder to come by. As a woman naturalist from a peripheral colony, she was even more likely to be excluded from the process of publication.

Information supplied by colonial botanists was constantly absorbed and processed in the metropole. Although the knowledge which they produced had a deep impact on the discipline in general—including the development of new research areas—their role has hardly been acknowledged,³¹ particularly in the case of women experts.

Barber herself experienced this, for example, when she, who had been generally interested in 'strange plants', began observing and experimenting with insectivorous plants in the late 1860s.³² At a time when gothic fiction was popular, the English-speaking world was also much interested in stories about man-eating trees, plant monsters as well as the boundaries and transgressions thereof between animals and plants. Similar to human vampires which were omnipresent in popular narrations, insectivorous plants and others which were in many ways seen as similar to humans triggered human imagination.³³ That they could act and were predators fascinated authors, botanists and the general public.

Barber wrote a paper on this topic that she sent to Trimen, which was read before the Graham's Town Natural History Society and printed in the *Graham's Town Journal* in 1869.³⁴ Shortly after, she wrote again to Trimen, encouraging him to criticise her article and asking him to return her only copy.³⁵ In a letter to Hooker in September 1870, she mentioned that she had also previously sent him the manuscript and wondered whether it had now been published in the *Transactions of the Linnean Society*.³⁶ Hooker then read it to the Linnean Society on 15 December 1870 in conjunction with a paper on the Californian pitcher plant sent to him by a correspondent in the Sierra Nevada.³⁷ A précis of Barber's paper was also published in the *Gardeners' Chronicle* on 14 January 1871.³⁸

Yet, the mysterious manuscript, seemingly Barber's only work in Darwin and Hooker's apparently otherwise meticulous collections, had disappeared. The article is not among her correspondence in the Trimen Correspondence Box at the Royal Entomological Society, as Trimen was asked to return it. It has been argued that Trimen's paper 'eventually made its way to Joseph Hooker'.³⁹ It is very likely that Barber sent the very same paper to Hooker, but there is no reference to an earlier letter mentioning the paper, nor could it be traced in Hooker's correspondence or archival box of articles and correspondence related to insectivorous plants.⁴⁰ In addition, the American literary critic Tina Gianquitto mentions Barber having 'published articles on carnivorous plants native to her locale', but does not provide any reference to Barber's supposed publications.⁴¹

Botanists were captivated by insectivorous plants from the mid-1870s, and men were eager to make their study a field of research dominated by men. *Nepenthes*, *Sarracenia*, *Darlingtonia*, *Cephalotus* and the Cape species of *Drosera trinervia* and the genera *Drosera* and *Roridula*—about all of which Barber had written—featured prominently in Darwin's *Insectivorous Plants* (1875). Barber, however, was not mentioned, but Darwin and Hooker's own observations as well as information supplied by men colleagues were given centre stage.⁴²

Shortly before Darwin's book was published, Hooker had chaired the natural history section of the British Association's 1874 meeting in Belfast and had provided a historical overview of investigations into insectivorous plants up until the time of Darwin. In it, he celebrated men who had been interested in 'the most important plants'.⁴³ The only woman mentioned in the entire article was the American naturalist Mary Lua Adelia Davis Treat (1830–1923), who was referenced in a side comment.⁴⁴

Darwin, on the other hand, did acknowledge Treat time and again.⁴⁵ In fact, he was full of praise for her, describing her as ‘more successful than any other observer’ in witnessing how *Utricularia clandestina* ate weak and small prey.⁴⁶ Perhaps decisive here for Darwin were Treat’s observations which had previously been published in American journals.⁴⁷ Unlike the local newspaper in which Barber had published hers, Treat’s American journals were widely known and read. In addition, Darwin’s highly respected Harvard colleague, the botanist Asa Gray, had introduced Treat to him and would have been dismayed had he omitted her.⁴⁸

This exemplary case elucidates how Barber produced information in a field in which many of her counterparts enjoyed more social, economic and scientific capital than herself. Hooker and Darwin, who had initially supported the publication of her aforementioned articles on the pollination and fertilisation of plants which provided crucial corroborative evidence for evolutionary theory (see Chap. 5), did not support the publication of her research on insectivorous plants. This was a field of research in which they themselves wanted to leave a mark and were thus highly selective in whom they acknowledged. In the process, they generally excluded the contribution made by women scientists to their research. Only isolated, ‘exceptional’ women such as Treat who had a patron and a ‘visible’ record of publication could win acknowledgement. Just as only one talented African associate could be mentioned by colonial scientists without harming their assumption of racial superiority (Chap. 3), so could just one remarkable woman be acknowledged without threatening the notion of patriarchal privilege in the field.

Barber was interested most in stapelias (e.g. Fig. 4.5), but has hardly been seen as a stapelia expert. From the eighteenth century onwards, European naturalists and explorers became more and more interested in stapelias. During his stay in the Cape Colony between 1783 and 1795, the Scottish plant hunter Francis Masson (1741–1805) cultivated stapelias in his Cape Town garden. These he observed closely and in *Stapeliae Novae* (1796) described many new species to science.⁴⁹

Important in this line of research was the English plant taxonomist Nicolas Edward Brown (1849–1934). From 1873 to 1914, Brown worked as a botanist at the Royal Botanic Gardens Kew, where he cultivated stapelias. From these, he could observe the individual plants, which also served as models for his illustrations.⁵⁰ Forty-five species of the genus are known today, fourteen of which were named and described by Brown.⁵¹ While he

contributed considerably to the taxonomy of South African plants, Brown had never been to South Africa. Yet in 1921, the South African Biological Society awarded the Capt. Scott Memorial Medal to him in recognition of his work on South African flora, while the University of the Witwatersrand awarded him the honorary degree of Doctor of Science in 1932 for his publications in the *Kew Bulletin* and in *Flora Capensis*.

He relied on correspondents on site such as Sir Henry Barkly (1815–1898), colonial administrator at the Cape of Good Hope from 1870 to 1877. Barkly cultivated stapelias in the gardens of Government House, Cape Town, and sent living plants to the Royal Botanic Gardens Kew together with watercolour illustrations by his wife and daughter.⁵² He collected relatively few specimens himself, but received further material from travellers and collectors. This network allowed him to accumulate an impressive collection that was described by Brown in his *Stapelia Barklyanae* (1890). Brown's work relied on Barkly's collections and information who in turn depended on collectors and informants all over the Cape Colony.

One of Barkly's collectors and informants was Barber, who is said to have discovered *Stapelia glabricaulis* and *Stapelia jucunda*. *Stapelia jucunda* had been described by N.E. Brown 'from two specimens, both of which came from the area near Douglas. The first to have been gathered was found by Mary Elizabeth Barber, probably between 1869 and 1886, when she lived with her husband on the "diamond fields" near Kimberley'. Her brother Col. James Henry Bowker is said to have been the first to collect and describe *Huernia primulina* and *Stapelia tsomoensis*.⁵³ The notion of discovery is in itself an ambiguous and debatable term, as it ignores the fact that plants supposedly discovered by Europeans were long-known and -used by Africans in precolonial times,⁵⁴ thus privileging forms of Western knowledge production, as Chaps. 2 and 3 discuss.

Among the sixty-eight watercolours donated to the Albany Museum by Barber's descendants in 1903, there are twenty-eight illustrations of plants, nineteen of which are *Asclepiadaceae*, including fourteen stapelias. It is not known exactly when Barber painted these, but she mentioned them in a letter to Hooker in 1877 in which she asked where they would be 'most appreciated and most useful'. She was afraid to leave her paintings 'in the wilds of South Africa, and one of these days when I am dead and gone they will be thrown away or given to children to play with perhaps'.⁵⁵ However, Hooker was not interested in stapelias and did not ask her to send them to the Royal Botanic Gardens Kew. Eight years later, she

reported to Trimen that she had been ‘very busy painting some *Stapelias* which have just come out into blossom in Dr Becker’s garden’.⁵⁶

Indeed, Barber seems to have visited German medical practitioner Hermann Franz Becker (1838–1917) frequently between 1880 and 1885. He had come to South Africa in 1869 and moved to Grahamstown in 1874, where he started a private practice after working as a surgeon and spent the rest of his life collecting insects, shells and algae.⁵⁷ She painted the stapelias in his garden which had hitherto not been in her collection of stapelias growing in Albany.⁵⁸ Still hoping for recognition, she produced a series of life-size, watercolour stapelia portraits including their ‘situation, direction, scale, and shape’.⁵⁹ Some of these accompanied her 1888 article on the genus that she sent to the Royal Botanic Gardens Kew; yet, neither the article nor her illustrations were published during her lifetime.⁶⁰

The stapelia illustrations, which Barber sent to the Royal Botanic Gardens Kew, were transformed into lithographs by Mathilda Smith (1854–1926). Smith was Hooker’s second cousin and was employed as Kew’s first official botanical illustrator. Between 1878 and 1923, Smith created over 2300 plates for *Curtis’s Botanical Magazine* and 1500 plates for *Icones Plantarum*. She was part of the establishment and was eager to remain so. Fashioning herself as ‘the exceptional woman’ in a field dominated by men, she had little interest in promoting other women. She may have feared that women such as Barber would challenge her for her position. In order to understand the structure of the plant, she chose one particular section of Barber’s originals and copied these in watercolour before illustrating them with line drawings for Hooker’s *Icones Plantarum* (1890), as the archival sources at Kew’s Library, Art and Archives demonstrate.⁶¹ Barber, however, was not acknowledged in the final reproduction.⁶² Thirty-six years younger than Barber, Smith enjoyed an official position as a draughtswoman and would later be awarded the Silver Veitch Memorial Medal by the Royal Horticultural Society as well as becoming the second woman elected to the Linnean Society.⁶³

While Barber’s stapelia research has largely been ignored, Barkly and Brown have been remembered as pioneers in the field, and Barber has not even been acknowledged as one of their most important informants and collectors. Equally ambiguous is Barber’s reception among current botanists: South African systematic botanist Peter Linder, based at the University of Zurich, evaluates Barber as an important collector and informant, while mathematician and stapelia-expert Peter Bruyns based at the University of Cape Town sees her as ‘one of several such collectors and, as

such, not an especially prominent figure'.⁶⁴ As such, the examples from Barber's contributions to botany illustrate in an exemplary manner how gender, class and location impact upon Barber's scientific legacy.

HOW BARBER'S LOCAL LEPIDOPTERIST NETWORK LENT HER WINGS

Barber's explorations of the natural world around her saw her participate in local collecting networks which also included relatives. The Bowkers were a close-knit family, who regularly corresponded and collaborated with one another. Mary's parents, her eight older brothers and her younger brother and sister regularly organised family gatherings on special occasions, such as Christmas, and frequently visited one another on their respective farms.⁶⁵ Mary's brother, Bertram Egerton, remembered their parents as 'the best two people' whom he had ever known. Their mother, in particular, seems to have been an affectionate and caring person, who was deeply involved in her children's lives.⁶⁶

Particularly engaged in scientific pursuits were Thomas Holden and James Henry Bowker, who were fascinated by entomology, botany and archaeology.⁶⁷ The latter, whom Barber called Henry, was to be a lifelong companion for her, with whom, as she later recalled, she 'always worked together in collecting'. Their relationship exhibited care and respect; Henry had never married and Barber lived with him when they were old. During their collecting partnership, Barber ensured he was acknowledged in scientific publications, forwarded literature to him and explained to Joseph Hooker in a letter that she only wished for her 'share of note' from their work.⁶⁸ She sent more than 1000 plant specimens which they had collected to Harvey at Trinity College Dublin 4.3.

Henry was mainly interested in Lepidoptera and over the years became probably the leading collector of butterflies in South Africa. He was almost never seen without his net (see Fig. 4.3) and became known as 'Butterfly Bowker'. It was even reported that, on at least one occasion, he had downed weapons in the midst of a fierce battle in order to capture an unusual butterfly.⁶⁹ Bowker had been part of a group of Royal engineers, which became known as the Queen's Cross Expedition. They were sent to erect Queen Victoria's cross on the spot where the late Napoléon, Prince Imperial (*1856) had fallen in the Anglo-Zulu War on 1 June 1879. The expedition had taken place prior to the visit of Eugénie de Montijo, wife of Napoleon III and empress of France between 1853 and



Fig. 4.3 Mary Elizabeth Barber, probably Thomas Holden Bowker, and James Henry Bowker ca. 1880. (Photographer not known, taken on a veranda with lilies, aloes as well as geological artefacts in the background. © HM, SIM PIC 5643/ii, photographed by Tanja Hammel, April 2014. © History Museum, Albany Museum Complex. All rights reserved)

1870. As Bowker knew the grave, the memorial and had a high reputation, he was chosen to show her the site. Apparently, the empress was flabbergasted when she saw Bowker with his butterfly net in hand presenting to her the grave of her son.⁷⁰ In 1883, the British botanical oil painter Marianne North met ‘Colonel Butterfly’, as he also became widely known, in Durban.

Bowker was in close contact with Roland Trimen (1840–1916). Trimen was born in London and educated at Rottingdean and then King’s College School. His younger brother, the botanist Henry Trimen (*1843), was the editor of the *Journal of Botany* in London and the director of the Botanic Gardens at Peradeniya, Ceylon, from 1879 until his death in 1896. For health reasons, Roland came to the Cape of Good Hope in 1858, at the age of eighteen. Initially, he spent time cataloguing and arranging the collection of Lepidoptera in the South African Museum as

a museum assistant. After passing the civil service examination in July 1860, he joined the Cape public service, moving up through the auditor-general's department and the office of the colonial secretary as a private secretary. As curator of the South African Museum from 1872 to 1893, Trimen could not conduct much fieldwork. As a result, he appreciated the efforts of his 'friend Colonel' Bowker, to whom he had been introduced in 1866 by his superior at the museum Edgar Leopold Layard.

Bowker hated writing and informed Trimen that he would most happily share all his knowledge in conversation. He did not publish anything on butterflies, but Trimen did so on his behalf.⁷¹ The two occasionally met in Cape Town, Albany and London. Nevertheless, he did write about 190 letters to Trimen between 1861 and 1894.⁷² Indeed, Trimen felt that Bowker had contributed so much to his work throughout the course of his career that he made him the co-author of the three-volume *South African Butterflies* (1887–1889). Bowker, who had conducted entomological research in 'Kaffraria, Basutoland, Griqualand West, Natal and Zululand' for twenty-seven years, during which he described and collected forty species and one genus of Lepidoptera new to science, provided the South African Museum with numerous specimens. For all his efforts, Trimen recommended him as a fellow of the Linnean Society in 1889.⁷³

Trimen also supported Barber, became her friend and entomological patron, after she began corresponding with him in 1863. She communicated her brother's insights to him as well as her own. Twenty-two years younger than Barber, Trimen held the relatively lowly position—relative, at least, to those of Barber's other correspondents Hooker and Harvey—of a museum assistant, when she first contacted him. Her brother introduced her to Trimen as an illustrator, and she turned to him as her interest naturally shifted from plants to butterflies who fed upon plants she had been interested in. They corresponded until 1888, which resulted in more than one hundred letters and more than twenty watercolours and ink-sketches.⁷⁴ He visited her on at least one occasion. They collected Lepidoptera together in Albany in 1870.⁷⁵

Unlike other disciplines within the natural sciences, which were undergoing a (at times slow) process of professionalisation, entomology was seemingly open to all classes as well as both sexes. Indeed, the Entomological Society of London, which was founded in 1833, was known for its openness to everyone and the low subscription fees which explains why the majority of its members were working-class entomologists.⁷⁶ Women were accepted from its outset, unlike the Royal Society which only accepted

them in 1945.⁷⁷ By 1900, the small entomological society in London had thirteen women members.⁷⁸ Trimen, who had served on the council for several periods and was president in 1897 and 1898, fully supported this policy to keep entomology open to everyone.

There had been women entomologists, such as Maria Sibylla Merian (1647–1717), who had lived in Frankfurt, Nuremberg, Amsterdam and West Frisia and had become famous for her two-year journey through Surinam in 1699 after which she had published her magnum opus *Metamorphosis insectorum Surinamensium*. Although she had shown what women entomologists could achieve, one hundred and fifty years passed after her death before a few women born in the earlier decades of the nineteenth century, such as Barber and the Irish entomologist Mary Ball (1812–1898), entered the field and made vital contributions.⁷⁹

Travelling became easier with the expansion of the railway network both in Europe and the colonies and natural history studies developed into an important means for settler communities to embed themselves into their adopted homelands. Entomology offered the opportunity to engage in a secular sphere at a time when Christian congregations were increasingly divided both in the metropolises and colonies. These factors encouraged women, such as Barber's nieces, to engage in entomology, yet they could not make themselves known and were unaware of possible role models such as Merian, who long forgotten, have only started to attract the attention of women historians in the last two decades.⁸⁰ In addition, a number of factors discouraged women from pursuing entomology. The need for their help in the domestic sphere, on farms, as governesses and nurses left little opportunity to practise science. Furthermore, women scientists could only distinguish themselves when they had patrons and support, as Barber in Trimen or Ball in her brother who read and published her work.

Trimen also provided Barber with the equipment required for entomological research. He sold and sent her paintbrushes, paint and 'cruel looking entomological pins' which replaced the unscientific needles that she had previously used.⁸¹ As research literature, Barber took Harvey's *Genera of South African Plants*, Trimen's *Rhopalocera Africae australis* and Layard's *Birds of South Africa* wherever she went.⁸² When her sons took her reference works with them on expeditions or a fire destroyed them in Kimberley, Barber immediately asked Trimen to provide her with new copies. She was even prepared to suggest to Trimen that he steal copies for her, if none was available for purchase, an indication of how important

these standard works were for her.⁸³ Yet she later knew that many of these were not up to date. She, for instance, wrote in 1885: ‘My birds are named from Layard’s old bird book [published in 1867], being the only one that I possess, probably they may be wrong? But what could I do?’⁸⁴

Like the standard works by Layard and Harvey, Barber also influenced the contents of *South African Butterflies* by insisting that details of each butterfly’s habitat and the plant(s) which the pupae fed upon, when known, should be included in the descriptions, illustrations and butterfly names.⁸⁵ As one of its founding members, Trimen made Barber a member of the newly established South African Philosophical Society in 1878. He praised her ‘many-sided mental powers’, ‘loving true-heartedness’, ‘equanimity, cheerful self-reliance, fine sense of humour, and cool courage’.⁸⁶ The qualities which Trimen foregrounded show that he valued her as a colleague, co-worker and friend whose achievements in science he deeply respected. Yet, he would not have praised a man colleague’s ‘loving true-heartedness’, which indicates that he perceived her most of all as a woman.

To provide him with as much information and as many specimens as possible, Barber encouraged young settler women in her area to collect local butterflies. She also aimed to educate them and founded a reading society of fifteen subscribers for which she organised the provision of scientific literature from Cape Town and abroad.⁸⁷ During the Seventh and Eighth Cape-Xhosa Wars in the Albany district, many men were absent as they were on the battlefields. This explains why Barber, who, at the time, was farming for her family’s subsistence, educating her children and spending time with her relatives, could play an influential role in the lives of her nieces and motivate them to contribute to science. Barber’s young daughter, Mary Ellen (1853–1938), was of valuable assistance in catching butterflies and rearing them from caterpillars.⁸⁸ The daughters of Barber’s brother, Bertram—Mary Ellen White (1840–1915) and Fanny Bowker (1850–1940)—were vital collectors and informants at Table Farm and Pembroke near King William’s Town, respectively.⁸⁹ White also helped Barber to illustrate and is said to have been among a number of ‘enthusiastic’ but ‘quite mediocre’ white botanical artists in the Cape at the time.⁹⁰ Yet, her remaining watercolours of birds and flowers and her participation in the Port Elizabeth Art Exhibition in 1861 indicate that she had considerable talent which was honoured locally during her lifetime.⁹¹ Besides Barber’s relatives, the governess to the younger Bowker children, Sophia Beddoe (*c. 1835), who arrived in 1863 from England,⁹² and her sister, Emma Beddoe (*c. 1834) helped her collect, usually at her brother

Bertram's farm, Oakwell, where Sophia worked. Many of these young collectors did not correspond directly with Trimen but informed Barber of their finds and provided her with material which she could forward to him. Yet, Barber made sure that Trimen acknowledged each informant individually.⁹³

Barber was not the only woman entomologist in the area. Bliss White (née Atherstone, 1823–1907), sister of William Guybon Atherstone, was also interested in wasps, beetles, arachnids, plants, shells, rats, bats, birds, snakes, lizards, tortoises and small mammals. After marrying, she spent most of her life on Brakkloof, about thirty-five kilometres northwest of Grahamstown, where she had eight children. For twenty-one years, she was one of the Albany Museum's key collectors, and her plant, insect and animal specimens are still part of the museum's collection today. Yet, it remains unclear whether and how Barber and White collaborated.⁹⁴ White seems not to have been in contact with Trimen and only shared her ideas locally.

Barber's local network was by no means exclusionary one of women. She also received information from her sons. Frederick Hugh Barber went on an expedition by ox-wagon to the Victoria Falls in 1875 and to Matabeleland in 1877–1878, during which he painted the passing sights and kept an expedition journal.⁹⁵ He also helped Barber create ornithological illustrations and was acknowledged as an informant in her scientific articles.⁹⁶

Little is known about her husband Frederick William Barber's (1813–1892) impact on her career. But he, the youngest of seven sons of Thomas Barber from Nottingham, a portrait painter of many of the aristocracy of the Midlands,⁹⁷ seems to have been well educated at Olney and Eton College. He regularly wrote articles on various subjects for newspapers, was interested in agricultural matters such as the fertility of soils and was described as a 'somewhat retiring, studious man'.⁹⁸ Although he seems not to have directly supported his wife's scientific research by encouraging her to publish, become a member of scientific societies or obtain a paid position in science, he shared an interest in science and tolerated her time-consuming research.

The more Barber and her co-workers were acknowledged by Trimen, the more self-confidence she gained. As supportive as Trimen and his colleagues at the Cape were of Barber, it is striking that of her sixteen published articles, those published in South Africa remained ambiguous as to her sex, with only her initials 'M. E.' recorded in the author's column.⁹⁹ In

contrast, articles which she published in England were released under the name of ‘Mrs. Barber’ or ‘Mrs. M. E. Barber’.¹⁰⁰ Not all of Barber’s collaborations were as fruitful as the one with Trimen. She also met with considerable difficulty and resistance from other men in her scientific pursuits.

THE MARGINALISATION OF THE FIRST SOUTH AFRICAN WOMAN ORNITHOLOGIST

Curator of the South African Museum and its leading ornithologist, Edgar Leopold Layard, sixteen years older than Trimen, credited Barber and David Arnot, a Khoekhoe descendant,¹⁰¹ for their information on species of birds, birds’ behaviour and habitat, but also displayed an adherence to race and gender hierarchies.

He dedicated *Birds of South Africa* to his wife, his ‘loving companion and helpmate in [his] labours’ and named an apparently new species of an South African pipit (*Anthus Calthropae*) after Barbara Anne (known as Annie) Layard in ‘memory of the faithful companion of [his] labours for upwards of 20 years, who has aided [him] with pen and pencil, and shared the pleasures [he has] experienced in the study of the works of Nature’.¹⁰² Yet, the pipit had already been named. His wife was an accomplished artist and ornithological co-worker, whose work and career were gradually subsumed under his reputation and public persona, with consequently little known about her today.¹⁰³

Barber and Layard closely collaborated while he compiled *Birds of South Africa* from the 1850s to the mid-1860s. Layard knew Barber’s brothers well. They had also met personally, and much of their social circle overlapped. He visited the Barbers at Highlands at least once with Trimen in February 1870 and mentioned this visit in an article published later that year.¹⁰⁴ Thomas Holden Bowker was in close contact with Layard, as Chap. 7 shows when elaborating on their exchange on archaeological findings. Layard was the godfather of his fourth child Mary Layard Bowker, as her second name reveals.

In 1868, Barber asked Layard, who was about to leave for England, whether he could take a paper that she had written on the basis of James Henry Bowker’s notes with him for publication there. This he did, but falsely published it under the name of ‘Mr Layland’, which was supposed to be a typo for Layard.¹⁰⁵ According to Barber, in 1869, the article was thus published in ‘German newspapers and scientific Journals and also in

many publications in England and elsewhere with his name to it'. Barber could not understand how this 'came to pass', as she claimed to have requested Layard to send the copies off under Bowker's and her name, to which he had promised that 'the saddle was put upon the right horse'.¹⁰⁶

This incident permanently soured their relationship. In 1870, she, for instance, ridiculed Layard for mistakenly arguing that the stone grasshopper of Grahamstown, which she had described in 1868–1869, was winged.¹⁰⁷

At the same time, Barber sensed that there was tension between Layard and Trimen. She wrote to Trimen in April 1871 that she had been surprised when she heard that an amateur artist and self-taught geologist Henry William Hull Coleman Piers (1813–1887) would become Layard's successor as curator of the South African Museum. She found it a 'folly' 'to put a man in, who knows nothing of science', and interpreted this as a conscious decision on the part of Layard to exclude Trimen. She further promised to tell Trimen about Layard's dishonesty, although only when they met in person, as she did not want to publicly engage in the debate, claiming that it was generally assumed that women were 'fond of scandal' which she absolutely loathed.¹⁰⁸

Barber might have hoped that her career would experience a boost if Trimen became the curator of the museum, which could be the reason behind her interest in his potential promotion. Her constant fight against gender stereotypes and misrecognition made her very sensitive to any plagiarism and misquotation of her work. Barber saw Layard as an illegitimate gatekeeper, who did subsume her information to fashion himself the founding figure of South African ornithology, while pushing her to the margins of the discipline.

Emil Holub, in contrast, was to make sure that her ornithological work would not be forgotten. He had worked as a doctor in a tent at Du Toit's Pan while she was there and had met her son Fred near the Klamaklenyana springs while both were on expedition. When he returned to Kimberley from an expedition, Fred showed Holub his mother's ornithological illustrations. Holub was impressed by Barber's keen observatory skills, her 'artistic power' and publication record.¹⁰⁹ Her illustrations impressed him so much that he promised to 'celebrate' them 'all over Europe' and 'blow [her] trumpet at all the scientific societies', as her sons gently teased her.¹¹⁰

Barber, however, was dismissive of Holub's talents, arguing, for instance, that while he had certainly accumulated impressive financial

means and scientific collections, she did not admire his skills as a traveller and was certain that in the interior of Southern Africa he would ‘come to grief amongst the natives’.¹¹¹ As such, she had little faith in Holub’s knowledge of the country and, as a settler, felt her own knowledge and life-long experience to be vastly superior. However, she appeared jealous of Holub’s financial security as well as his fame and recognition.

Indeed, men in general, she felt, enjoyed endless opportunities to travel, and voyages were career-making. When she read in a newspaper article in 1883 that botanist Harry Bolus, entomologist Roland Trimen and traveller Emil Holub ‘were on the point of crossing the Dark Continent from end to end’ and that ‘the scientific world were looking forward to great discoveries from so learned a staff of celebrities’, she saw her chance. She asked Trimen if she could join as a ‘scientific artist’, an occupation that was most readily accepted as appropriate for a woman within science at the time and hoped she could enjoy men’s privilege of travelling. She went on to request how many wagons she could take for conveying her colours, canvases, drawing papers and small library of reference works or whether the expedition would supply her with all necessary equipment.¹¹² The proposed expedition, however, would never occur. As she had no opportunity to travel on her own, she had to stress her expertise as a local expert.

When Holub arrived in Vienna, he gave a lecture on South African avifauna in which he praised Barber’s work.¹¹³ He spoke with August von Pelzeln (1825–1891), who had been the custodian of the Austrian Imperial Collection of birds and mammals in Vienna since 1869 as well as the secretary of the Ornithological Union of Vienna. With few ornithological societies at the time, this seems to have been one of the oldest and the most renowned. Von Pelzeln had already known Holub before Holub’s return. On 10 February 1882, he followed Holub’s suggestions of making Trimen and Barber corresponding members of the society. In the society’s transactions, Barber was first mentioned as ‘Herr’ (Mr), then as ‘Fräulein’ (Miss), from Cape Town. Considering that by then Barber had been married for forty years, was sixty-four years old and had never resided in Cape Town, the society knew extremely little about her. Given that she could not read their German transactions, Barber in turn would have known little more about the society herself.¹¹⁴

Barber did not know how to react to her election as a fellow of the ornithological society in Vienna and asked Trimen to write her an acceptance letter. She gave him instructions to ask someone else to transcribe it

so that the society would not find out that it was his handwriting.¹¹⁵ He seems to have done so, for there is no further mention of it in her letters to him. This shows how much influence she had and how strong their friendship was.

This honour increased Barber's self-confidence. She praised Holub for doing more for her than any of her 'countrymen', an indication of her disappointment at the lack of appreciation she received. While she had seen many of her articles published by different societies, she was frustrated that she was being ignored by scientific societies. As she claimed to Trimen, 'they have never thought me worthy of having [been] made a corresponding member, perhaps they do not care for having ladies amongst them, I have often thought that if I had been a man I should not [have] been excluded'.¹¹⁶ As this discouraged letter written ten years after Trimen had been promoted to become Layard's successor and shortly after their election to the Viennese society indicates, she had not gained further recognition through Trimen as she had hoped for or even expected. She was convinced that she suffered under the exile from science because she was a woman.

Indeed, the South African Philosophical Society appears to have been the only society at the Cape that accepted her as a corresponding member, while, in Britain, the Linnean Society of London, within which Trimen was also influential, would continue to exclude women from becoming members for another thirty years. The quoted letter is one of very few passages in Barber's writings in which she discussed the omission of women. As she got older, Barber became more independent and ambitious and sought acclaim more eagerly. Her critical statement above was addressed at the scientists at both the Cape and in Europe who excluded her, such as Layard and her colleagues in Grahamstown and London.

The muted contemporary reaction to Barber's rich record of collaboration has had a deep impact on how her legacy has been remembered over the course of the last century, resulting in her marginalisation and complete exclusion from the history of ornithology in South Africa.

Given that there was no ornithological society at the Cape during her lifetime—the South African Ornithological Union was only formed in 1905—and no large network of ornithologists in the 1860s, her potential to influence contemporary science was reliant on Layard's efforts. Despite the mutual information exchange from which he benefited, he never reciprocated her efforts by recognising Barber in the public scientific sphere or by enabling her to publish an ornithological article or illustration in *Ibis*, the then leading ornithological journal.

Barber has subsequently remained unacknowledged as the first woman ornithologist in South Africa, and her African associates were silenced altogether.¹¹⁷ Her marginalisation had much to do with her gender; Africans' with their race. They were all disregarded due to the contemporary professionalisation of the discipline and the concomitant contempt in which amateur scientists were held. Given the difficulties which women scientists experienced, it could be assumed that they collaborated with each other in an effort to combat patriarchal gate keeping.

COLLABORATION AND COMPETITION AMONG WOMEN SCIENTISTS AT THE CAPE

Barber was one of a number of women scientists at the Cape at the time, but her career was quite different to those of her younger colleagues.

Compared to the Cape Town-based philologist Lucy Lloyd, who, out of anxiety and lack of self-confidence, often self-effacingly published her 'Bushman Work' under her brother-in-law Wilhelm Bleek's name or under the nom de plume *L*; Barber, sixteen years her senior, was self-assured and never openly displayed any signs of self-doubt.¹¹⁸ Lloyd was one of very few contemporary women with a paid position in science. After Bleek died, Lloyd was offered his position as curator of the Grey Collection at the South African Public Library at half his salary. She initially did not agree but eventually reluctantly accepted the position, which she held from 1875 to 1880. Ultimately, however, Lloyd would stand up for herself in a starkly conservative intellectual environment which was dominated by hostile figures such as superintendent of education Sir Langham Dale. In the process, she became a powerful voice in Cape Town's intellectual community. Her services were suddenly terminated in 1880 because a man candidate for her position had suddenly become available. This was the trader and Nama linguist Dr Theophilus Hahn. Hahn was soon criticised for his unsatisfactory work as a librarian and moved to Stellenbosch in November 1883.¹¹⁹ Lloyd and the trustees of the Grey Collection took the case to the Supreme Court.

Another woman who gained a similar post after a relative's death was Mary Glanville (*1861), who, for two years prior, had been her father's assistant while he was the curator of the Albany Museum in Grahamstown. Glanville was appointed curator on his death in 1882 and, in this role, oversaw the museum's move to new premises and its ever-growing collection of specimens. In turn, the growth in the museum's collections saw

the number of visitors rise from 2000 in 1883 to 10,000 in 1886.¹²⁰ After organising the Queen Victoria Jubilee Exhibition in 1887, which attracted 25,099 visitors, Glanville was plagued by ill health, until she died suddenly in 1888. In her obituary in *The Economist*, the success of the jubilee exhibition was attributed to her ‘untiring zeal, genial courtesy and indefatigable exertion’.¹²¹

Lloyd and Glanville were both unmarried and had no one to provide for them. This might have made it easier for them to justify their need for these paid positions and to succeed the relatives with whom they had previously closely collaborated. For the men in power such as Dale and Atherstone, Lloyd and Glanville represented well-qualified interim replacements who were already familiar with the collections and were prepared to work at a lower salary.

Women who had not previously held an assistant curatorship or collaborated in a project such as Glanville and Lloyd were not granted position and recognition, but received a consolation package: pseudo-guardians, who stepped in as patriarchal replacements to allow them to continue their work and receive a wage in lieu of what they had been given by their dead relative. Those such as Mary Treat, who were separated from their husbands, did not enjoy the same benefits and never held official positions in science. Treat was based in New Jersey and contributed to the disciplines of entomology, ornithology and botany. After separation from her husband in 1874, she supported herself by publishing popular science articles. Over a space of twenty-eight years, she authored seventy-six articles and five books.¹²²

With much in common and both being residents of Grahamstown in the mid-1880s, it could be assumed that Barber and Glanville collaborated. Yet, the two entomologists were rather competitors, as the interesting case of their papers on insectivorous birds in 1886 demonstrates. Glanville’s main research interest had always been agricultural pests, and the English economic entomologist Eleanor A. Ormerod (*1823) praised her as ‘highly gifted’ for having laid the foundation for the ‘study of crop pests of the Eastern Province’ and for having provided her with the ‘best specimens’.¹²³ Glanville opened the discussion with her paper on ‘Our Foes and Friends among the Birds’, which she read to the Natural History Society on 25 February and published in *The Graham’s Town Journal* on 1 March.¹²⁴ After listing the birds which were both helpful and destructive to the local farmers, she concluded that small insectivorous birds required protection from those who shot them to obtain their feathers for ladies’

bonnets. In the discussion that followed the presentation of the paper, farmers were encouraged to prohibit boys from killing birds in their orchards, but ornithologists were not dissuaded from continuing to collect.¹²⁵ The publication coincided with the foundation of the Audubon society, an organisation for the protection of wild birds and their eggs, by American editor of *Forest and Stream* George Bird Grinnell.¹²⁶

A few months later, Barber, who was forty-three years older than Glanville, entered into the debate with a public reading of her paper on ‘A Plea for Insectivorous Birds’ at the Eastern Province Literary and Scientific Society. The paper was read by Mr. Fairbridge, a member of the society, on 15 July 1886. The society had its own reasons for putting on the reading, such as recruiting new members; in so doing, it marketed itself as non-elitist and inclusive by allowing the public—namely, white settlers—to attend meetings for a small financial contribution. It had announced the event, which they regarded as ‘of keen interest to the whole colonial community’, a week earlier. This was unusual, as monthly reports on past events were customarily published in the local newspaper. The society, founded by William Guybon Atherstone, had originally focused on medicine and literature, and its collections had been the basis of the Albany Museum. It aimed to position itself as an organisation that supported the ‘amateur study of local science’, welcomed innovative thinkers and recognised urgent scientific imperatives in the region.

A second point on their agenda was an amalgamation with the Albany Natural History Society. That the two societies often discussed identical subjects is evidenced by Barber’s and Glanville’s papers. An amalgamation would have allowed the Albany Natural History Society to save both space and a secretary’s salary and would have ensured the Albany Museum a constant supply of new collections and information as the members of both societies would provide data.

On 16 July, when Barber had her paper read, the attendance was reported to have been low. The paper was also published in the *Journal* on 17 and 19 July as well as in pamphlet form. The reasons given for the publication of the pamphlet are striking, as they do not include the protection of birds but rather the hope of bringing ‘the Society much credit, and the thanks of all true horticulturalists’.¹²⁷

Though Barber substantially added to Glanville’s arguments, no response by the latter seems to have been forthcoming. Glanville seemingly ignored the laywoman Barber and did not enter into either a private

or a public scientific exchange with her on the subject. They did not publicly compete, but in publishing their papers in the local newspaper, their men colleagues turned them into competitors, two experts conducting research on the same topic.

All women scientists at the time (whether in paid positions or not) seemed concerned with leaving their own mark on their disciplines and were not prepared to join forces with other women scientists to fight for more recognition for women in science. The discussion of insectivorous birds in Grahamstown also illustrates that rather than supporting women and accepting them in scientific societies, Barber and Glanville's patriarchal colleagues played them off against one another. The Grahamstown Natural History Society faltered in 1887. The Eastern Province Literary and Scientific Society revived, in 1892 amalgamated with the Albany Natural History Society (1867–1875, refounded in November 1890) and formed the former's Natural History Section.¹²⁸

Another case in point to elucidate women in science were as competitive as men is the British botanical artist Marianne North's relation with women botanists at the Cape. A close reading and comparing of North's oil paintings and diary entries with Barber's watercolours provides insights into how North created her renowned works of botanical art. It provides insights into North's intervisuality—the shaping of an image by reference to other images.

After her mother's death, North had accompanied her father Frederick, the Liberal member of parliament for Hastings, on his business travels. After his death, she travelled the world on her inheritance, illustrating the Empire's flora for the British public. Her paintings can be viewed in her gallery at the Royal Botanic Gardens Kew that she had donated and opened in 1882.¹²⁹ In an attempt to make up for the absence of images from Africa, North travelled to South Africa in 1883 and added an additional room to the gallery upon her return.¹³⁰

While she was travelling, she kept a journal, and the passages on her time in the Cape paint an interesting picture of how she perceived herself as superior to local botanical artists, whom she regarded as 'colonial imitators'.¹³¹ With the extra cultural and economic capital which she possessed in the form of her metropolitan background, her higher level of education (e.g. art courses) and the political power which she enjoyed through her father's political contacts, North epitomised metropolitan privilege in comparison to the relatively powerless situation endured by many settlers and British women at the Cape.

North saw Barber as a competitor and criticised her work. Initially, North wrote that she was ‘delighted’ when Barber entered her room one day while she was painting, having encountered Barber’s name—‘the great authority on all sorts of natural history’, as North described her—repeatedly since her arrival in South Africa. North recorded in her diary that Barber’s illustrations were ‘done much in the way old Anne North did her flowers in the year I was born [1830]’.¹³² She then continued to ridicule Barber’s old-fashioned style and emphasised the difference between Barber’s white paper and her own canvasses.

Experts, however, have described Barber’s paintings as ‘botanically sound’.¹³³ Barber organised paper locally, but depended on Trimen to send her paintbrushes from Cape Town, which he in turn might have ordered from Europe.¹³⁴ Colours were not mentioned, but Barber produced her own ink from plants.¹³⁵ We can assume that Barber faced difficulties organising adequate paints. Colours faded over time due to climatic and storage conditions.

Barber was not the only colonial expert that North disparaged. North described Katharine Saunders as a ‘clever little wife [...] in a waterproof cloak, looking like a figure out of Noah’s ark. She was always most earnest about everything she did, and spent hours trying to puzzle out the names of every little weed’.¹³⁶ North thus felt superior as an unmarried, independent traveller and suggested that while botanising was hard work for Saunders, it came naturally to herself. She further recalled having instructed Saunders on how to paint with oils, but the former did not like this approach and remained a watercolourist, which, according to North, was not only less suitable for representing plants, but also less artistic.

North also met Bishop of Natal John William Colenso’s wife Frances and did her ‘best to disentangle her artistic difficulties, and give her courage to go on painting from nature. The companionship of sweet flowers would have done her more good than sickly sentimental phantoms of high art’, North commented unflatteringly. Colenso was said to have been inspired by English painter Edward Burne-Jones (1833–1898), a well-known representative in the second phase of Pre-Raphaelitism, but had difficulties living up to the movement’s standards. North suggested in this regard that Colenso lacked the talent, access to artistic circles and education to be a successful painter. For North, there was a distinction between flower painting and botanical art. This corresponded to the divide between amateurs, like Colenso and her South African counterparts, and professional artists such as North herself.¹³⁷

On another occasion, North described her visit with Barber to Hermann Franz Becker. This time Becker's stapelia garden was not the reason of Barber's visit. Becker showed the two women his insect collections, in particular a recently added beetle, which Barber took for a species of another group of insects. After a heated discussion, according to North, Barber left the room. Becker's wife then turned to North saying: 'As if the doctor did not know one when he saw it. Why, even at school he used to be called Beetle Becker.' Here, Becker assumed that Barber, who had not specialised in *Coleoptera* since childhood, possessed much less cultural capital than her husband and consequently could not be right. Barber's ambition and self-confidence flabbergasted North, who regarded Barber, twelve years her senior, as 'a most obstinate old lady'.¹³⁸

Barber's encounters with both North and the Beckers offer a glimpse of how difficult it was for her to position herself within the transnational field of natural history, which was beholden to a patriarchal and class-conscious elite who regarded the metropole as eminently superior to the colony. Cultural and economic capital—education, access to collections and the financial means to afford first-class material—were held more important than life-long experience. North, who, in stark contrast to Barber, was unfamiliar with South African flora, displayed this attitude in disparaging Barber's works in comparison to her own.

North's behaviour is very similar to Joseph Hooker's attitudes towards and consorting with collectors in the colonial South. He did not allow his colleagues in New Zealand to name plants, as they had no access to the Royal Botanic Gardens Kew's herbarium, which he held for the largest and most important of its kind and therefore the only legitimate place for plant classification. At the same time, however, Hooker was dependent on their information and could not have published on New Zealand's flora without these local collectors. Indeed, he had only spent a brief period of time in New Zealand himself, during which he could not have hoped to collect enough data for such an undertaking.¹³⁹

Similarly, North made use of Barber's knowledge while at the same time belittling her Cape counterpart. Old-fashioned as Barber's iconography might have been, North, who painted the specimens which she received in the comfort of her room, depended on Barber's experience and access to local flora and fauna. North even considered some of Barber's paintings to be worth copying, as the intervisual links between the images in Figs. 4.4, 4.5 and 4.6 indicate.¹⁴⁰



Fig. 4.4 Barber, Painting 31, *Diadema misippus*. It is unfinished as the missing colour in the male species shows, as if it was only a template for Marianne North. (Photographed by Tony Dold. © History Museum, Albany Museum Complex. All rights reserved)

While North's paintings have attracted considerable attention over the years, Barber's have not. Thousands of visitors see North's paintings every year in her gallery at the Royal Botanic Gardens Kew, which remains the only permanent solo exhibition by a woman artist in Great Britain and one of the largest solo exhibitions in the world.¹⁴¹ Viewers learn about North in popular books.¹⁴² Barber's illustrations, in stark contrast, have never been exhibited in a solo exhibition, and she was not a member of any British scientific society. Some of Barber's paintings have been exhibited in temporary exhibitions in South Africa: In 1978, seven of Barber's



Fig. 4.5 Barber, Painting 56, *Stapelia variegata* L. var *bufonia* Nicholas Edward Brown. (Photographed by Tony Dold. © Selmar Schonland Herbarium)

Kimberley watercolours were offered on loan to the McGregor Museum in Kimberley and were on display there from 1979.¹⁴³ Small special exhibitions were organised on National Woman's Day, 8 August 2003, at the Observatory Museum, Grahamstown, and in the exhibition 'Art as Science' at the History Museum, Albany Museum Complex, during the National Science Festival in Grahamstown, January to May 2011. Barber's watercolour of the butterfly *Precis sesamus* (Drawing No 29) is on permanent display in the Bowker Case in the Nineteenth Century Lifestyles Gallery, History Museum, Albany Museum Complex.

The connection between the two women's paintings—forged through their exchange of knowledge and personal competition between them—has likewise been forgotten. North who felt vastly superior may not have directly seen Barber as a competitor, and Barber may have primarily been concerned with her local competitors at the Cape. Yet, they competed with each other in their quest for recognition.



Fig. 4.6 North. Painting 395, Flowers of Grahamstown: *Buphane toxicara*, *Zygophyllum*, *Stapelia bufonia*, Orchid, *Satyrium longicolle*. (© The Trustees of the Royal Botanic Gardens, Kew. All rights reserved)

The limited acceptance which women scientists met with, in turn, led to fierce battles among themselves for the scraps of scientific success as opposed to increased collaboration or solidarity among them. Portraying themselves as independent scientists meant in turn neglecting the contributions of co-operators further down the colonial social hierarchy than themselves.

The status of ‘lay scientist’ was externally attributed to demean contestants; however, in certain instances, such individuals could suddenly become more valued for their knowledge and expertise. As Chap. 5 shows, this happened when they provided crucial missing information for a theory produced in the North. This corroborative evidence from the South was essential for it to be accepted as a universal theory. Proofs were required for the general public to overcome the ‘epistemological rupture’ when a new theory challenged familiar concepts.¹⁴⁴

NOTES

1. (MacOwan 1886, xxx).
2. KLAAs, Director’s Correspondence, Vol. 59, Letter 8, Dr. W.G. Atherstone to Sir William Hooker, 9 March 1849.
3. (Desmond 1987, 69, 131).
4. See for example: (Redgrave and Bradlow 1958); (Alexander 1990); (Bank 1995, “Chapter 6. Images of ‘Savages’ in Colonial Art,” 276–308).
5. See (Cohen 2000, 188–191).
6. See for example: (Webb 1966, 35).
7. See: (Nelson 1992); (Parnell 2009).
8. See for example (Cohen 2011, 24).
9. KLAAs, Director’s Correspondence, Vol. 59, Letter 7, Dr. W. G. Atherstone to Sir William Hooker, 9 January 1849.
10. See for example: <http://www.cam.ac.uk/research/news/darwins-women>, date accessed 23 December 2016.
11. (Harvey 1838, 1–2); Harvey, “Introduction”, in (Hooker 1868, 9).
12. (Webb 1991, 306).
13. (Parnell 2009, 514).
14. RES, Trimen Correspondence, Box 19, Letter 206, Highlands, 6 May 1863.
15. See for example: KwaZulu-Natal Museum, Archive and Library, Pietermaritzburg.
16. Unlike Trimen and Harvey who are hardly known, much research has been conducted on Joseph Dalton Hooker, which is why I waive an introduction, assuming that it would be similarly superfluous as introducing Darwin. See for example (Endersby and Griggs 2011); (Endersby 2011); (Endersby 2010); (Endersby 2009); (Endersby 2008).
17. (Hooker 1866). For a reproduction of a hand-coloured plate, see: <http://www.biodiversitylibrary.org/item/14368#page/286/mode/1up>, date accessed 6 September 2016.

18. RES, Trimen Correspondence, Box 18, Letter 109, Kimberley, 27 November 1878.
19. Joseph Dalton Hooker to William Wilson, 28 August 1844, KLAA, Director's Correspondence, Vol. 13, Letters 382–383. See (Secord 2002, 34).
20. (Huxley 1918, 1:189).
21. KLAA, Director's Correspondence, Vol. 189, Letter 114, Barber to Hooker, Highlands, 9 May 1867.
22. (Barber 1871).
23. She eventually asked Hooker in 1870 about what had become of her article. KLAA, Director's Correspondence, Vol. 189, Letter 123, Barber to Hooker, Highlands, 28 September 1870; Letter 124, Barber to Hooker, Highlands, 14 March 1871.
24. George Bentham to Charles Darwin, 25 Wilton Place S.W., 7 May 1869, Darwin Correspondence Project, Letter 6734.
25. He preferred fig 4 and suggested adding the outline in fig 3. SP 57, Linnean Society London; Darwin to Bentham, 10 May 1869, Letter 6740.
26. Darwin to Linnean Society, President and Council, 10 May 1869, Letter 6740, Darwin Correspondence Project.
27. Another interesting article in this regards is (Adams 1887); Also see: (Shteir 1996, 1997a, 1997b, 243).
28. (Barber 1871, 470), woodcut, $\pm 13 \times 16$ cm.
29. www.kew.org/heritage/people/fitch.html, date accessed 27 April 2013; "Alfred William Bennett", *Proceedings of the Linnean Society of London: One Hundred and Fourteenth Session (1902)*, 26–27.
30. In his lecture "Verschenkt, unbeachtet, nie gesehen – Ausschuss im Labor" at the annual conference of eikones NCCR Iconic Criticism *Einwegbilder*, 24 October 2013, historian of science Christoph Hoffmann used the term 'Verstellung' which I translate here as 'misalignment'.
31. See for example (Endersby 2001).
32. (Creese and Creese 2010, 10).
33. See for example: (Syme 2016).
34. RES, Trimen Correspondence, Box 17, Letter 68/2, Highlands, 10 September 1869. In this letter, she writes that the paper in the *Graham's Town Journal* was published 'a month or two ago'. This article was dated 24 May 1869 and read to the Albany Natural History Society, 24 June 1869, *The Graham's Town Journal*, CL: MIC 468, Reel No. 107, 15.1.1869–1.8.1870; 14353151.
35. RES, Trimen Correspondence, Box 17, Letter 69, Highlands, 20 November 1869.

36. KLAA, Director's Correspondence, Vol. 189, Letter 123, Barber to J. D. Hooker, Highlands, 28 September 1870.
37. '2. A letter, dated Sierra Nevada, California, Oct. 28, 1870, from William Robinson, F. L. S., to Dr. Hooker, on the Californian Pitcherplant (*Darlingtonia claiifornica*, Torrey). 3. "Carnivorous and Insectivorous Plants", by Mrs. Barber. Communicated by Dr. Hooker', *Proceedings of the Linnean Society of London*, (Session 1870–71), xxix.
38. (Cohen 2011, 61).
39. (Creese and Creese 2010, 10).
40. KLAA, JDH/3/6, from 1874. Thanks to Lorna Cahill for checking the Kew collection and Collin Harris for doing the same at the British Association for the Advancement of Science Collection at the Radcliffe Science Library, Bodleian Libraries, Oxford. All papers read to the Linnean Society, regardless of whether they were published or remained unpublished, should be archived, but Barber's is missing. Thanks to Elaine Charwat at the Linnean Society of London, Burlington House, London, for her double-checking.
41. (Gianquitto and Fisher 2014, 253–254).
42. See (Darwin 1875, 97, 129, 452, 453).
43. (Hooker 1874, 366).
44. (Hooker 1874, 368).
45. See (Darwin 1875, 278). He writes: 'Mrs. Treat has given an excellent account in *The American Naturalist*, December 1873, p. 705, of *Drosera longifolia* (which is a synonym in part of *Drosera anglica*), of *Drosera rotundifolia* and *filiformis*.' See also (Darwin 1875, 311, 430) where he admits that he has 'largely quoted' her 'excellent observations'. Darwin also mentions flaws in her observations or in experiments which he made her do that were not successful (Darwin 1875, 281, 409, 430).
46. (Darwin 1875, 408–409); (Treat 1876).
47. See for example: (Treat 1873, 1875, 1875); all of these articles were reprinted in: (Treat 1885). For an interesting article on her contributions to Darwin's work, see: (Sanders 2009).
48. (Gianquitto and Fisher 2014, 254).
49. See (Albers and Meve 2004, 243).
50. (Bruyns 2005a, 1:2).
51. *S. arnoti*, *S. gigantean*, *S. glabricaulis*, *S. kwebensis*, *S. leendertziae*, *S. longipedicellata*, *S. macowanii*, *S. olivacea*, *S. pearsonii*, *S. peglerae*, *S. pillansii*, *S. similis*, *S. surrecta* and *S. tsomoensis*. See (Albers and Meve 2004, 242–255).
52. (Glen and Germishuizen 2010, 89–90); (Bruyns 2005a, 1:2).
53. See for example (Strohmeier 1998, 34); (Bruyns 2005b, 2:534); (White and Sloane 1937, 100).

54. See for example ‘Bushman engraving’ on a rock in Schoolplaats, on the Vaal River near Kimberley, spotted by the South African geologist, botanist and director of the McGregor Museum in Kimberley Maria Wilman (1867–1957). She estimated it to be 600 years old, of ‘the last period of the classical style’ and published a rubbing of it. The upper position is lightly pecked, the base fairly deeply pitted (Wilman 1968, n.p.).
55. KLAA, Director’s Correspondence, Vol. 189, Letter 130, Barber to J. D. Hooker, Kimberley, 4 June 1877.
56. RES, Trimen Correspondence, Box 18, Letter 124, Grahamstown, 26 July 1885.
57. (Glen and Germishuizen 2010, 94–95); For more on Becker see: http://www.s2a3.org.za/bio/Biograph_final.php?serial=197, date accessed 28 April 2016.
58. RES, Trimen Correspondence, Box 18, Letter 124, Grahamstown, 26 July 1885.
59. Hipolito Ruiz to Jorge Escobedo, 9 July 1768, (Bleichmar 2012, 90); (Barber 1903, 19).
60. However, they were published posthumously in: Barber, “Stapelias”, 17–19.
61. See, for example, KLAA, 107:141.01; 107:146 which documents Smith’s working process, from the copying of a specific section of Barber’s illustrations in watercolour to her final black-and-white line drawings.
62. (Hooker 1890, X, Part I:Stapelia desmentiana, Plate 1916).
63. See for example: (Desmond 1987, 36–37, 136–137, 157, 160, 162, 164, 184, 201); (Batcheller 1964); (N.A. 1916); (Turrill 1926); (Miss M. Smith 1922); (Miss Mathilda Smith 1921); (Matilda Smith 1927); (Royal Botanic Gardens, Kew 1927); http://www.kew.org/heritage/people/smith_matilda.html, date accessed 20 December 2012.
64. Personal Correspondence Bruyns to Hammel, 13 December 2012; Personal Correspondence Linder to Hammel, 12 December 2012.
65. See for example: the diary of Sophie Beddoe, the governess employed by Bertram Egerton Bowker: Diary 1862–1864, CL: PR 7182.
66. For more on her family, see for example (Mitford-Barborton 1934); (Bowker 1964); (Mitford-Barborton and Mitford-Barborton 1952); (Mitford-Barborton 1970).
67. See Thomas Holden Bowker, Entomology Notebooks, 2, 9 January 1832, manuscript in leather, HM, SM 854.
68. KLAA, Director’s Correspondence, Barber to Hooker, Vol. 189, Letter 116, Highlands, 24 July 1867.
69. (Cohen 1999, 124).
70. (North 1894, 2:274).
71. See for example: (Trimen 1870).

72. RES, Trimen Correspondence, James Henry Bowker to Trimen, Box 19, Letters 10 to 91, Butterworth, Fort Bowker, Tsomo and Maseru, 1861–1869; Box 20, Maseru, Estcourt, Durban and others, Letters 271 to 350, 1869–1888; Box 21, Letters 1 to 39, Durban, 1889–1894.
73. See (Trimen 1901, 41); (Bethune-Baker 1916, 231).
74. RES, Trimen Correspondence, Box 17, Letters 29 to 80, 1863–1870, including ten drawings; Box 18, Letters 81 to 133, 1871–1888, including twelve hand-drawn coloured illustrations; Box 19, Letter 30.
75. See for example: RES, Trimen Correspondence, Box 17, Letter, 72, Highlands, 16 January 1870.
76. See (Neave 1933).
77. (Barber 1980, 37); (Ferry 2010).
78. 1833–36 Mrs. J. Curteis, 1835–47 Mrs. F. W. Hope, 1849–59 Mrs. Vines, 1854–80 Miss S. Thompson, 1878–1901 Miss E. A. Ormerod Hon. LL.D., 1880–96 Miss G. E. Ormerod (1896), 1880–82 Miss E. A. Smith, 1890–93 Mrs. E. Bazett, 1890–1904 Mrs. H. S. Chorley (formerly Miss M. Kimber), 1892–1928 Hon. Mrs. W. Carpenter, 1897–1906 Mrs. E. Brightwen, Miss E. F. Chawner, 1898 Miss M. E. Fountaine, see (Neave 1933, 162–181).
79. See “Mary Ball (1812–1898)” in (Creese and Creese 2004, 37–39).
80. See for example: (Davis 1997, 140–202); (Le-May Sheffield 2001, 139–194).
81. Barber to Trimen, RES, Trimen Correspondence, Box 17, Letter 42, Highlands, 1 May 1865.
82. (Harvey 1838); (Trimen 1862); (Layard 1867).
83. RES, Trimen Correspondence, Box 18, Letter 101, Barber to Trimen, Kimberley, 2 November 1877; Letter 107, Kimberley, 17 August 1878.
84. RES, Trimen Correspondence, Box 18, Letter 123, Barber to Trimen, Grahamstown, 24 April 1885.
85. See for example: RES, Trimen Correspondence, Box 17, Letter 39, Highlands, 6 September 1864.
86. Roland Trimen, “Introduction”, [Hindhead, Haslemere, 1898], in (Barber 1898, vii–viii).
87. M. E. Barber to Mary Anne Mitford (née Bowker), 20 July 1847, HM, SM 5325 (4).
88. RES, Trimen Correspondence, Box 17, Letter 60, 21 June 1868; Letter 80/2, 13 November 1870; Box 18, Letter 108, Kimberley, 2 September 1878.
89. RES, Trimen Correspondence, Box 17, Letter 76 Highlands, 18 April 1870; Box 18, Letter 83, Highlands, 14 March 1871; (Cossar 1992, 199); RES, Trimen Correspondence, Box 17, Letter 64, Highlands, 29 February 1869; Letter 66, Highlands, 14 June 1869; Letter 75/1,

- Highlands, 10 April 1870; Box 18, Letter 81, Highlands, 11/16 January 1871.
90. (McCracken 2007): 80.
 91. (Cosser 1992, 199). Watercolours, HM, for example SM 6627 (1), SM 6627 (5–12); Am 3176c (2); H 751 (2).
 92. See Sophie Beddoe’s Diary 1862–1864, CL: PR 7182.
 93. See for example (Trimen 1887a, 1:xi, 135, 185, 1887b, 2:128, 137, 154, 161, 216–217, 1889, 3:66, 97, 173, 249, 255, 329, 396, 411, 415–416). For more on her daughter and her niece, Mary Layard Bowker, whom she trained as her successors, see Chap. 7.
 94. (Glen and Germishuizen 2010, 457); http://www.s2a3.org.za/bio/Biograph_final.php?serial=3115, date accessed 22 October 2016; For an undated photograph of White see: History Museum, Albany Museum Complex, donated by relatives, no number.
 95. (Tabler 1960).
 96. See for example (Barber 1880, 218).
 97. (Mitford-Barborton and White 1968, 33).
 98. (Mitford-Barborton 1934, 81).
 99. See for example: Barber “On the Peculiar Colours of Animals in Relation to Habits of Life”; “Locusts and Locust Birds”; “The Dark Races of the Diamond Fields”; “In the Claims”; “Night at Du Toit’s Pan”; “The Commetje Veldt of Kaffraria”.
 100. See for example: Mrs. M. E. Barber, “The Aloe”; Mrs. Barber, “On the Fertilisation and Dissemination of *Duvernoia adhatodooides*”; Mrs. M. E. Barber, “On the Structure and Fertilisation of *Liparis Bowkeri*”.
 101. (Jacobs 2016, 95).
 102. (Layard 1867, 122).
 103. See (Carey 2011).
 104. (Cohen 2011, 34).
 105. (Layland 1869).
 106. RES, Trimen Correspondence, Box 18, Letter 84, Highlands, 13 April 1871. The supposed publications of the article in other European languages could not be traced.
 107. RES, Trimen Correspondence, Box 17, Letter 77, Highlands, 14 May 1870.
 108. RES, Trimen Correspondence, Box 18, Letter 84, Highlands, 13 April 1871.
 109. (Holub 1881, 2:85).
 110. RES, Trimen Correspondence, Box 18, Letter 115, KrUIS fontein, 9 April 1882.
 111. RES, Trimen Correspondence, Box 18, Letter 116, Junction Drift, 12 September 1882.
 112. RES, Trimen Correspondence, Box 18, Letter 118/1, Broxley [(north-east of Port Elizabeth)], 29 May 1883.

113. (Holub 1882, 2).
114. (N.A. 1883, 2).
115. RES, Trimen Correspondence, Box 18, Letter 115, Kruisfontein, 9 April 1882.
116. RES, Trimen Correspondence, Box 18, Letter 115, Kruisfontein, 9 April 1882.
117. She is not mentioned in historical overviews such as: (Gill 1955, 4–5); (Walters 2003, 83–86); (Hockey et al. 2005); (Siegfried 2016).
118. (Bank 2006, 52); (Bennun 2004, 141, 278).
119. For further information see: http://www.s2a3.org.za/bio/Biograph_final.php?serial=1182, date accessed 2 October 2016.
120. See Cornelius Plug, “Glanville, Miss Mary Elizabeth”, http://www.s2a3.org.za/bio/Biograph_final.php?serial=1067, date accessed 29 September 2016.
121. N. Fowler, A History of the Albany Museum, 1855–1958. Manuscript, 1968, HM, No archival number, 54; *The Economist*, 4th June 1888, quoted in: *Ibid.*, 57.
122. For more on Treat, see for example: (Gianquitto 2007, 136–176).
123. “The only women directors” [Ms M. Glanville 1882 to 1888, and Dr. Lita Webley, 1999 to 2008], National Women’s Day at the Albany Museum, 9 August 2009, leaflet, p. 1; Eleanor A. Ormerod, “Injurious farm and fruit insects in South Africa” quoted in: Fowler, A History of the Albany Museum, 58.
124. “The Grahamstown Natural History Society”, *The Graham’s town Journal*, Thursday, 25 February 1886.
125. “The Graham’s town Natural History Society”, *The Graham’s town Journal*, Thursday, 25 February 1886.
126. See (Merchant 2010, 3–30); (Birdsall 2002).
127. See “The Graham’s town Natural History Society”, *The Graham’s town Journal*, 19 July 1886.
128. This history of the development of natural history societies in Grahamstown is based on archival research in the History Museum, Albany Museum Complex, conversations with curator (emeritus) and genealogist Fleur Way-Jones and dates provided on different naturalists on the Southern Africa Association for the Advancement of Science’s database *S₂A₃ Biographical Database of Southern African Science*, which was launched for the association’s centenary in 2002. <http://www.s2a3.org.za/bio/Main.php>, date accessed 26 October 2016.
129. See for example: Royal Gardens, Kew, *Official Guide to the North Gallery*, sixth edition, revised and augmented, (London: His Majesty’s Stationery Office, 1914).
130. In 1884–1885, she also painted the flora of the Seychelles and Chile.

131. (McCracken 2007, 81).
132. (North 1894, 2:247).
133. C. J. Skead, “From Oldenland to Schonland – Two Centuries of Pioneer Plant Hunting in Today’s Albany ‘Hot-Spot’” (Private Publication, 2002), 249; also echoed in private conversation with Tony Dold and botanists at Kew.
134. RES, Trimen Correspondence, Box 17, Letter 53, Highlands, 1 November 1866. In at least one instance, Barber also reported having received paint from Trimen. RES, Trimen Correspondence, Box 17, Letter 62, Highlands, 2 November 1868.
135. See herbarium sheets at TCD.
136. (North 1894, 2:275).
137. (North 1894, 2:279).
138. (North 1894, 2:251).
139. (Endersby 2001).
140. (North 1894, 2:247).
141. Peter Emery, “The Marianne North Gallery at Kew Gardens”, <http://www.cynshamartsgroup.org.uk/The%20Marianne%20North%20Gallery%20at%20Kew%20Gardens.pdf>, date accessed 23 October 2016, slide 51.
142. See for example: (Payne 2011); (Brenan and Moon 1986).
143. The closing of the exhibition is not known, see Director’s Correspondence, Folder on Barber, HM, Grahamstown.
144. See (Bachelard 1938).

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Proving and Circulating the Theory of Natural Selection

Like most of her colleagues, Barber was torn between her religious faith and her scientific rationality. She had grown up in a devout Anglican family, as suggested by the *Books of Common Prayer* held at the Albany History Museum which belonged to numerous members of her family. The church not only provided a much-needed sense of continuity to a migrant community, but also promised emotional and even physical security. Barber and 600 settler women and children had found shelter in the unfinished St John's Anglican Church in Bathurst during the Sixth Cape-Xhosa War, which erupted on 11 December 1834.¹ During the Seventh and Eighth Cape-Xhosa Wars, affected women and children spent much of their time in a camp in Bathurst as well as in St George's church in Grahamstown.² Due to the scarce sources concerning her religious practices and their impact on her scientific work, I cannot go into more detail here. In the turbulent 1840s, Barber had taken up botany and its pursuit had soon become her 'sovereign remedy to drive away care'.³

Over time, her scientific research gave her the security that others sought in their religious faith and community. However, the pursuit of botany and other scientific disciplines was still commonly regarded as a means of religious expression.⁴ Barber, for example, owned a bound edition with issues of the new popular science journal *Recreative Science: A Monthly Record and Remembrance of Intellectual Observation*, which had first been published in August 1859. Its first editorial posited that humans were created by God already 'gifted with powers to perceive and appreciate the wonders

of his skill in the creation that exists around and above' them.⁵ Recreative science, in that sense, was 'the cultivation of [...] physical and mathematical inquiry' for 'amusement as well as instruction'.⁶

In 1858, Charles Darwin was compelled to co-publish his article on natural selection with Alfred Russel Wallace, who had proposed a very similar theory during his stay in the Malay Archipelago.⁷ While many scientists and intellectuals accepted the truth of evolution as a principle in some form or another, natural selection as an explanation for adaptation and speciation was instantly controversial. Darwin defined this as the 'principle, by which each slight variation [of a trait], if useful, is preserved'.⁸ Individuals with useful traits were said to be favoured in the struggle for survival and to produce offspring with similar characteristics. For brevity's sake, Darwin called this principle of preservation 'natural selection'.⁹ Ever since she had read Darwin's *On the Origin of Species* (1859) in 1863, Barber found herself in a state of inner turmoil—torn between praising God's signatures in nature and austere describing her observations of local flora and fauna.¹⁰

BARBER BECOMES A DARWINIST

By the time Darwin's *On the Origin of Species* was published, Barber had been corresponding with the Irish botanist William Henry Harvey for almost twenty years, during which he had been her main scientific correspondent and had had a deep influence on her and her attitude towards natural selection. Little is known about Harvey whose incoming and outgoing letters were destroyed after his cousin had published a bowdlerised memoir of his life in 1869 presumably to conceal his depression.¹¹ Harvey received a copy of *On the Origin of Species* early in 1860. Before having read the entire book, he held a satirical evening lecture in front of the Dublin University Zoological and Botanical Association on 17 February 1860 which his colleagues found 'rather unworthy of the occasion'.¹²

Once Harvey had read Darwin's work, he started accepting aspects of natural selection.¹³ In October 1860, he sent the pamphlet of his short satire, which had been printed for private circulation, to Darwin, expressing his 'repentance'.¹⁴ On 3 November, Harvey informed his colleague, the American botanist Asa Gray, that his reviews of Darwin had persuaded him to become 'a Grayite'. For Harvey, Gray had succeeded remarkably well in combining the not mutually incompatible Christian doctrine and evolutionary theory. Harvey also argued that especially the book's later

chapters on geographical and geological distribution of species had convinced him that Darwinism would likely become fashionable with the next generation of scientists. In the meantime, Harvey declared Darwinism to be merely a plausible foreshadowing of the truth, ‘something like what, in higher things, Confucianism is to Christianity’.¹⁵

Harvey’s correspondence with Hooker, Darwin and, above all, Gray convinced him to believe in a process of post-creation change by gradual evolution.¹⁶ Harvey, the born Quaker, had converted to the Church of Ireland, whose more moderate views on the matter enabled him to change his attitude. In May 1861, he published a review in the *Dublin Hospital Gazette*, where he used biblical quotations as evidence for the general idea of evolution.¹⁷ Darwin was amused, as he had never expected ‘a helping hand from the Old Testament!’¹⁸ By the time Harvey died, in 1866, he had provided Darwin with information on the adaptation of Cape climbing plants to their habitat and had come to accept natural evolution supervised by the Creator. Harvey had also raised Barber’s interest in the new theory in which she deeply immersed herself since 1863.¹⁹

Barber’s attitude towards evolution followed a similar trajectory, in which she developed a pragmatic understanding of the place of Christianity in this defining scientific debate of the day. Shortly after Harvey’s death from tuberculosis, Barber contacted Joseph Hooker, Darwin’s friend and colleague, explaining her approach to botany and the ease with which she accepted the assumptions of both science and religion:

I do not know whether you give preference to curious or beautiful plants for publication, Dr Harvey and myself would mostly “go in” for the marvelous [sic] and the strange, either in appearance or in habits, and our favorite [sic] motto was “Oh Lord how wondrous are thy works &c.”²⁰

Barber came to combine her natural theology with a strong conviction in natural selection. At the time, she was heavily engaged in her work for Layard on local birds. He was a Darwinist, and her correspondence with him may have further convinced her. At the same time, she believed that God held nature ‘in perfect order’ and ‘in harmony and love’,²¹ something which she sought to prove in her local environment. In 1867, she conceded for the first time in a publication that she was ‘a believer’ in ‘the laws of natural selection’.²²

In her travel journal (1879), she praised the infinity of wonders to be found in ‘the Book of Nature’ which could not be grasped by the human

mind and attributed the existence of species which had successfully adapted to the varying conditions of their habitats to ‘the hand of Providence’.²³ In contrast, she bemoaned the divided churches, the empty church buildings and the loss of Christian values in the colony that rendered its residents unrighteous, greedy for wealth and hungry for power. She thus became reluctant to attend Anglican prayers and services.²⁴ In the few instances that she mentioned going to church, she had done so while visiting relatives whom she had accompanied to a service.²⁵

Alan Cohen has described Barber as ‘almost agnostic’,²⁶ similar to Darwin who privately pondered the insoluble ‘mystery of the beginning of all things’ and had to content himself with ‘remain[ing] an Agnostic’,²⁷ a term coined by Thomas Huxley in 1869 to describe an “honest doubter”, someone whose private struggle to hope and believe what he could was no longer any threat to society’s stability’.²⁸

The Victorian ‘crisis of faith’ had begun as early as the 1830s, when Charles Lyell’s geological work proved the vastness of time.²⁹ Many churchmen who were collecting natural history specimens in their spare time greeted Darwin’s theory with enthusiasm.³⁰ One of these was Frederick Temple, who would later become Archbishop of Canterbury. He claimed at a meeting of the British Association for the Advancement of Science on 1 July 1860, for example, that God disseminated his work through the effects of slow natural causes and argued that the ‘doctrine of Evolution is in no sense whatever antagonistic to the teachings of Religion’.³¹ At the same time, there were doubters who were concerned with whether the theory could explain the range of characteristics observed among all the living organisms and who did also not believe that evolution could work without the guiding hand of a Creator. Yet, several influential public figures in Britain were also crucial in making room for the acceptance of the theory in the public discourse. Novelist Charles Kingsley, for instance, was convinced that God had programmed natural selection to allow the world to regulate itself.³²

Darwin himself remained in constant contact with his readers by letter and throughout his lifetime published six editions of *On the Origin of Species*, indicating that the acceptance of evolutionary theory was a gradual process.³³ By the late 1860s, the theory of evolution by natural selection was widely accepted in the English-speaking world and beyond.

Barber was one of the first naturalists at the Cape to become convinced by the theory of evolution by natural selection, but increasingly found herself in good company.³⁴ In 1868, the editor of the *Cape Monthly*

Magazine (*CMM*), Roderick Noble, a professor of physical science and English at the South African College, gave a speech at the South African Library in which he acknowledged the effects of evolution, but underlined that these did not undermine scriptural truths. He believed that evolution served to reinforce humans' view of the omnipotence of God.³⁵

Historian of South Africa Saul Dubow and geographer and intellectual historian David N. Livingstone have argued that Darwinian ideas were fiercely debated at the Cape in the late 1860s and 1870s, particularly after the publication of Darwin's *The Descent of Man and Selection in Relation to Sex* (1871), which applied the theory of evolution by natural selection to human beings. By the early 1870s, Darwin's theories were thus fairly widely discussed among intellectuals in Cape Town.³⁶ Outright rejection was relatively rare, as the discussion and some attempts at amelioration of the main thrusts of some of his arguments in the *Cape Monthly Magazine* (*CMM*) show.³⁷

The *CMM* was a journal established in 1857 to contribute to the intellectual development of the colony.³⁸ From 1856 to 1858, there was also the Grahamstown-based *Eastern Province Monthly Magazine*, which existed in friendly rivalry to the *CMM*, mirroring the political tensions between the eastern and western parts of the Colony. Similar to the Whig *Edinburgh Review* of the early nineteenth century, the *CMM* sought to foster a moral and commercial community in which the rising middle-class intelligentsia would have a voice. Unlike imported media, the *CMM* also provided a vent for Cape public opinion. The journal combined the genre of the British scientific quarterly with that of popular magazines by including travel reports, poems and fiction aimed at both informing and entertaining its readers. This made it an important medium for the circulation of ideas and, at a time when authors were still unspecialised in disciplinary terms, this format suited their purposes well.³⁹

Evolution was a hotly debated topic in the *CMM*. There are many ways to illustrate this, but perhaps the strongest index is the publication of extracts from a lecture given by governor Henry Barkly at the South African Library in May 1871. In it, he exempted humans from the evolutionary process due to the absence of transitional forms. Yet, he was convinced that other genera and species were formed through evolution. He thus fused creationist with evolutionary mechanisms and professed to have 'the highest respect' for Darwin.⁴⁰ Barber was very interested in the reception of Darwin's theory and most likely followed the discussion in the *CMM*.

She was also interested in how Darwin was received in Europe, as she sought to remain immersed and an active participant in the debate. For example, she asked Hooker whether he could send her a copy of John Tyndall's address to the British Association Assembly at Belfast in 1874.⁴¹ She was keen on reading it and had had 'no chance of doing so in these outlandish parts'.⁴² In his address, the Anglo-Irish physicist argues that, according to ancient Greek atomism, material atoms could explain the world. He thereby takes a stance in a matter that scientists had hitherto left to theologians. For this theory, he was branded a 'material atheist', which was of great interest to Barber who was sharpening her line of argumentation.⁴³

Besides following scientists' debates, her embracing transcendentalism by the late 1870s helped her combine her belief in the 'over-soul' (God) which united all people as one being with evolutionary theory. The philosophical movement originated in the eastern US in the late 1820s and 1830s. Its most prominent representative was Ralph Waldo Emerson, the American essayist, lecturer, poet and ex-pastor, who was opposed to the contemporary general state of spirituality and intellectualism. According to this philosophy, nature and humans are inherently good, and the individual is at its best when independent and self-reliant.⁴⁴ Institutions and society, Emerson and Barber believed, corrupted the individual and that true community could only come into existence when real individuals met. Barber believed that every living creature bore the imprint of a higher power and that all objects in nature shared a special connection with each other. All living creatures were responsible for their own happiness, and it was their own fault if they were not happy, 'for the blue sky bends over all'.⁴⁵ As she could no longer find comfort in her religious community, she praised nature and was convinced that:

[...] if it were possible in this "work-a-day world" for weak human beings to cast off entirely the worry of their daily lives, and to offer up their souls in true and earnest prayer, it would be here in the forest, in this solitary church, "far from the madding crowd", surrounded by the beauties of nature, the work of God's hands in the temple, of the woods.

"If thou art worn and hard beset
With sorrows that thou would'st forget,
Go to the woods and hills – no tears
Dim the sweet face that Nature wears."⁴⁶

Literary works heavily influenced Barber's views of nature, as her reference to Thomas Hardy's novel *Far from the Madding Crowd* (1874), set in the fictional county of Wessex in rural southwest England, indicates. And the last four lines confirm her interest in transcendentalist literature: they are the last stanza of Henry Wadsworth Longfellow's poem *Sunrise on the Hills* (1825).⁴⁷ In the poem, the narrator visits the hills, describes the landscape and recommends that readers should seek comfort in nature when their lives are burdened, which became one of Barber's guiding principles in life.

Barber found confirmation for her attitude towards religion and nature in religious leaders and conservationists from both the Cape and the US. In her travel account, she mentioned that she and the first Bishop of Natal from the Church of England, John William Colenso, whom she had met in Pietermaritzburg, did not 'belong to the wrangling communities' and preferred worshipping in the forest and praising the Creator's 'marvellous works, where all is peace and harmony'.⁴⁸ John Muir (1838–1914), the Scottish-American naturalist and early advocate of wilderness preservation in the US, like Barber, valued nature as a source of recreation for the human spirit. Barber advocated for botanical gardens in urban spaces and was part of the Kimberley Botanical Gardens' committee in 1877.⁴⁹ She particularly promoted the planting of indigenous trees in botanical gardens, such as in Durban, where she saw trees that were not to be found in other gardens where 'exotics predominate to the exclusion of our own lovely species'.⁵⁰ Similarly, Muir later lobbied for the introduction of national parks, which he in 1912 described as 'Nature's cathedrals, where all may gain inspiration and strength and get nearer to God'.⁵¹ This statement is very similar to Barber's own views. She employed 'wilderness' as a concept to describe idealised pure nature, a place of natural balance and order, serving as a backdrop for human action.⁵²

During the 1870s, Barber developed what was later succinctly described and propagated by South African author Olive Schreiner (1855–1920) as pagan animism, namely the strong belief in the interconnectedness of human, animal, plant and spiritual worlds.⁵³ Barber and Schreiner do not seem to have known or corresponded with each other, despite their physical proximity at the Cape and similarity in worldviews.⁵⁴ Yet, Schreiner seems to have further developed Barber's view in many respects, as will be shown in different parts of this chapter. In 1884, Schreiner admired and associated herself with the views of Emerson and declared herself in complete agreement with his philosophy.⁵⁵ Through this approach, she sought

to undermine hierarchical thinking by advocating for the unification of the natural, spiritual and human realms within a conception of nature as a living being in its own right.⁵⁶ Barber did not just support the theory of evolution by natural selection but actively looked for evidence in her surroundings.

BARBER'S CORROBORATIVE EVIDENCE FOR NATURAL SELECTION

In 1864, Barber became fascinated with the pollination of flowers by insects.⁵⁷ Her research on the topic over the following years resulted in the publication of two of her articles in *The Journal of the Linnean Society (Botany)* in 1869 and 1871.⁵⁸ Darwin had already supported the publication of her previous article on the fertilisation of another orchid, *Liparis bowkeri*, which was read to the Linnean Society in London on 6 February 1868.⁵⁹ Barber made an effort to market her knowledge on cases that confirmed natural selection. She wrote to Hooker that she had numerous interesting observations to make which 'point towards Mr Darwin's theory as to the true one (the natural system I might say)'.⁶⁰ She offered to provide Darwin and Hooker with much information on the subject 'relative to things of this country', which made her a valuable Cape co-worker.

Darwin also learned about Barber's interesting observations from Trimen. Profoundly influenced by *On the Origin of Species*, Trimen had once seen Darwin in the Insect Room at the British Museum but had lacked the courage to approach him.⁶¹ However, when Trimen realised on reading Darwin's *On the Various Contrivances by which British and Foreign Orchids Are Fertilised by Insects* (1862) that they were both interested in the fertilisation of Cape orchids, he introduced himself towards the end of 1862.⁶² At the time, Trimen was working on what was to become his first scientific article on the functional morphology of the orchid *Disa grandiflora* (now *Disa uniflora*). Barber's letters provided Trimen with important information on the subject. Darwin published Trimen's first article in 1863–1864.⁶³ From the beginning, Barber was vital for Trimen's career in the making.

In 1863, Trimen informed Darwin of Barber's observations on moths that had destroyed the previous season's peach harvest in Albany,⁶⁴ a problem both men had been pondering. Trimen told Darwin that there was supposedly a moth in Grahamstown, which he identified as *Achea Chamæleon Guén*, a quadrifid noctua, that could perforate fruit with its

proboscis.⁶⁵ While Trimen himself did not hold moths capable of penetrating such strong membranes, Darwin believed that nocturnal moths pollinated orchids when puncturing their nectaries to obtain nectar but had no evidence in support of this theory. Barber's letters convinced doubtful entomologists that this was indeed possible. Interestingly, Barber provided Darwin with this evidence without having fully read his *Fertilisation of Orchids*, from which only the extracts which appeared in the *Gardeners' Chronicle* had been accessible to her.⁶⁶ Barber became progressively more convinced of natural selection.

The advocates of the theory considered mimicry—namely, the similarity of one species' appearance to that of another with the corresponding benefit of protection—to be one of the first important proofs of Darwin's explanation of how some species evolved at a faster pace than others. In 1861, the theory that natural selection altered the appearance of butterfly species to resemble that of other species, even if unrelated, had piqued not only Barber's interest but also that of the wider scientific community. This process, a form of mimicry, by which harmless butterfly species varied their own appearance according to the effects of environmental influences, applying the warning signals of a harmful species when a predator was near, became known as Batesian mimicry, named after the English naturalist Henry Walter Bates and his work on butterflies in the Brazilian rainforests.⁶⁷

The first article which Barber wrote on camouflage was an 1868 paper on the stone grasshopper found in the Grahamstown area. This she sent to Trimen, who criticised her for lumping together different grasshopper species and thus did not support its publication.⁶⁸ However, Hooker read the article to the Linnean Society in London.⁶⁹ One reason for the latter's enthusiasm was that her article had confirmed his example of lizard camouflage from his *Himalayan Journals* (1854).⁷⁰ Darwin, meanwhile, regretted that Barber had not enclosed pinned specimens of the grasshopper on differently coloured surfaces which would have confirmed her observation. Like Trimen, he was not convinced by Barber's argument and likewise did not support the paper's publication.⁷¹

Barber used many passages from the Bible which was unusual for scientific publications at the time. She, for instance, described the grasshopper as follows:

the "lines have fallen to him in pleasant places" he is a happy little creature living in ease and plenty, basking the live long day in the sunshine, and

chirping his merry song, and dun though his coat may be, he can nevertheless boast of rainbow-colored hues, [...] and to the wind he is equally indifferent for like Friar John in *Marmion* – “But little cares he or kens which way it blows!”⁷²

The first quote is a passage from Psalm 16:6, “The lines are fallen unto me in pleasant places; yea, I have a goodly heritage.”⁷³ This illustrates the impact of Anglicanism on her scientific descriptions. The second is from Scottish writer Sir Walter Scott’s poem *Marmion: A Tale of Flodden Field* (1808) and underscores her deep knowledge of literature.⁷⁴

Had Barber attached a watercolour illustrating the grasshopper’s camouflage and offered fewer supporting quotations from the Bible and other literary works, she may have considerably strengthened her argument. While quoting from poetry or prose and discussing novels was common in scientific correspondence,⁷⁵ it was unusual in short scientific papers. Yet, she had hitherto enjoyed little exposure to their conventions, as her correspondence was her main source of information.⁷⁶ Barber later sent specimens of the stone grasshopper from the Grahamstown area to John Obadiah Westwood, professor of zoology at Oxford, who had promised to classify these for her and who she hoped would also print her paper.⁷⁷ However, Barber’s article remained unpublished. The draft paper and its story of non-publication show how Barber’s scholarly possibilities differed from those of her European counterparts and how these disparities are reflected in her writing.

BUTTERFLY MIMICRY AND THE BIRTH OF A NEW RESEARCH FIELD

Butterfly mimicry occupied the thoughts of entomologists such as Barber and Trimen. The latter could not travel between 1862 and 1866 as the cataloguing of butterflies in the South African Museum occupied all his time, which made Barber’s fieldwork and correspondence on the subject all the more important to him. Their correspondence between May 1863 and December 1866 primarily focussed on individual species of moths and butterflies that Barber observed, collected, prepared in her garden or while travelling and sent to Trimen.⁷⁸

In 1866, they came across a curious case that would occupy them in the years to come. After capturing his first *Papilio cenea* soon after his arrival at the Cape in 1858, Trimen had long pondered over its relationship to

Papilio merope. Since 1864, Barber had also been puzzled by the absence of *merope* females and male *ceneas*.⁷⁹ By 1866, she questioned whether male *cenea* existed at all and, after checking all available collections at the Cape, Trimen shared her doubts.⁸⁰ After reading Bates's article on the Amazonian *Heliconidae*,⁸¹ he began to research the problem intensively. He soon suspected that species previously regarded as separate, such as *Papilio cenea*, *Papilio dionysos*, *Papilio hippocoon* and *Papilio trophonius*, were four forms of the female of one species. He seems to have been unaware of Alfred Russel Wallace's 1865 article on 120 species of *Papilionidae* butterflies from the Malay Archipelago on the basis of which Wallace had argued that only the females were mimetic.⁸² Barber remained confused about why she was still unable to find a female *merope* in 1866,⁸³ while Trimen failed to find either female *Papilio merope* or male *Papilio cenea* in Natal in 1867 or in British collections and thus became more and more convinced of his own theory.⁸⁴ In December 1867, he informed the Entomological Society in London of his ideas and promised that he would provide more evidence at a later stage.

Their research was soon communicated to their colleagues through Trimen's publications. On 5 March 1868, Trimen presented his paper '*On some Remarkable Mimetic Analogies among African Butterflies*' to the Linnean Society in London and saw its publication in the society's transactions in 1869.⁸⁵ In this article, Trimen showed how *Papilio cenea* imitated *Danais echeria*, *Papilio hippocoon* and *Papilio dionysos* *Danais niavius*⁸⁶; how *Papilio trophonius* copied *Danais chrysippus*; and that the four *Papilionidae* previously regarded as separate species were all female forms of *Papilio merope*.

Trimen's paper was not well-received by entomologists such as William Chapman Hewitson (1806–1878), who had one of the largest contemporary collections of butterflies in England, and John Obadiah Westwood, who was familiar with Wallace's earlier report on different female forms of the Indian butterfly *Papilio pammon*.⁸⁷ Hewitson agreed that *hippocoon* and *dionysos* were one species, but would not accept that they might both be females of *merope*. In Madagascar, he had seen females that resembled the male *merope* and commented that he was incapable of imagining that mainland males of the same species indulged in a 'harem of females' all differing as widely in appearance from each other as from other species in the genus. While he claimed to know of examples that had recently become known, he did not believe in differences between the sexes of one species that were as significant as between species in the genus.⁸⁸ Equally shocking

was the power of females to dramatically change their appearance. In Trimen's obituary in 1916, the paper was described 'a classic' which had initially been 'received with little less than scorn by the then opponents of the Darwinian theory, and certainly with more opposition than were those by Bates and by Wallace, [...]. We in these days cannot understand the dislike and even bitterness of that controversy [...]'.⁸⁹

In June 1868, Barber suggested to Trimen that the only definitive proof with which they could provide their critics would come through the raising of adult butterflies from *Papilio cenea* eggs.⁹⁰ She or Trimen may, by now, have read Wallace's aforementioned article in which he had focussed on how butterfly eggs turned into butterflies with different appearances. In any case, Trimen asked her to do so, a task to which Barber agreed if she could find any.⁹¹ She was unsuccessful in this regard in the years 1869 and 1870,⁹² but continued to describe *merope* and emphasise that natural selection allowed it to blend into its surroundings, thus providing it with an extra means of protection.

With Barber's observations at hand,⁹³ Trimen addressed other entomologists such as the Eastern Cape-based farmer and naturalist James Philip Mansel Weale (1838–after 1911). Weale was an old school friend of the Trimen brothers. He studied law at Oxford, then took up farming in South Africa from the mid-1860s until about 1890, when he returned to England. His special interest was the pollination of flowers by insects. He corresponded with Darwin, who presented several papers to the Linnean Society for him. Weale distributed questionnaires in the Cape Colony for Darwin's research on *The Expression of the Emotions in Man and Animals* in 1871.⁹⁴ He reported having six *cenea-merope* larvae in 1873; from the first four of these pupae, two specimens of *merope*, a *hippocoon* and a *cenea*, emerged. Two were sent to Trimen, one of which died and out of the other emerged a *merope*. A later brood resulted in a *trophonius*.⁹⁵ Trimen and Weale thus observed four forms of the female from a single species, and Trimen introduced Barber to his theory that *cenea*, *merope*, *dionysos*, *hippocoon* and *trophonius* were not distinct species of *Papilio*, but a few of over thirty different forms of the African mocker swallowtail now known as *Papilio dardannus*. She immediately agreed with Trimen, who in 1874 published his own paper on 'Observations on the Case of *Papilio merope*, with an Account of the various known Forms of that Butterfly' in the *Transactions of the Entomological Society*, in which he described the female *cenea* as a hybrid between *Merope* and *Danaïs (Amauris) Echeria*.⁹⁶

In 1881, Barber's brother James Henry Bowker also observed the mating of a *Papilio merope* and a *Papilio cenea* and therewith verified one of the most fascinating cases of Batesian mimicry.⁹⁷ These, it was confirmed, were two of the over thirty different forms of the African mocker swallowtail now known as *Papilio dardanus*.

Barber continued to observe equivalent cases in other animals. In 1872, she reported witnessing that the Klep salamander in Kimberley, like the chameleon and the stone grasshopper of Grahamstown, 'possessed the power of altering its colours' and even doing so 'far more rapidly than the chameleon'. Before experimenting by putting these animals in several different places, she had believed that 'colours were stationary'.⁹⁸

Trimen had seemingly been unaware of her experiments with rearing *Papilio nireus*. Barber had asked her brother James Henry to inform him during a visit to Cape Town, but he forgot.⁹⁹ In June 1874, she sent her paper to Hooker¹⁰⁰ who enthusiastically forwarded it to Darwin a month later, summarising Barber's 'clever suggestions'. This indicates that Barber aimed for British approval and first addressed scientists in the metropole, which changed with the foundation of the South African Philosophical Society, the equivalent to the Royal Society of London, in 1878.

Hooker listed a number of examples of similar cases he had witnessed but had never been quite convinced until reading Barber's paper.¹⁰¹ In her paper, Barber had reported on her experiments with larvae and pupae that adapted their colour depending on their surroundings. For instance, they turned into dark green matching the colour of the orange tree, pale yellow green like the bottle-brush, yellow like the wooden frame of the cases in which they were reared and on which she placed them.¹⁰² In nature, the pupa thus resembled the colour of the leaves of the plants it fed upon, thereby ensuring its protection. She aimed to prove these observations with her drawings. She had learned from the rejection of her grasshopper paper (1868) and took Darwin's advice of including a coloured illustration into account.¹⁰³ The result was her most well-known article 'Notes on the Peculiar Habit and Changes which Take Place in the Larva and Pupa of *Papilio nireus*' published in the *Transactions* of the Royal Entomological Society of London in 1874.¹⁰⁴

While Darwin did not find the publication of a coloured plate of the fertilisation of *Duvernoia adhatodoides* necessary,¹⁰⁵ he supported the publication of this plate to convince the article's readers of this case of mimicry. As Darwin no longer travelled abroad, he required corroborative evidence from all over the world to convince as many people as possible of

his theory of evolution by natural selection and thus found Barber's paper 'very curious'. He soon agreed that it should be published and asked Hooker to visit him so that they could discuss to which publication it should be sent.¹⁰⁶ Entomologist and evolutionary biologist Henry Walter Bates also supported the paper's publication due to the 'more striking than usual facts' which it contained.¹⁰⁷ The article was then presented to the Entomological Society of London and immediately published in its *Transactions*.¹⁰⁸ In March 1875, Darwin also sent the paper via government dispatch to the governor of the Cape Colony, Sir Henry Barkly, who he thought would also be interested.¹⁰⁹

For Darwin, Barber's paper was thus of great importance and fully worthy of his endorsement. Barber's mimicry research on butterflies added to Darwin's evidence on the topic from the Americas and Asia. In South Africa, her observations and analysis were crucial in initiating and establishing mimicry research as a field of its own. It has been argued that Trimen was the first to regard mimicry as a field of research in its own right. Trimen's address on 'Mimicry' in 1898 was his most valuable contribution on the subject, and greatly enhanced by his own observations from his long period of residence in South Africa.¹¹⁰ Barber was aware of Darwin's dependence on informants such as herself. Indeed, she wrote to Hooker with the message that Darwin should 'command' her observations from the Cape if they were of use to him.¹¹¹ By thus urging a response from Darwin, Barber attempted to make use of his dependence for her own scientific and career purposes.

SEXUAL SELECTION AND WOMEN'S POSITION IN SOCIETY

As a mechanism of natural selection, Darwin's theory of sexual selection attracted much attention. Unpublished sketches show that Darwin had been pondering this notion since at least 1842.¹¹² He alluded to it in *Origin of Species*, where he devoted two pages to his claim that sexual selection accounted for inter-gender differences in colour, pattern or structure in species in which males and females otherwise exhibited the same habits. Darwin argued that sexual selection 'depends, not on a struggle for existence, but on a struggle between the males for possession of the females; the result is not death to the unsuccessful competitor, but few or no offspring. Sexual selection is, therefore, less rigorous than natural selection'.¹¹³ He also noted that female birds, for example, appeared to select what they regarded as the most beautiful or melodious mates.¹¹⁴ In

the 1860s, Darwin continued to puzzle over the persistence of maladaptive traits such as the bright plumage and long tail of the peacock, which, by providing no survival advantage, could not be explained by natural selection alone.

At the same time, a number of novels were published that debated sexual selection, as well as rituals of mating and courtship among humans, thereby seeking to combine the traditional courtship plot, at the time in a state of flux, with an interpretation of meeting and mating that became increasingly based on biological models.¹¹⁵ Literary scholars have shown that these novels, mostly by women authors, influenced Darwin and the way in which he developed and shaped his theories of sexual selection.¹¹⁶ In *The Descent of Man, and Selection in Relation to Sex* (1871), Darwin argued that sexual selection depended on the advantage of individuals over others of the same sex to attract the other for reproduction.¹¹⁷ There were thus two basic types of sexual selection: intrasexual selection or male-on-male competition for mates which could result in the death or ostracising of defeated rivals while females looked on passively; and intersexual selection, otherwise typically known as female choice, in which males (in most cases) attempted to charm the opposite sex (usually females). Here, females were no longer passive, but actively selected the partners of their preference.¹¹⁸

The largest focus of his explanation of sexual selection in *The Descent* was on birds, even though, according to current ornithologists, Darwin was ‘not much of an ornithologist’.¹¹⁹ Darwin’s discussion of birds in *The Descent* focused on other people’s observations, primarily on birds in North America and Australia. Only 68 pages of *The Descent* were on humans, while 200 were on birds.¹²⁰ Moreover, almost a third of the seventy-four wood engravings in the first edition were of birds, far exceeding any other subject of illustrations in the book.¹²¹ Darwin explained this emphasis with the argument that birds were the most aesthetic animals after humans and possessed secondary sexual characteristics which were more varied and conspicuous than in any other class of animals.¹²² Barber explained human interest in birds in the following way: ‘For we all like the birds, they awake us with their sweet voices in the early morning and in the “gloaming” their songs are still with us.’¹²³ Birds have also been described as ‘large, sexually reproducing, diploid, warm-blooded vertebrate animals, with separate sexes, color vision, parental care, internal fertilization, and relatively large brains. These traits make them more like us than the majority of other living things’.¹²⁴ These aspects might also have influenced his

choice of birds. For Darwin, when humans observed male birds displaying their colourful plumage to females, they would thus recognise and find it 'impossible to doubt that the females admire the beauty of their male partners',¹²⁵ the very point which he sought to emphasise in his theory.

At the Cape, both natural and sexual selection were also often discussed through the prism of birds. Ornithologist, geologist, scientific traveller and medical practitioner Hugh Exton, for instance, adopted the theory of natural selection in 1871 during his research on whether the nest-building capabilities of birds were a natural instinct or an acquired adaptive trait.¹²⁶ A few years later, he favourably reviewed Layard's *Birds of South Africa* which had followed Wallace's system of classification developed in *Contributions to the Theory of Natural Selection*. This system took each species' order and its modification according to changes in its surroundings into account.¹²⁷ Among other references to Darwin, Hexton argued for the adaptive role of mimicry in the colouration of cuckoo eggs.

British and Cape intellectuals generally accepted *The Descent* more favourably than *Origin of Species*. Shortly after the former's publication, Hooker informed Darwin that while dining out three days in a week he noticed that the idea of evolution was accepted and that *The Descent* was calmly discussed wherever he went.¹²⁸ An anonymous review in the *CMM* in 1871, for example, reflected on the role sexual selection played in racial differentiation. The reviewer argued that the application of Darwinism to the moral and intellectual spheres was paramount and quoted Catholic theologian Cardinal John Henry Newman who insisted that *The Descent* was 'pregnant with warning to those who would hastily condemn views of the mental and moral status of animals such as Mr Darwin so ably suggests'. Newman had become known nationally by the mid-1830s and is remembered as an influential figure in English religious history in the nineteenth century. Despite Newham often being seen as a strict opponent of evolution, he considered it to be compatible with Christianity.¹²⁹ S/he concluded that *The Descent* would meet with severe and hostile criticism due to its speculative nature, but should not be ignored as it was the foundation theory from which the development of organic life could be explained.¹³⁰ This review encapsulates the contemporary debate at the Cape, to which Barber, as a frequent contributor to the *CMM*, added.

While the theory of sexual selection initially seemed an unlikely assertion to Barber, she started providing relevant cases to naturalists in the mid-1860s. Her observations of birds she sent to Layard. As their correspondence did not survive and her quotations in *Birds of South Africa*

(1867) are mostly undated, it is impossible to know when exactly she wrote these statements to him. Barber argued:

I have *never seen a wild one* [guinea fowl] with white feathers in its wings. It is contrary to the laws of natural selection [...] for nature to produce any form that is *useless* or *hurtful* to her, such as white wing-feathers would be to wild guinea-fowls, for they would at once point out to wild-cats, owls, hawks, and sports-men, the direction in which the bird had flown or ran (for in crossing all rough places they open their wings while running); and I am inclined to think that if they do occur in any part of the colony with white wings, it is when they have accidentally been crossed with the tame, white-breasted guinea-fowl that is so common (especially amongst the Dutch colonists) nearly all over the colony.¹³¹

Barber thus initially provided an alternative explanation: she did not explain the occurrence of the white wing-feathers in guinea fowls with reference to sexual selection, but posited a hybridisation between wild and domesticated birds. She was, however, certainly aware of theories of sexual selection at the time, whether through reading the above-mentioned novels, from the public debate or from her own reading of Darwin's and Spencer's works. In another letter, presumably written after discussing the guinea fowl, Barber, now convinced in Darwin's explanation of sexual selection, informed Layard that she had observed a relevant case of female selection when the male Cape rock-thrush sung his rather lively song from a conspicuous position from where he could be heard and seen best and could thus quickly be chosen by a female.¹³² These two examples illustrate how Barber, initially sceptical of sexual selection, came to adopt the concept and found evidence for it in her immediate environment. She then promised Trimen in 1868 that she would report on any examples of sexual selection which she may come across.¹³³

The Descent was deemed 'a literary sensation', 'must-read' and 'as exciting as any novel'.¹³⁴ It was therefore widely read and discussed. Darwin was aware of his theory's social implications and deliberately included (at times multivalent) passages for his conservative, misogynist and feminist readers. I thereby argue that his readers were not just (deliberately or not) misreading him, but that in his very project Darwin set up arguments for both opinion leaders.

A number of scholars have described Darwinian evolutionary science as 'intrinsically anti-feminist'.¹³⁵ In his remaining texts, numerous passages can be found that suggest this view. In his correspondence, for instance,

there is a striking letter that he wrote in reply to Caroline Augusta Kennard (1827–1907), an American campaigner for women’s education and member of the New England Woman’s Club, the first woman’s club in the US, in 1882. In it, Darwin showed himself convinced that women were ‘inferior intellectually’ to men and that ‘there seems [...] to be a great difficulty from the laws of inheritance, [...] in their becoming the intellectual equals of man’. In the same letter, he argued that women could be educated but ‘that the early education of our children, not to mention the happiness of our homes, would [...] greatly suffer’.¹³⁶ Readers learned that Darwin saw ‘greater intellectual vigour and power of invention in man’ as ‘the most able men will have succeeded best in defending and providing for themselves, their wives and offspring’.¹³⁷ In contrast, Darwin maintained, with their maternal instincts, ‘greater tenderness and less selfishness’, women differentiated themselves from men.¹³⁸

Many men scientists such as Francis Galton, Darwin’s cousin and British anthropologist known for his studies in eugenics, and the Swiss botanist Alphonse de Candolle expressed their misogynist sentiments and used Darwin passages as confirmations.¹³⁹ The theory of natural selection and its assumptions of biologically conditioned gender differences in capacity and disposition could thus replace the theological justification for patriarchy derived from biblical stories such as that of the mythical Eve. The rib story in Genesis 2:20–22 and God’s thundering to Eve (‘I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children; and thy desire shall be thy husband, and he shall rule over thee’ (Genesis 3:16)) had always been preferred by misogynist and conservative men to the first chapter of Genesis, the simultaneous creation of men and women (Genesis 1:27) which was often quoted by feminists in their counter-arguments.¹⁴⁰ Thus, while the explanation for their inferiority shifted, women continued to be subjugated and deemed less worthy individuals than men.

Yet, women realised that the theory’s focus on females’ position in nature, for the first time in biological theorising, offered them a unique opportunity to discuss women’s position in society. One of them was Barber who in 1868 discussed the impact sexual selection had on society with Trimen, who was of the opinion ‘that Darwin has found out that the whole sexual system in nature requires setting to rights!’¹⁴¹ She welcomed Trimen’s attitude that—according to what is known about his opinion on his women colleagues and how he supported Barber—cannot be taken as sarcastic. He may have rather meant that Darwin brought clarity to how the sexual system in nature works rather than changing gender relations,

as Barber wanted to understand his statement. While it is not clear how Barber came to embrace sexual selection in her observations on birds, it seems highly likely that she realised the theory's potential for advocating for women's rights and gender equality.

Barber's desire to strengthen women's position in society emerged in the 1860s. The Cape Colony's 1853 constitution had made the colony one of the most egalitarian in the British Empire. It gave any 'male person' over the age of twenty-one, regardless of race but with property worth twenty-five pounds, the right to vote and be elected as members of the House of Assembly.¹⁴² Women had no right to vote or hold a political position. As in The Great Reform Act (1832) in Britain, women were explicitly excluded by substituting the general word 'man' with 'male person', which happened for the first time in British and South African history. The Great Reform Act had allowed men who owned or rented property with an annual worth of ten pounds or more to vote. About half of the middle class could subsequently vote, which in total represented about 20% of all men in the country. The Second Reform Act (1867) later gave workingmen the vote, but not women.¹⁴³ Andrew Bank has shown how racial attitudes at the Cape hardened after constitutional emancipation in 1853, which in turn resulted in the fostering of a broad colonial identity based on white alliance.¹⁴⁴ Kirsten McKenzie's research has elucidated how the constitution disempowered women, as ideas of British domesticity were transferred to the Cape and a new gender order was introduced at the same time that set out distinctive roles for middle-class men and women in the political and domestic spheres, respectively.¹⁴⁵ Women in America were to find themselves in a similar situation after the Fourteenth (1866) and Fifteenth Amendments (1870), which granted emancipated men slaves the right to vote but did not do the same for women in general, many of whom subsequently sought to extract from evolutionary theory that which would serve their feminist cause.¹⁴⁶

Barber could not engage in politics and must have felt constrained in the 1860s, when she was also confronted with the presence of her husband and brothers for the longest continuous period of her adult life, in contrast to before when they had spent much time away from home, actively engaged in, among other endeavours, politics, agricultural matters and the Cape-Xhosa Wars. Through such experiences, Barber's perception of suffering under contemporary gender norms increased, which in turn encouraged her to turn to a theory which included elements that she could use to strengthen the position of women in society.

In contrast, proponents of natural selection became fierce opponents of female self-determination among humans. Darwin noted differences between female and male ‘secondary sexual characters’ that consisted of males’ ‘organs of locomotion or prehension’ and females’ ‘organs of nourishment or protection for the young’.¹⁴⁷ This suggests that Darwin saw females as different due to their reproductive capacity that forced them to be ‘passive materialists’ to ensure their survival.¹⁴⁸ With his concept of sexual selection, he stressed the difference between the sexes, but did not place females lower than males. Darwin’s colleagues, such as the ornithologist John Gould, as will be seen in Chap. 8, or Alfred Russel Wallace, who simultaneously developed a theory similar to Darwin’s natural selection, were more conservative with regard to females’ position in nature and women’s in society.¹⁴⁹ Darwin argued that males evolved adaptive weapons for attack and self-defence in male-on-male intra-species combat, while females developed an aesthetic sense for choosing a male.¹⁵⁰

Wallace explained the adaptive principle in males with natural selection, opposed the idea of female choice and became the most outspoken opponent of the latter. He proposed what English Darwinian philosopher Helena Cronin calls the “‘good sense’ female choice’ view that ‘females choose their mates for vigor or health, for territory size or nest quality – the sort of sensible characteristics that natural selection would be choosing anyway’.¹⁵¹ In 1877, Wallace published his article ‘On the Colours of Animals and Plants’ in *Macmillan’s Magazine*,¹⁵² rejecting without reservation the possibility of Darwinian female choice, which he deemed both unnecessary and an anthropomorphic notion. This attitude was partly a result of his spiritualist convictions, but also derived from his conception of natural selection as a sufficient explanation for evolution.¹⁵³ Wallace had a profound impact among most Darwinians who avoided the subject of sexual selection and readily adopted his view that sexual selection was an ambiguous and superfluous hypothesis.¹⁵⁴

The correspondence between Barber and Trimen which took place prior to the publication of her subsequent critique of Wallace suggests that she was harshly critical of the latter’s position of women. She advocated both for being recognised as a woman scientist and against men’s underestimation of women more generally. At the beginning of November 1877, she asked with heavy irony:

Did you see a long article in *Macmillans Magazine* by A. R. Wallace, in which he mentioned the changes in colour which take place in the pupa of

Papilio nireus which I sent a description of to Mr Darwin? Then he goes on to say “these remarkable changes would perhaps not have *been credited*, had it not been for the previous observations of Mr Wood.” This is rather flattering to one is it not!¹⁵⁵

By the end of the month, she still did

not think Wallace made a successful stand against Darwin’s theory of sexual selection and in a great measure but not entirely I am bringing forward proofs of sexual selection having a great deal to do with the production of fine feathers, however, the causes of coloration in nature, are so wonderful, and multitudinous in their cases, that one could fill a volume on the subject, and spend a life time in their study, and then not know or describe the half of them.¹⁵⁶

By overlooking her achievements¹⁵⁷ as well as giving false credit to a Mr Wood, most likely English zoological illustrator T. W. Wood who had illustrated Wallace’s *The Malay Archipelago* (1869) and Darwin’s *The Descent*, Barber saw Wallace as a gatekeeper, who did not acknowledge her work properly due to her gender. Barber’s charge was heightened by her sensitivity towards and constant fight against the misrecognition of her work, as discussed in Chap. 4 with regard to the article falsely published under ‘Mr Layland’.

Barber therefore took issue with Wallace’s chauvinistic attitude and attacked him in a response paper to his article in 1878, which was difficult to publish. For a decade, she had collected information and observations to accumulate evidence for selection by females in local butterflies, moths, spiders and birds, finding evidence in the process that colour in nature was never accidental.¹⁵⁸

Like Darwin, she used many examples of birds to defend her position on sexual selection. She argued that male red-breasted sunbirds (*Nectarinia afra*), Cape canaries (*Crithagra canicollis*) and yellow finches (*Hyphantornis olivaceus*) displayed their beauty in ‘love meetings’, while females were attracted to the most aesthetically beautiful mate. This, she observed, was in contrast to female domestic fowls, which chose the strongest male.¹⁵⁹ Besides these instances, Barber analysed the functions of colours among various species and described indicative or banner colour in polygamous birds that allowed them to keep together or to separate and later find each other.¹⁶⁰ Protective colour is the colour that allows species such as the green wood-pigeon (*Treron delalandii*) in the Transkeian country to

closely resemble their favourite fruit trees, the wild fig's foliage that is consequently 'the home of these birds' for offering them protection.¹⁶¹ Similarly, the young ostriches imitate 'the small black ant-heaps, which are by no means uncommon in the grassy localities, or on the plains where these birds have their nests', as do pupae with the plants they feed on.¹⁶²

Deceptive colour, according to Barber, differed from mimicry in that it is neither protective nor permanent, but changeable and uncertain and 'purely for the purpose of misdealing and deceiving'.¹⁶³ Examples she gave were the small grey mottled chameleon, the green chameleon of Griqualand West, the 'flower frog' (*Hyperolius*) and the gaily painted 'China spider'. Mimicry was for self-preservation as the ocelli in butterflies that represented eyes and in the case of different species of *Satyridae* made the toad see the eyes of a snake, 'its deadliest foe' and leave the butterflies in peace.¹⁶⁴

In conclusion, Barber summarised that she had aimed to demonstrate 'to a certain extent the truth of Mr Darwin's Theory of "Female Selection"', and to illustrate 'the peculiarities to which colour in its manifold services is applied in nature, and the all-important influence which it has on the lives and habits of various creatures'.¹⁶⁵

Barber had initially wanted to publish this article 'On the peculiar Colours of Animals in Relation to Habits of Life' abroad out of fear that only a few readers of the *Transactions* of the newly established South African Philosophical Society had read Wallace's paper. Furthermore, she aimed for a large transnational readership, thus sending the article to England. Presumably, she posted it to the *Macmillan's Magazine* or to Hooker, who she hoped would publish it for her. She wrote to Hooker in November 1878, pointing out to him that:

Some months ago I sent you a paper on colour and the effect it had on the habits of various creatures, and as I have not received a line from any of my Kew friends for so long, and the said paper has never been acknowledged I have come to the conclusion that probably it never reached you at all frequently they are lost that are sent to this out of the way part of the world our postal arrangements are not of the best kind the last "Kew Garden Report" never reached Kimberley [...] Be so kind as to send me a line to say whether the paper on "colour" ever reached you?¹⁶⁶

This passage indicates how important the paper was to her, as she hoped to prove a point: in terms of her observations of sexual selection, the status she attributed to females in nature and to voice her opinion on Wallace's unacceptable line of argumentation. Among the letters that have been

archived at Kew Library, Art and Archives, there is no earlier letter from Barber in which she indicates having sent the paper. Therefore, it can be assumed that the letter was lost or that Hooker forwarded it to a publisher or journal without leaving a trace in Darwin's collection at Cambridge, the Linnean Society archives in London or the Royal Entomological Society in St Albans. What is certain is that Barber's article was not published in England. Four months after withholding the paper from Trimen, co-founder of the South African Philosophical Society and an editor of its *Transactions*, she sent it to him in November 1877. He duly published the article in the journal's first issue and also made her the first woman corresponding member of the society.¹⁶⁷ The published article did make its way into Darwin's archives in Cambridge, but the circumstances of how it got there remain unclear.¹⁶⁸ Wallace, presumably reading Barber's paper and other literature on the topic, changed his mind and embraced female selection by the 1890s.¹⁶⁹

Besides a few exceptions, however, the theory of sexual selection remained neglected until the second half of the twentieth century.¹⁷⁰ It was to take half a century until R. A. Fisher could explain why female birds chose male birds with characteristics that were 'downright deleterious', such as the peacock's tail.¹⁷¹ This long neglect by scientists also explains why the theory's significance for the feminist cause has only recently attracted more scholarly attention. In these recent studies, the focus was mainly on women who openly criticised Darwin's arguments as masculinist, such as the first ordained woman protestant minister in the US, Antoinette Brown Blackwell, or developed his concepts into gender theories, such as Clémence Royer in France. Blackwell's *The Sexes Throughout Nature* (1875) was the first feminist critique of evolutionary theory by a woman. She showed how gender-biased Darwin and Spencer had been and promoted more objective methods, such as 'a deeper reading of facts'. She challenged mainstream science to study women, to transgress boundaries of masculinity in scientific practice and argued for a 'Science of Feminine Humanity' that could be 'the ultimate arbiter of questions regarding sex difference' if it was accepted that 'the experience of women [should] count for more [...] than the observation of the wisest men'. She thereby replaced patriarchal lines of reasoning.¹⁷² Royer (1830–1902) was a self-taught French scholar and lecturer on economics, philosophy and science, who translated Darwin's *Origin of Species* into French in 1862, deducted from it an evolutionary gender theory consisting of three phases. In the first, prehistoric men

and women barely differed physically or mentally from each other. The scarcity of natural resources raised competitive pressures and a gendered division of labour thus developed in the second phase, in which females became caretakers while males hunted and sought subsistence for their families. In the third phase, in industrial society, gender asymmetries were no longer necessary even becoming counterproductive. Humans needed both traditionally female and male characteristics. Biological gender asymmetries were thus not present at first, but became necessary in order to reach the stage of civilisation in which they could now disappear.¹⁷³

In 1913, the American author and journalist Floyd Dell had already recognised that the women's rights movement was 'a product of evolutionary science of the nineteenth century'. There had been 'women's rebellions' before, but 'modern science' gave humans 'a new view of the body, its functions, its needs, its claims upon the world' which provided 'the basis for a successful feminist movement'.¹⁷⁴

Barber believed that the oppression of women was rooted in power relations rather than their biology, as will be detailed in Chap. 8. Inequalities which existed due to a lack of educational opportunities for women¹⁷⁵ made her spot sexual selection's emancipatory potential. Barber's approach was to present proofs for gender equality in the other-than-human animal world and urge humans who felt superior to act according to superior principles. She was a pragmatist who strongly believed in the Lamarckian notion of trying and Emersonian self-reliance with an underlying assumption that unhappiness is invariably self-inflicted.¹⁷⁶ Yet, her individual will and self-reliance did not guarantee her self-actualisation and progress in the scientific world. Barber had to depend on men members of society who supported her to evolve and progress. She struggled to be heard and published and fought for the recognition of the importance of the theory of sexual selection as a means of advocating for women's rights. With the new generation of settlers at the Cape and industrialisation, women more and more felt the need for more rights and co-determination.

While Barber had previously hoped that she could make metropolitan scientists rely on her services as an illustrator, she now found a far more important niche for herself, becoming one of the first naturalists to research insect mimicry and camouflage and their role in the pollination of plants. While Trimen was more of an armchair entomologist who emphasised the

importance of having access to large collections as well as the literature that she could not approach herself, Barber could observe butterflies in nature and experiment with them by rearing them in her laboratory-like garden. Barber and Trimen thus complemented one another, yet the different nature of their individual roles also illustrates the gendered division of labour at the time. Whereas women became increasingly accepted and appreciated as ‘invisible technicians’¹⁷⁷—collectors, illustrators and informants—theory remained a predominantly male preserve. Yet, Chap. 6 shows that Barber did not just circulate and provide corroborative evidence for Northern theories.

NOTES

1. (Cohen 2011, 21).
2. St George’s church was built from 1824 to 1830 and in 1853 with the appointment of a bishop became a cathedral. It was then agreed to add to the building and over the following decades a tower, spire, chancel and so on in popular neo-Gothic style. It is today known as The Cathedral of St Michael and St George. See (Gould 2011).
3. Letter to Harvey in *Flora Capensis*, quoted in (Mitford-Barberton 1934, 85).
4. See for example (Hunt 2005).
5. (Cohen 2011, 24).
6. (Turner 1983, 291).
7. (C. Darwin and Wallace 1858).
8. (C. Darwin 1859, 61).
9. Darwin regretted not having called it ‘Natural Preservation’ instead. Darwin to Charles Lyell, Marine Parade/Eastbourne, 28 September 1860, Darwin Correspondence Project, Letter 2931.
10. RES, Trimen Correspondence, Box 17, Letter 31, Highlands, 24 August 1863.
11. (Fisher 1869); (Nelson 1992); (Parnell 2009).
12. (Ducker 1988, 326–327); <https://www.tcd.ie/Botany/tercentenary/300-years/chairs/william-harvey.php>, date accessed 22 March 2016. See (Webb 1966, 39). (William H. Harvey 1862); (Ducker 1972); (Huxley 1918, 1:516). Harvey’s ‘serio-comic *squib*’: (William Henry Harvey 1860) in: Santry Book Repository, Trinity College Dublin, Pa 344/2. Also referred to as ‘A Guess as to the Probable Origin of the Human Animal considered by the Light of Mr. Darwin’s Theory of Natural Selection, and in Opposition to Lamarck’s Notion of a Monkey Parentage’ in R. Lloyd Praeger, “William Henry Harvey 1811–1866” in: (Oliver 1913, 221).

13. C.R. Darwin to J.D. Hooker, 30 May 1860, Darwin Correspondence Project, Letter 2818.
14. (Huxley 1918, 1:516).
15. Harvey to Gray, Trinity College Dublin, 3 November 1860, original at Gray Herbarium of Harvard University, reproduced in Ducker (ed.), *The Contented Botanist*, 330–332; mentioned in: Darwin to Asa Gray, Down, Bromley, Kent [Eastbourne], 26 September 1860, Darwin Correspondence Project, Letter 2930.
16. (Bowler 2009, 416).
17. (William H. Harvey 1861).
18. (F. Darwin 2007, 2:474).
19. Harvey to Darwin, Trinity College, Dublin, 19 May 1864, Darwin Correspondence Project, Letter 4503; Harvey to Darwin, 4. Winton Road/Leeson Park, Dublin, 8 November 1864, Darwin Correspondence Project, Letter 4665; Harvey to Darwin, 4. Winton Road/Leeson Park, Dublin, 10 November 1864, Darwin Correspondence Project, Letter 4668.
20. KLAA, Director's Correspondence Vol. 189, Letter 113, Barber to J. D. Hooker, Highlands, 26 December 1866. Elsewhere, Barber wrote: 'Oh Lord how wonderous are thy works, in wisdom "hast thou made them all".' Mary E. Barber, "The Wood Spiders (Notes from a Journal)", Tharfield, Kleinemond River, *Cape Monthly Magazine* 1870. The Prayer Book of 1662, 104:18, actually states: "O Lord, how manifold are thy works, in wisdom hast thou made them all" in (Cohen 2011, 65).
21. Barber to Hooker, KLAA, Directors' Correspondence, Vol. 189 Letter 114, Highlands, 9 May 1867.
22. (Layard 1867, 266–267).
23. Barber, *Wanderings*, Vol. 2, MS 10560 (b), 66, 69.
24. Barber, *Wanderings*, Vol. 1, MS 10560 (a), 38; Vol. 3, MS 10560 (c), 120–121.
25. See for example RES, Trimen Correspondence, Box 18, Letter 88, Oatlands, 10 and 25 March 1873.
26. (Cohen 2011, 55, 58).
27. (de Beer 1983, 54); (Hunt 2005, 25).
28. (Endersby 2007, 3).
29. (Endersby 2007, 3).
30. (Endersby 2007, 3).
31. (Frederick 1885, 107; Polkinghorne 2005, 39).
32. (Kingsley 1880, 313–336).
33. (Endersby 2007, 3).
34. Biologist Steve D. Johnson has argued that 'amateur naturalists' such as Barber 'did not leave any institutional legacy of evolutionary biology in South Africa' (Johnson 2009, 404).

35. Address by Roderick Noble to the members of the Public Library, 23 May 1868, in (Dubow 2006a, 97).
36. See (Dubow 2004, 107–133; Dubow 2006b, 96–105; Livingstone 2013). For a revised version of Livingstone’s paper presented in Basel, see (Livingstone 2016).
37. (Livingstone 2013, 14).
38. (Dubow 2004, 109).
39. (Dubow 2006a, 118–119).
40. (Barkly 1871, 13, 12, 11). Several extracts from the address are quoted in: (Editor 1871, 383).
41. http://www.victorianweb.org/science/science_texts/belfast.html, date accessed 16 October 2016.
42. KLAA, Director’s Correspondence, Vol. 189, Letter 127, Barber to J. D. Hooker, Kimberley, 18 October 1874.
43. See for example (Weber 2000, 357–385).
44. Ralph Waldo Emerson’s “Self-Reliance” in (The Riverside Library 1883, 45–87); originally published in (Emerson 1841). Also see, for example, (Blau 1977).
45. RES, Trimen Correspondence, Box 17, Letter 36.1, Highlands, 22 March 1864.
46. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 101.
47. See for example (Robertson 1887, 33). Robertson claims that Henry Wadsworth Longfellow had been influenced by British poet William Wordsworth through American poet and newspaper editor William Cullen Bryant’s nature studies.
48. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 120.
49. KLAA, Misc. Reports Cape Colony etc. 1845–1915, Vol. 303, Letter 204, Barber to Hooker, Kimberley, 14 December 1877; Letter 208, Kimberley, 5 March 1878.
50. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 99–100.
51. (Worster 2008, 370, 429, 438, quote: 448, from a letter to Howard Palmer, Secretary American Alpine Club, Martinez, California, 12 December 1912).
52. (Adams and Mulligan 2003, 34).
53. (Knechtel 2010, 261).
54. Thorough research in the Schreiner archive at the NELM (National English Literary Museum) in Grahamstown did not reveal any connection between the two. I thank registrar/archivist Cecilia Blight for her help.
55. Letter to Arthur Symons in (Cronwright-Schreiner 1924, 187–188); Letter to Havelock Ellis, Buxton, 5 August 1884, Harry Ransom Center, University of Texas, Austin: HRC/CAT/OS/2a-iv.

56. (Schreiner 1926, 181).
57. RES, Trimen Correspondence, Box 17, Letter 35, Highlands, 10 February 1864.
58. (Barber 1871).
59. (Barber 1869).
60. KLAA, Director's Correspondence, Vol. 189, Letter 114, Barber to J. D. Hooker, Highlands, 9 May 1867.
61. (Cohen 2002, 207).
62. (C. Darwin 1862); The first letter from Darwin to Trimen was: Down, Bromley, Kent, 31 January 1863, Darwin Correspondence Project, Letter 3956. In it, Darwin thanks Trimen for his previous letter, a manuscript of his observations on South African orchids, and sketches which have not been found.
63. (Trimen 1864).
64. RES, Trimen Correspondence, Box 17, Letter 29, Highlands, 19 May 1863. Also see Chap. 2.
65. Trimen to Darwin, Colonial Office, Cape Town, Cape of Good Hope, 16, 17, and 19 July 1863, Darwin Correspondence Project, Letter 4243.
66. RES, Trimen Correspondence, Box 17, Letter 31, Highlands, 24 August 1863; Darwin to *Gardeners' Chronicle*, 4–5 June 1860, Darwin Correspondence Project, Letter 2826. The letter was published in the *Gardeners' Chronicle and Agricultural Gazette*, 9 June 1860, 528, as well as in the *Entomologist's Weekly Intelligencer*, 23 June 1860, 93–94, and 30 June 1860, 102–103 (see letter to H. T. Stainton, 11 June [1860]).
67. (Bates 1862); (Cohen 2002, 208–209).
68. RES, Trimen Correspondence, Box 17, Letter 61/1, Highlands, 1 August 1868; Letter 62/1, Highlands, 2 November 1868.
69. It was mentioned in: *Proceedings of the Linnean Society of London*, 81:3 (1869), xlii.
70. RES, Trimen Correspondence, Box 17, Letter 58/1, Highlands, 4 May 1867; Letter 60, 21 June 1868; Letter 68/2, 10 September 1869; Box 18, Letter 87, Colesberg Kop. New Rush, 22 May 1872; Letter 123, Grahamstown, 24 April 1885. See (Hooker 1855, 1:31).
71. Darwin to J. D. Hooker, Down, 25 December 1868, Darwin Correspondence Project, Letter 6512.
72. J. D. Hooker to Darwin, 23 December 1868, Letter 6511.
73. King James Bible, Cambridge Edition, Digital Electronic Text.
74. 'But, when our John hath quaff'd his ale, As little as the wind that blows, And warms itself against his nose, Kens he, or cares, which way he goes.' 1st Canto XXIV. In her scientific correspondence, Barber frequently cited English poet and classical scholar Thomas Gray (1716–1771) and Scottish historian Thomas Carlyle (1795–1881). Barber often quoted verse 14

from Gray's *Elegy written in a Country Churchyard*, 'Full many a flower is born to blush unseen,/And waste its sweetness on the desert air' in reference to her unwillingness to waste her knowledge and to remain "unseen". Carlyle: RES, Trimen Correspondence, Box 17, Letter 50, Highlands, 26 August 1866; Box 18, Letter 114, Grahamstown, 30 March 1882; Gray, Kew, Director's Correspondence, Vol. 189, Letter 111, Barber to Hooker, Highlands, 2 August 1866, may "waste their sweetness on the desert air" after verse 14 of the *Elegy written in a Country Churchyard* by Thomas Gray 'Full many a flower is born to blush unseen, And waste its sweetness on the desert air'. Carlyle was a racist thinker and reinforced her Social Darwinism, as his contemporary political polemics and the intersection of nationalism and imperialism in his work indicate. Curtain has demonstrated how the ideas of Carlyle lie at the heart of the hardening racism in metropolitan Britain. Andrew Bank has shown how Barber's oldest brother, John Mitford Bowker, borrowed phrases from Carlyle and fused them with an older theological racism in his speeches to Albany settlers. This aspect will be discussed in Chap. 7. See (Curtin 1965, especially chapter 15 "The Racists and their Opponents," 363–387); (Bank 1995, 28, 232).

75. See for example (Endersby 2009).
76. See for example: RES, Trimen Correspondence, Box 17, Letter 58/1, Highlands, 4 May 1867.
77. RES, Trimen Correspondence, Box 17, Letter 69, Highlands, 20 November 1869. There are neither records of correspondence nor specimens at the Hope Entomological Collections, Life Collections, Oxford University Museum of Natural History.
78. RES, Trimen Correspondence, Box 17, Letter 29, Highlands, 19 May 1863, to Letter 56, Highlands, 26 December 1866.
79. RES, Trimen Correspondence, Box 17, Letter 35, Highlands, 10 February 1864.
80. RES, Trimen Correspondence, Box 17, Letter 46, Highlands, 15 June 1866.
81. (Bates 1862).
82. (Alfred Russel Wallace 1865).
83. RES, Trimen Correspondence, Box 17, Letter 53.1, Highlands, 1 October 1866.
84. Trimen's searches in British collections are detailed in (Poulton 1924).
85. (Trimen 1869).
86. The butterflies known to Trimen as *D. echeria* and *D. niavius* are now classified as *Amauris echeria* and *A. niavius*, while the spelling of *Danais* has been changed to *Danaus*.
87. (Hewitson 1876, pt 72 (Oct. 1869)); (Cohen 2002, 212, 214).

88. (Cohen 2002, 212).
89. (Bethune-Baker 1916, 231).
90. RES, Trimen Correspondence, Box 17, Letter 60.1, Highlands, 21 June 1868.
91. RES, Trimen Correspondence, Box 17, Letter 61, Highlands, 1 August 1868.
92. RES, Trimen Correspondence, Box 17, Letter 64 and 65, Highlands, 29 February [someone complemented 1869].
93. RES, Trimen Correspondence, Box 18, Letter 82, Highlands, 30 January 1871.
94. See for example (Shanafelt 2003, 817, 821, 826–27, 829–831, 834–836, 839).
95. (Weale 1874).
96. (Trimen 1874).
97. (Trimen 1881).
98. RES, Trimen Correspondence, Box 18, Letter 89, New Rush, 4 December 1872.
99. RES, Trimen Correspondence, Letter 94, Kimberley, 21 July 1874; Letter 95, Kimberley, 19 November 1874.
100. KLAA, Director's Correspondence, Vol. 189, Letter 126, Barber to Hooker, Kimberley Diamond Fields Griqualand West, 30 June 1874.
101. Hooker to Darwin, Royal Gardens Kew, 29 August 1874, Darwin Correspondence Project, Letter 9610.
102. (Barber 1874, 520).
103. Illustrations in letters to Roland Trimen combined into one plate on the transformations of *Papilio nireus* in (Barber 1874, Plate IX).
104. (Barber 1874).
105. See discussion in Chap. 4, Figs. 4.1 and 4.2.
106. Darwin to Hooker, Down, Beckenham, Kent, 30 August 1874, Darwin Correspondence Project, Letter 9613; KLAA, Director's Letters, Vol. 189, Letter 126, Barber to Hooker, Kimberley, 30 June 1874; J. D. Hooker to Darwin, Royal Gardens Kew, 29 August 1874, Darwin Correspondence Project, Letter 9610.
107. See H. W. Bates to Darwin, Royal Geographical Society, 1 October 1874, Darwin Correspondence Project, Letter 9666.
108. See *Transactions of the Entomological Society*, Part 4 (Dec. 1874), xxiv.
109. Hooker to Darwin, Kew, 17 March 1875, Darwin Correspondence Project, Letter 9891.
110. (Bethune-Baker 1916, 231).
111. KLAA, Director's Correspondence, Vol. 189, Letter 104, Barber to J. D. Hooker, Highlands, 9 March (undated, filed as 1867, more likely 1868 or even 1869).

112. (Ghiselin 1969, 220).
113. (C. Darwin 1859, 88); (Hamlin 2014, 8–9, 181).
114. (C. Darwin 1859, 89).
115. Including (Eliot 1859; Eliot 1860). Elizabeth Gaskell was one of Darwin’s favourite writers. Jim Endersby finds it highly likely that he read all her novels including her last: (Gaskell 1866). See (Endersby 2009, 312); (Gerstel 2002, 43).
116. (Yeazell 1989, 42, 36).
117. (C. Darwin 1871b, 1:256).
118. (C. Darwin 1871b, 2:398).
119. (Montgomerie 2009, 477).
120. (C. Darwin 1871b, 2:38–238 (on birds), 316–384 (on humans)).
121. (Smith 2006, 85–86).
122. (C. Darwin 1871b, 2:36–37).
123. RES, Trimen Correspondence, Box 17, Letter 59 Highlands, 10 November 1867.
124. (Birkhead et al. 2014, 60).
125. (C. Darwin 1871a, 1:63).
126. (Exton 1871, 343). For more on Hugh Exton see: http://www.s2a3.org.za/bio/Biograph_final.php?serial=895, date accessed 30 May 2016.
127. (Exton 1871, 342).
128. Hooker to Darwin, 26 March 1871, Darwin Correspondence Project, Letter 7627.
129. See for example (Lilly 1894); (Vilbig 2011).
130. See (Livingstone 2013, 7).
131. 519. “*Numida mitrata*”, in (Layard 1867, 266–267).
132. (Bowdler Sharpe 1875, 220). No more sources are available to explain how Barber’s views on sexual selection developed.
133. RES, Trimen Correspondence, Box 17, Letter 61, Highlands, 1 August 1868.
134. (Hamlin 2014, 3, 10–11).
135. (Erskine 1995, 100); also see, for example, (Alaya 1977); (Mosedale 1978); (Trecker 1974); (Hubbard et al. 1979; Hubbard et al. 1982; Lowe and Hubbard 1983); (Rosser and Hogsett 1984); (Russett 1989).
136. Darwin to Caroline A. Kennard (née Smith), 9 January 1882, Darwin Correspondence Project, Letter 13607.
137. (C. Darwin 1871b, 2:382–383).
138. (C. Darwin 1871b, 2:326).
139. See (Schär 2015, 78).
140. See (Hamlin 2014, “Chapter 1: Eve’s Curse,” 25–56).
141. (C. Darwin 1859, 88–89). Barber quotes Trimen’s previous letter which has not survived. RES, Trimen Correspondence, Box 17, Letter 61, Highlands, 1 August 1868.

142. (Crais 1992, 192).
143. (Christensen Nelson 2004, xxi–xxii).
144. (Bank 1995, 368, 371–372).
145. See (K. McKenzie 1996; K. E. McKenzie 1997, 6, 9, 10, 18, 33, 187, 201, 350).
146. See for example (Hamlin 2014, 46, 57, 61, 63).
147. (Young 1991, 95).
148. (Young 1991, 99).
149. (Young 1991, 96–97).
150. (Young 1991, 94).
151. (Cronin 1992, 287–288). See for example in: (Alfred R. Wallace 1877, 408). <http://people.wku.edu/charles.smith/wallace/S272.htm> last accessed 14 December 2018.
152. (Alfred R. Wallace 1877, 384–408), <http://people.wku.edu/charles.smith/wallace/S272.htm> last accessed 14 December 2018.
153. (Gayon 2010, 134).
154. (Gayon 2010, 136).
155. RES, Trimen Correspondence, Box 18, Letter 101, Kimberley, 2 November 1877.
156. RES, Trimen Correspondence, Box 18, Letter 102, Kimberley, 26 November 1877.
157. (Barber 1874).
158. RES, Trimen Correspondence, Box 18, Letter 102, Kimberley, 26 November 1877.
159. (Barber 1878, 29–31).
160. (Barber 1878, 31–33).
161. (Barber 1878, 34).
162. (Barber 1878, 36).
163. (Barber 1878, 37).
164. (Barber 1878, 44).
165. (Barber 1878, 45).
166. Barber to Hooker, KLAA, Director’s Correspondence, Vol. 189, Letter 133, Kimberley, 19 November 1878.
167. RES, Trimen Correspondence, Box 18, Letter 102, Kimberley, 26 November 1877.
168. Barber presumably sent a copy of the published article to Darwin. All that is known is that there is a copy in Cambridge, the origins of which remain a mystery. Charles Darwin Pamphlet Collection G.1323 thanks to Adam J. Perkins, Curator of Scientific Manuscripts, Department of Manuscripts and University Archives Cambridge for our correspondence.
169. It has been argued that reading Edward Bellamy’s *Looking Backward* (1888) convinced him of female choice. Bellamy in his novel created a socialist utopia about ‘women’s free, untrammelled power of sexual selec-

tion'. Women were free, equal and chose partners based on attraction, which appealed to Wallace's political ideology. He argued: 'I hope I make it clear that women must be free to marry or not to marry before there can be true natural selection in the most important relationship of life.' 'In order to cleanse society of the unfit [and allow natural selection to proceed],' he explained, 'we must give to woman the power of selection in marriage, and the means by which this most important and desirable end can be attained will be brought about by giving her such training and education as shall render her economically independent.' (Alfred Russel Wallace 1894). For further discussion of Wallace's change of mind, see (Paul 1995, 37–39). Hinging on his acceptance of eugenic ideas, he argued that female choice improved social conditions and future offspring.

170. See (Gayon 2010, 136); (Mota 2009).
171. (Cronin 1992, 289).
172. (Hamlin 2014, 46, 57, 61, 63).
173. See (Schär 2015, 80–82). Royer's attitude towards gender equality resembles that of Barber's, as will be seen in Chap. 8.
174. (Dell 1913, 44).
175. (Jaggar and Rothenberg 1984, 85).
176. RES, Trimen Correspondence, Box 17, Letter 36.1, Highlands, 22 March 1864.
177. See (Shapin 1989).

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CHAPTER 6

Barber's Forging Scientific Practices and Theories

This chapter weaves three arguments together and analyses how changed practices, development of theories and classifications are interlinked. Firstly, it focuses on how Barber and her colleagues at the Cape actively contributed to evolving ornithological practices. It then examines how she constructed theories of her own, before analysing, by way of example, a discussion between Barber and Trimen on the naming and classification of butterflies. In the last decade, a number of historians of science have shown that important scientific practices and theories emerged in the global South.¹ This chapter aims to contribute to this on-going scholarship by arguing that the Cape Colony was not only a venue for fieldwork or a laboratory for testing Northern theories, but also a space where modern science was established in its own right.

SHAPING NEW ORNITHOLOGICAL PRACTICES

Ornithology has generally been understood as a Euro-American discipline which emerged in the three decades between 1820 and 1850.² Nancy J. Jacobs, a historian of ornithology in Africa, for instance, has recently published a monograph containing a chapter with the telling title 'Ornithology Comes to Southern Africa, 1700–1900', in which she presents a case study of how imperial, racial and scientific status was negotiated between 'European ornithologists' and 'African vernacular birders' through scientific naming, species description and specimen collecting.³ According to

Jacobs, European naturalists introduced ornithological practices to Southern Africa where African vernacular birders had established different traditions of knowing birds. Yet ornithological practices had not evolved in the North, rather important ornithological practices developed and were advanced in the Cape in the late eighteenth and early nineteenth centuries. The following case calls for a wider reevaluation of the birth of ornithology.

Ornithology at the Cape was a collective endeavour, and Africans had a deep impact on the development of the discipline, as seen in Chap. 3. As this was ‘unthinkable’, it was never acknowledged in historical narratives. For the Haitian intellectual and anthropologist Michel-Rolph Trouillot, occurrences in history remain unthinkable as long as people do not have ‘adequate instruments to conceptualize’ them. Similarly, Bourdieu argues that events are unthinkable if humans cannot take them into account due to a ‘want of ethical or political inclinations’ or the ‘want of instruments of thought such as problematics, concepts, methods, techniques’.⁴ In light of the then widespread belief that European colonists and settlers were superior to Africans and that science could be theorised in the metropole alone, it remained unthinkable within the framework of Western thought that important scientific practices in ornithology, which would substantively change the discipline, could be forged at the peripheries of European colonial power with non-Europeans playing a crucial role in the process.

However, the Cape has had a large influence on the development of ornithology since the late eighteenth century. In 1781, the treasurer of the Dutch East India Company, Jacob Temminck, sent the Surinam-born French naturalist François Levaillant⁵ (1753–1824) to the colony to collect birds. Levaillant made three journeys through the colony over the course of the following five years: the first from Cape Town to Saldanha Bay, the second eastwards from the Cape and the third in a northerly direction beyond the Orange River and on to Namaqualand.⁶ During this time, the zoological collector and explorer became a naturalist and author, who pioneered a new genre in his subsequent writings, namely the compendium detailing all birds of a given region. With his *Histoire Naturelle des Oiseaux d’Afrique*, which was published in six volumes between 1799 and 1808, Levaillant also developed a range of new ornithological techniques.⁷ He was among the first to use coloured plates in his descriptions and had developed colour-printing techniques that enabled him to depict bird plumage more vividly than his predecessors and contemporaries. His mounting the stuffed birds in lifelike positions with the help of arsenic soap

allowed the illustrators to portray them in more realistic poses. His detailed descriptions of bird behaviour, his opposition to Linnaean nomenclature and his consequential use of French names were also new to ornithology.

Levaillant had barely been known or acknowledged for these innovations until the first decade of the twenty-first century. Instead, his legacy was marginalised and thoroughly discredited, primarily for a series of conspicuous errors in his text. For example, he had listed fifty species which were not to be found at the Cape or, in most cases, even in Africa. He had also detailed ten birds that were unidentifiable by other ornithologists and appeared to have come up with another ten species which were either completely fabricated or composites of different species, as argued by Carl Jakob Sundevall of the Stockholm Museum, who wrote a critical review in Swedish and Latin fifty years after Levaillant's publication.⁸ In sum, 20 out of 300 birds are unknown species, fabricated by a taxidermist, some are European or American birds and some are not attributed to their correct location.⁹

Edgar Leopold Layard, the curator of the South African Museum from 1855 to 1872, missed no opportunity to belittle Levaillant's efforts. He argued that the taxidermist had gone so far as to have 'manufactured species' by gluing a 'false white breast' to 'the original skin' of some of his specimens. Layard also claimed that Levaillant had misclassified species, described birds from India as African and had not visited the places which he mentioned in his books in person. In fact, Layard and his successors even doubted whether Levaillant had been in South Africa at all.

Layard's attacks destroyed Levaillant's reputation, with subsequent ornithologists casting doubt on every detail of the information which he had provided. Far from being commemorated as an ornithological pioneer, Levaillant was instead remembered as a womaniser and drunk: a 'flamboyant, charismatic, ladykiller', 'drunk with success', who after 'living in an attic', 'died in poverty'.¹⁰ With Levaillant's *Oiseaux d'Afrique* also never having been fully translated into English, Layard long enjoyed the fruits of his counterpart's marginalisation, which stood in stark contrast to his own recognition as the founding figure of South African ornithology.¹¹

However, despite Levaillant's scholarly shortcomings, his conceptual and technological innovations have ultimately been recognised as groundbreaking. The Dutch biologist and historian of zoology Kees Rookmaaker, an expert on the zoological exploration in Africa, was one of the first to realise the importance of Levaillant's work. In 2004, he collaborated with

the ornithologist and conservationist Peter J. Mundy from the Department of National Parks and Wildlife Management, University of Bulawayo, Zimbabwe, the South African media scholar Ian Glenn and the British historian of knowledge Emma C. Spary, who is an expert in the history of French natural history in the eighteenth century. The result was a lavishly illustrated monograph that made Levaillant belatedly well-known and celebrated.¹² His current renown, in turn, misleads many scholars who are otherwise familiar with the history of science at the Cape to overlook his earlier persistent marginalisation.¹³

With his encyclopaedia on the birds of Southern Africa, Levaillant initiated a new trend in the study of birds. For example, he was greatly admired by the American ornithologist and painter John James Audubon (born Jean-Jacques, 1785–1851), who would become the most acclaimed ornithologist of his day and who was particularly well-known for his colour-plated volume on *The Birds of America* which was first published as a series in sections between 1827 and 1839. Audubon owned copies of Levaillant's books in his library and drew on them for inspiration, albeit without acknowledgement, such as when deciding to illustrate birds in life-size.¹⁴ At the Cape, Levaillant also inspired Layard who undertook what Levaillant had accomplished but for an English-speaking readership.

Layard was familiar with ornithological publications on British birds in Britain. Thomas Bewick's popular *History of British Birds* (1797, 1804) marked the beginning of a series of ornithological publications in Britain.¹⁵ There were at least eight multivolume projects on British birds published between 1821 and 1843.¹⁶ These were the first inexpensive illustrated ornithological volumes aimed at middle-class readers. Books and illustrations for children or lay audiences written by scientific popularisers were also greatly demanded in the first half of the nineteenth century.¹⁷ Audubon complained on a visit to London in 1835 that: 'Here they are at present [...] publishing [...] Works on the Birds of *all the World* [...] Cheap as dirt and more dirty than dirt.'¹⁸ Layard was eager to provide a remedy for the absence of a comparable English-language compendium on South African birds.

His project, which he began in 1856, culminated in the publication of *The Birds of South Africa* in 1867.¹⁹ The book is organised according to the classification system developed by George Robert Gray, head of the ornithological section of the British Museum, in *Genera of Birds* (1840),²⁰ the then most comprehensive list of orders, tribes, families and genera for ornithologists. *The Birds of South Africa* was reviewed by English banker,

amateur ornithologist and Liberal Party politician John Henry Gurney as the 'most useful book of reference to all who desire to investigate the ornithology of that region, whilst the very valuable, though succinct, information [...] to all lovers of birds and of that bird-life which is equally full of interest in every quarter of the globe'.²¹

Much of Layard's information came from Barber, who apparently was the first woman ornithologist in South Africa. Despite his marginalisation of her, discussed in Chap. 4, she was the first person in South Africa whom he acknowledged after his British colleagues in his non-alphabetical list of contributors and the only woman whom he quoted in his work.²² This acknowledgement made her visible, but—through taking her under his wing and subsuming her work under his—concealed her individual contribution to ornithology.

In the years after the publication of *The Birds of South Africa*, Barber did not only add her observations to her personal copy, but also illustrated many species out of the conviction that she could better understand the peculiarities of birds and other organisms by illustrating them. Her aquarelles were not to be merely used for illustrative purposes though; in juxtaposition, image and text augmented and supplemented one another, as detailed in Chap. 8. She thereby refined Levaillant's method and created her own personal field guide before this became a popular genre. When Layard met her on a fieldwork excursion in 1870, he found her 'interleaved and well annotated!' copy of *The Birds of South Africa* and was convinced that its transformation into a field guide would encourage many young people to take up ornithology.²³

To prepare for her illustrations, Barber observed living birds in the wild, comparing them to her own previous sketches. While bird-watching on horseback, she ensured that she blended into the landscape, presumably by wearing clothes that matched her environment. On foot, she would have walked slowly and silently, although she may have imitated bird vocalisation. She would have concealed herself by leaning against a tree or pulling a branch down in front of her. If her position offered her a good view, she would probably have remained there for several hours. At night, she wrote a fair copy of her notes from the day in one of her notebooks that she later revised when writing her letters and papers.

She thus pioneered a new practice of illustrating birds which no longer required their killing. As discussed in Chap. 3, she was influenced by the amaXhosa who refused to kill the birds which they considered as mediators between humans and ancestors. She might have also read about

similar advice given by the Khoekhoen and San to early European explorers such as Sparrman, Levaillant and Holub, who nevertheless all killed birds for their collections. Sparrman, for example, had followed the *honig-myzer* and found his African co-workers ‘too much the bird’s friend to betray it’. Later, he did succeed in shooting one which caused outrage among his nine travelling companions. Levaillant recorded similar experiences. While he reported how he enjoyed killing a bird from a species which he had not seen before, he described how his African colleagues were shocked and astonished to see that he killed birds only to restore them immediately to their natural appearance.²⁴ For her part, Barber became more and more reluctant to kill or ask for the killing of birds. There is no evidence for her killing and stuffing birds herself.

When necessary, Barber consulted museum collections and observed already-dead specimens there or borrowed stuffed specimens from colleagues. Due to her close ties with the entomologist, ornithologist and doctor Edwin Atherstone (1842–1898), her husband’s cousin, she had unlimited access to his bird collection at the Albany Museum in Grahamstown. Atherstone was used to working with women at the hospitals and was particularly supportive of Barber’s scientific pursuits in ornithology. He added specimens of numerous rare bird species to the Albany Museum’s collections, including in 1861, when he donated thirty-nine species. He collected in a ten-kilometre-radius around Grahamstown and exhibited birds at meetings of the Albany Natural History Society (founded in 1867). From 1872 to 1890, he seemed less scientifically active. In 1890, he identified birds and was part of a group of naturalists who decided to revive the Albany Natural History Society.²⁵ In 1868, Barber, for instance, borrowed two stuffed birds from him.²⁶ She also kept birds as pets, including a vulture and a starling, thus allowing her to observe their habits closely.²⁷

As practised by Barber, this shift in the common scientific approach to ornithology—from the killing of birds for specimens to observing them in the wild—coincided with her efforts to raise awareness for the need for regulated bird conservation. During the first half of the nineteenth century, the human-induced decline and extinction of birds was widely discussed in the English-speaking world, including at the Cape. For example, the extinct dodo, formerly a native to Mauritius, was featured in the *Penny Magazine* in 1833.²⁸ In Chapters 2 and 3 of his 1865 book *Alice’s*

Adventures in Wonderland, Lewis Carroll portrayed the dodo as a character and thus inspired the widespread use of the simile 'as dead as a dodo'.²⁹

While Barber had believed that nature was in balance and harmony and could protect itself, she, by the 1870s, had become aware that humans required laws and restrictions to ensure nature's protection, such as harsh punishment for over-loading ox-wagons and the introduction of restrictions on wagonloads.³⁰ This change in perception occurred when traumatically experiencing the change in nature at the diamond fields. Upon arrival in 1871, Barber had admired Colesberg Kopje's natural beauty.³¹ The area changed rapidly as her watercolour of Kimberley a few years later shows.³² In 1878, Barber was convinced that humans were 'but a link in that wondrous chain which connects all earthly things' and that they should never 'imagine that all that is grand and beautiful in nature [...] were solely created for the gratification of human beings'.³³ A year later, when leaving Kimberley, she complained that it was never noiseless: there was always dynamite blasting, machinery and the chattering in various languages. She also mentioned that there were sardine tins, broken bottles and cases that previously had contained preserved meat lying everywhere on the ground.³⁴

Having been concerned about threats to the mockingbird, guinea fowl and partridge since 1871,³⁵ Barber wrote 'A Plea for Insectivorous Birds' which was published in *The Graham's Town Journal* and as a pamphlet in 1886, as shown in Chap. 4. She sent a paper that she called 'on the protection of birds' to Trimen for review. He commented on and returned it in the winter of 1885.³⁶

Aware of how birds were utilised to get rid of insects in other parts of the world, Barber wrote how wild birds had been protected in Ceylon since 1884, as had been humming-birds in Mauritius and the West Indies since 1885. In France and Canada, meanwhile, small birds from other parts of the world had been introduced to prevent insect pests.³⁷ She saw these developments as examples which the Cape Colony should follow in much the same way. The movement to protect birds was transnational, and legislations influenced one another.³⁸ Barber was especially concerned with insectivorous birds that were important for agriculture, many of which were nevertheless killed for their beautiful plumage.

Women played an important role in the development of this new ornithological approach centred on the protection of birds from humans. Early feminists, as I will show in Chap. 8, helped to revolutionise birding at a time at which the conservation, birding and female reform movements

overlapped in ideology as well as in terms of the people who proposed these philosophies. This led to a radical transformation of the study of avian life in the late nineteenth century. As Barber had proposed in the 1870s, in 1883, the American ornithologist Florence Augusta Merriam Bailey (1863–1948) suggested going to museums to compare bird skins with those of birds which had been observed in the field. To Merriam, a robin was a ‘self-respecting American citizen’ and should thus be viewed ‘not as a thing to be watched or even owned, but as a living, breathing citizen of the world’.³⁹ She wrote the field guide *Birds Through an Opera-Glass* (1890), which has been celebrated as one of the first of its genre.⁴⁰ Although efforts to protect birds by Americans such as Merriam predominate in the historiography,⁴¹ such approaches were neither unique nor new in the late nineteenth century, nor were American ornithologists the first to develop such ideas. Barber herself had already contributed considerably to the promotion of this newly forged non-violent study of birds, a movement which had originated as a product of many people making ‘multiple discover[ies]’ or ‘simultaneous invention[s]’, for instance at the Cape, where they had primarily been inspired by African birding practices as well as the illustrated books on the birds of the region first pioneered by Levaillant.⁴²

In this regard, Barber was ahead of her time and, although her efforts remained partly invisible in her day, her ideas have nevertheless proven influential in the discipline. Early efforts at avian conservation included two regional and local societies that aimed to protect certain species of British birds in England, while the Australian colonial parliament passed legislation to protect native birds in the late 1870s. Barber, however, was most likely not aware of these developments when she published her article in 1886.⁴³ In Britain and the US, the movement to protect birds only gained momentum after the publication of Barber’s article and pamphlet ‘A Plea on Insectivorous Birds’. The Royal Society for the Protection of Birds, for instance, established in 1889, which consisted solely of women, began its work by campaigning against the plumage trade.

In 1900, a year after Barber’s death, the first international environmental agreement, the Convention for the Preservation of Animals, Birds and Fish in Africa, was signed by the German, French, British, Portuguese, Spanish, Italian and Belgian colonial powers in London. This convention paid little attention to non-game animals, including birds, which were assumed not to be in danger. Its primary aim was the control of the ivory, fish skin and trophy trade for which closed seasons were proposed as the most effective measure. The agreement was never implemented, but is of lasting importance as the precedent for later legislation.

In 1903, the first international environmental organisation, the Society for the Preservation of the Wild Fauna of the Empire (now the Fauna and Flora Preservation Society), was founded, sponsored by both hunters and naturalists. The society aimed to encourage the protection of fauna—in effect, birds and the larger mammals—in the colonies.⁴⁴ The trade for exotic feathers was centred in London, with manufacturing primarily taking place in Paris and New York and peaked between 1901 and 1910.⁴⁵ Thereafter, protests were organised throughout the second decade of the century by the Royal Society for the Protection of Birds, a campaign which successfully climaxed in the Plumage Bill (1920), thirty-four years after Barber had published her article.⁴⁶

In the same way as bird feathers from across the Empire came to Britain, so too did knowledge about living birds and ideas for their protection arrive in the metropole from the colonial periphery. Barber was at the forefront of one such movement to protect birds and limit trading practices. Her contribution was the result of an amalgamation of her scientific observations and public activism with her influences from indigenous practices. Yet, Barber not only contributed to the birth of new scientific practices, she also had her own interpretations of what she observed.

BARBER'S THEORIES

Barber's correspondence reveals that from the very beginning of her career, she did not content herself with only collecting and providing information for colleagues who were fortunate enough to have a paid scientific position in an urban or metropolitan institution. She was also not afraid to voice her opinion when she did not agree with a proposed explanation for a natural phenomenon.

On one such occasion, Barber explained her theory that birds were to a large degree responsible for the varied vegetation found on islands. This occurred in an exchange with Joseph Hooker while they were discussing the script of a lecture he had given at a meeting of the British Association for the Advancement of Science in Nottingham on 27 August 1866 and which he had sent her after publication.⁴⁷ Barber interpreted receiving the text as an invitation to critique and refine his arguments and as a testament to Hooker's high regard for her. She replied to Hooker that ocean currents could not be responsible for the flora on islands in the ocean as small seeds of grasses and other plants were destroyed when immersed in water for too long. In contrast, she was certain that birds, in particular migratory

birds, were really ‘the sowers of seeds’. They, she argued, carried numerous ripe and uninjured seeds in their crops. Hooker had previously argued that they carried them in their stomachs, but Barber found this unlikely as their digestion would have damaged the seeds.⁴⁸ Hooker wrote to Barber again on the matter, and she confidently replied once more that, unlike Darwin who saw currents as the main source of island vegetation, she remained convinced that birds were its main cause.⁴⁹

In an article published in 1880, she claimed that locusts and locust birds kept ‘each other in check, ever regulating the balance of their power’.⁵⁰ Barber was again ahead of her time with this theory as it took until the 1920s for the relationship between prey and predators to be scientifically defined in the Lotka–Volterra or predator–prey equations—the first-order, non-linear, differential equations are used to describe biological systems in which two species, a predator and a prey, interact.⁵¹ Sparrman and others had discussed predator–prey relations and the balance of nature, and it can be assumed that Barber had access to this earlier literature in Atherstone’s library. Her interest in the topic may have been triggered by previous research, yet she considerably developed the theory and made unique observations with regard to locusts and locust birds.

She had written a first version of her paper in 1865, when she wrote to Trimen: ‘Will you be so kind as to send me Mr. Darwin’s articles? I am going to send him a history of that gigantic struggle for life – the locusts and the locust birds! As it is one of the most including that I know of, and quite agreeing with his reviews’.⁵² Locust birds depended on locusts, she argued. The number of birds increased when food was plentiful, which made the number of locusts diminish in turn, but never entirely to the point of extermination.⁵³ Locusts travel northwards into the interior of the continent followed by the predators.⁵⁴ The birds then dispersed and probably died.⁵⁵ Humans, meanwhile, adapted to their environment by consuming locusts when they were plentiful.⁵⁶

Barber also observed *Dorthesia*, ‘the Australian blight’ near Cape Town. She called the Australian bug, *Icerya purchasi*, ‘another interloper [...] to harrow up our African feelings’. ‘There it was, with its fluffy, disagreeable looking coat, adhering to the stems of various trees and bushes in countless thousands. A soft bodied, stationary insect, affixed to one spot, apparently immovable, yet, nevertheless, calculated to spread in all directions.’⁵⁷ Trimen reported that he had seen the first specimens at Claremont on an acacia obtained from the Botanic Gardens at Cape Town in 1873. It soon

after spread and became a plague.⁵⁸ It threatened the citrus crop, particularly oranges, in the Cape Colony, living on many species of trees, but particularly on Australian ornamental and fruit trees such as the acacias that were widespread.⁵⁹ Barber was one of the first to observe its habits and came up with the theory that ants disseminated the plague by moving the bugs' eggs from one plant to another. At the Cape, she observed that on all the blighted trees she examined there were also ants. She suggested tarring the stems of some affected trees and testing whether the bug spread without the ants' assistance.⁶⁰ Barber established her theory in analogy to the British banker, Liberal politician, archaeologist, ethnographer and biologist John Lubbock's explanation of how ants disseminated lice eggs by taking them into their nests over winter and transporting the newly hatched young to plant shoots.⁶¹ As Barber only voiced her theory in her travel account and it was not published, it fell into oblivion. Around 1885, Samuel D. Bairstow, secretary of the Eastern Province Naturalists' Society, asked the English entomologist Eleanor A. Ormerod to compile a book on the insect pests of the Cape Colony based on notes and specimens he would provide her with, which resulted in *Notes and Descriptions of a Few Injurious Farm and Fruit Insects of South Africa* (1889). Ormerod also published a pamphlet entitled 'Notes on the Australian bug (*Icerya purchasi*) in South Africa' (1887), and her article on Australian bug in the abovementioned book was published in the *Agricultural Journal* of the Cape Colony in 1889.⁶² Ormerod mentions neither Barber nor her explanation for the spread of the bug.

The fact that Barber came up with her own theories such as the above shows the degree of confidence which she placed in her scientific knowledge. She thereby also successfully demonstrated that theorising could take place in the colonial field and that women were equally capable theorists.

BUTTERFLIES NAMED AFTER XHOSA CHIEFS: FROM VISUAL SIMILARITY TO VISIBLE CONCEALMENT

Barber did not contend herself with collecting specimens, she wanted to take part in classificatory practises. The hidden story behind the classification of certain South African butterflies shows the complexities behind naming flora and fauna which require careful analysis.⁶³ At the South African Museum, Trimen classified butterflies according to his own

localised system. Unlike Linnaeus who classified Lepidoptera into three genera—*Papilio* (butterflies), *Sphinx* (hawkmoths) and *Phalaena* (all other moths)—Trimen classed them into two main groups according to their antenna shape: the *Rhopalocera* ('club horned' butterflies) and the *Heterocera* ('different horned' moths).⁶⁴ Among the butterflies that Trimén classified, *Pamphila Macomo*, *Lycsena Hintza* and *Lycaena Gaika* are conspicuous as they were all named after Xhosa chiefs without any explanation as to why Trimén did so.⁶⁵

Trimén's attitude towards Africans was ambivalent. He had grown up in England at a time when the anti-slavery movement was growing in voice and when English intellectuals were becoming increasingly aware of the moral issues arising from the imposition of colonial rule on autochthonous peoples.⁶⁶ He was in the philologist Wilhelm Bleek's inner circle of Cape Town-based liberals and followed Bleek and Lloyd's 'Bushmen Work' with great concern.⁶⁷ He thus seems to have taken an interest in indigenous South African peoples as well as their languages and cultures, and he may have aimed to contribute towards immortalising Xhosa chiefs by naming butterflies after them.⁶⁸ Convinced that settler appropriation of Xhosa lands was the chief cause of the frontier conflicts, he may have viewed Maqoma, Hintsa and Ngqika in a more sympathetic light than did the settlers in Albany.

Yet, it would be a mistake to assume that Trimén was not racially prejudiced. In relation to the San, he shared in and even exaggerated the prevalent racial stereotypes of the day. A single sentence of the obituary which he wrote for Bleek is indicative of this:

Most interesting and suggestive was it to see the earnest, big-browed German, a typical example of the cultured intellect of his nation, with painstaking exactness and marvelous patience, repeating, analyzing, noting down every sound and syllable uttered by the semi-savage at his side, who – with his pigmy stature, prognathous dusky face, narrow forehead, sunken restless eyes, and harsh clicking ejaculations – might well have passed for demon-imp of mediaeval story, compelled by the magic art of the alchemist-philosopher to reveal his jealously-hoarded secrets.⁶⁹

While Bleek's attitude towards indigenous South African peoples has attracted much scholarly attention,⁷⁰ Trimén's ideology, life and work have remained in the dark. One of the main reasons for this neglect is the unavailability of sources.⁷¹

In 1864, Mary Elizabeth Barber and Trimen discussed a case of butterfly naming and disagreed like never before and after. Barber had a complex emotional investment in the butterflies and their naming. She was outraged when reading these names without an explanation and could not understand Trimen. Shortly after Trimen published these names for the first time, Barber wrote to him in 1864. She reminded him of the scholarly value of Linnaeus' classifications, respectively that she agreed with Harvey 'that all barbarous names ought by all means to be avoided'.⁷²

I am much obliged to you for the names of the Butterflies that you sent me, as for *Djalala* it certainly is a great curiosity a wonderful name, a name that cannot be forgotten! I am quite in love with it, [...] and I see you have been adding another to the list (I mean Macomo) how could you call a butterfly insect "child of the sun" after that son of darkness? That thing so evil, that brandy loving murderous Kafir Macomo? I like nearly all the names in your first part,⁷³ they are pretty and fanciful but there are some terrible names in the second part [...].⁷⁴

Barber interpreted the fact that Trimen named butterflies after Xhosa chiefs as a hagiographic practice intended to immortalise them. She echoed settler tropes of 'Macomo' as an alcoholic in an attempt to demean him in Trimen's eyes and points out how misguided her correspondent had been in his choice of names. Barber's reference to the butterfly as 'child of the sun' comes from the first verse of one of the most celebrated poets during his lifetime, the English Samuel Rodgers' poem 'To the butterfly': 'Child of the sun! pursue thy rapturous flight [...]'.⁷⁵ Her reference to 'Macomo' as 'son of darkness' might indicate that she had heard of his Xhosa praise name—*Jongumsobomvu* (Watching the Sunrise), which Ngqika had given to him due to his habit of getting up before dawn⁷⁶—but that she remembered it inaccurately. This in turn would suggest that Barber was aware of the stories that circulated about the three chiefs among both settlers and the amaXhosa, yet it is rather unlikely.

Barber's experiences of the frontier conflicts radically differed from Trimen's. Trimen had arrived in Cape Town in 1859, where he spent most of his days at the Cape until his departure in 1893, and had no direct experience of the frontier conflicts between the British and the amaXhosa. Given Trimen's social ties in Cape Town, he can be expected to have been aware of the political situation, even though sources on whether he commented on social and political issues are unknown, and in his scientific work, he solely focused on the description of specimens in scientific jargon.

Barber, who had been trying in vain to earn money through science and who, alongside her brother, had invested much time and effort to be among the first to observe and describe the three species, viewed Trimen's decision to name them after Xhosa chiefs, the stated enemies of her family, as unacceptable. She suggested he named them after 'the species and the food plants, such as *Cardui Hippomenus Bramca* &c., these names also divide peculiarities in the plants, and they are truly scientific'.⁷⁷ Trimen did not change the names in *South-African Butterflies* (3 Vols., 1887–1889).⁷⁸ Yet, in illustrations and descriptions, Trimen and Bowker included information on the plants that individual species frequented and as caterpillars fed upon. As Barber only complained once about Trimen's decision, it can be assumed that he convincingly explained to her his reasons for doing so.

The most plausible explanation for Trimen's naming the three butterflies after the three Xhosa chiefs is that the wings resembled the chiefs' garment patterns and skin colour.⁷⁹ *Pamphila Macomo* was brown with quadrate, ochreous-yellow spots and blackish dots, *Lycsena Hintza* had hind-marginal blackish edgings and blackish spots and *Lycaena Gaika* was pale-blue with brownish-grey borders of variable width on hind-margins and blackish spots.⁸⁰ A comparison of drawn portraits of the two chiefs that were well-known among settlers at the time with photographs of the butterflies illustrates the resemblance between wing and garment patterns.

Ngqika typically wore the traditional royal dress of leopard skin garments as a sign of his high rank and was favourably described by British and German travellers who had personally met him.⁸¹ These descriptions of a physically handsome and attractive man might also have influenced Trimen's decision to name a butterfly after Ngqika.⁸² An additional reason was that *Lycaena gaika*, according to Trimen's description, had longer wings, a 'more delicate texture', a more slender and elongated abdomen than most other species of the genus.⁸³ Besides visual similarity, the three butterflies' habitat (Kaffraria and British Kaffraria) influenced Trimen to name them after Xhosa chiefs. What may seem to be an appreciation of otherness or a celebration of the other, however, is potentially never far removed from the denigration, annihilation or silencing of difference.

Trimen also named the three soft and fragile animals with short life spans after the three Xhosa chiefs to celebrate European military success over the amaXhosa. The butterflies were named at a time when the British felt secure in their belief that they had defeated the Xhosa nation represented by the three chiefs. The naming thus suggests a celebration of settler success, power and conquest. To understand what Trimen may have

known about the three chiefs, I briefly reconstruct key moments in Xhosa relations with the British from a settler perspective (until 1864) to demonstrate that the process of butterfly naming was a more complex act than a simple commemoration of the three Xhosa heroes—Gaika, Hintza and Macomo to use the names used by the colonialists.

Lycaena Gaika was named after Gaika (c. 1779–1829). After defeating his ward and uncle Ndlambe in 1795, the British called him Paramount Chief. He expanded his control and started collaborating with the British, whom he saw as potential allies against Ndlambe, by returning stolen cattle and deserters to the Cape. Gaika, who realised that he was so alienated from his own people that he could only rely on the Colony for protection, sought to gain as many benefits from this new alliance as possible, while blaming Ndlambe for thefts that his own followers had committed and from which he had himself profited. At the great battle of Amalinde in October 1818—‘the greatest and most terrible battle’ the amaXhosa ever fought among themselves—Gaika lost.⁸⁴ He is said to have frequented the colonial barracks, to have felt betrayed, but dependent on the colonial authorities. Having morally capitulated and having spent all the money he had on brandy until his body was ultimately ravaged by liquor and tuberculosis, he died in 1829.⁸⁵

Lycena Hintza was named after Hintza (1789–1835) who had been the fourth paramount chief of the Gcaleka, a subgroup of the Xhosa nation, since 1820.⁸⁶ The British accused him of instigating the 1834 Xhosa invasion of the Cape Colony and in 1835 took him prisoner. For his release, they demanded 5000 heads of cattle and 500 horses as ‘war damages’ to replace those which had supposedly been stolen from settlers in and around Grahamstown.⁸⁷ Forced to accompany Colonel Harry Smith on a mission to raid Gcaleka stock on 12 May 1835, Hintza allegedly tried to escape and was pursued by Smith and George Southey, who shot him in the legs. Hintza fell from his horse, ran with bleeding legs to a stream and fired an assegai that missed Southey. Southey shot him in his head. His body was then mutilated on the banks of the Nqabara River, with his ear (or ears) said to have been cut off and sent to Grahamstown, as a war trophy, and his head reportedly severed and dispatched to Britain.⁸⁸

Pamphila Macomo was named after chief Macomo (1798–1873), the first son born to Chief Gaika’s Right-hand House, the second wife, and thus not his heir.⁸⁹ Yet when his father died, Macomo became regent and emerged as the most significant of the Western Xhosa chiefs. His brother Sandile (c. 1820–1878) became chief of the amaNgqika in 1842, and

Macomo was disempowered and introduced to strong liquor at the military canteen in Fort Beaufort. The end of the Seventh Cape-Xhosa War left the amaNgqika negotiating with the new Governor, Sir George Cathcart, as Macomo's guerrilla bands were starved and exhausted. The British banished the amaNgqika from the Amathole Mountains and squeezed them into a cramped and impoverished reserve on the Western bank of the Kei River. Following the starvation after the Xhosa Cattle-Killing of 1856–1857, Macomo was arrested in 1858 and sentenced to death, which was commuted to twenty years' imprisonment and hard labour on Robben Island. Thus, removed from his own territory to make way for a Khoekhoe settlement, Macomo had, from the perspective of the British settlers, been successfully humiliated, exiled, impoverished, defeated and imprisoned. In short, the majority of contemporary colonial sources generally described him as a 'drunken troublemaker'⁹⁰ and cattle thief who masterminded an unprovoked attack on the colony in 1834 and eventually led his subjects into the irrational Cattle Killing catastrophe of 1856–1857.⁹¹

Naming the butterflies after these unsuccessful insurgents allowed the British and settlers celebrate themselves. This is all the more realistic given that the type specimens after which Trimen named the butterflies had been collected by the British naturalist William Stewart Mitchell D'Urban (1836–1934), Sir Benjamin D'Urban's grandson, who had spent much of his early life with his grandfather at Wynberg.⁹² Benjamin D'Urban attacked the amaXhosa in the Sixth Cape-Xhosa War, let Hintza be murdered and annexed the territory between the Keiskamma and Kei Rivers which he called Queen Adelaide Province. Thereby, for the first time in African history, Africans stood under the direct rule of the British.⁹³ It has been argued that Hintza was actually murdered by D'Urban.⁹⁴ As this murder was harshly condemned both at the Cape and in Britain, Albany settlers sought to demonise Hintza as 'an inveterate liar' and for 'having plotted against the colony before the war'.⁹⁵ D'Urban was pleased with the news of Hintza's death,⁹⁶ but received orders from London to organise a court inquiry into the alleged murder in August 1836. This resulted in no one being held responsible but in criticism of the corpse's mutilation. However, activism on the part of British and Cape humanitarians compelled the British colonial secretary Lord Glenelg to intervene by returning the conquered Xhosa land between Fish River and Kei River as well as to establish treaty relations with Xhosa chiefs. The 1836 commission's distorted version of what had happened resulted in 'the growing malig-

nant image of blacks' in the colony.⁹⁷ This became part of what came to be considered the Cape's 'definitive history', as propagated in George Cory's *The Rise of South Africa* (1921–1932) in which Hintza is portrayed to have had 'all the vices of the savage, cruelty, treachery, avarice, and the deepest cunning [...] Hintza got no more than the reward for his perfidy'.⁹⁸

The third possible explanation is that Trimen was aware that the chiefs were discussed in starkly contrasting ways by the amaXhosa and decided to make Ngqika, Hintza and Maqoma visible in order to conceal the importance they played in contemporary Xhosa society.⁹⁹ For his part, Trimen would have been aware that the amaXhosa celebrated the three chiefs as key figures in African resistance for withstanding the British pressure for much longer and far more successfully than the colonial interpretations allowed to believe.

Naming butterflies after Xhosa chiefs mirrors a similar practice in nineteenth-century settler colonial art and the humanities, namely the representation of indigenous peoples. The German philologist Wilhelm Bleek recorded tales and songs to analyse the sounds of dying languages; George William Stow recorded rock art as relics of the almost extinct Bushmen and artists such as Frederick Timpson P'Ons painted souvenir portraits of the autochthonous population such as in his *South African Portraits* (1836).¹⁰⁰ It was generally believed that these groups had to be portrayed and recorded before they inevitably died out, unable to compete with the advance of white civilisation. Similar to feel-good stories of how settlers helped Africans to survive, which were passed down over several generations even while the deaths and destruction caused in the self-same colonial process were silenced, art works and scientific names served as mascots and mementos of settler survival. Yet, there is a difference between the two: paintings (or busts and sculptures) were mostly created when the indigenous subjects were still alive,¹⁰¹ while Trimen posthumously named butterflies after the three chiefs.

In analogy to what Rebekka Habermas has called 'eloquent silence',¹⁰² I see these works of art and Trimen's naming practice as visible concealing.¹⁰³ Eloquent silence, according to Habermas, is the process by which a scandal, for instance, serves to hide more than it exposes.¹⁰⁴ In the case discussed at length, I focused on the presence of the absent—the names and faces of three Xhosa chiefs who, according to the British, had been killed or defeated in the colonial process. In doing so, I was interested in how the mechanism of heroising (as opposed to scandalising) also contributed to the process of silencing through a corresponding technique which

I call visible concealing. While Xhosa chiefs became visible in butterfly names, their life stories and importance to the amaXhosa as well as the reasons for such naming were concealed.

In the end, Barber had little influence on Trimen's classification and naming of newly discovered species of Lepidoptera. However, their discussion provides insight into how racial ideologies and lived war experiences influenced naming practices which were far less objective and more frequently unrelated to an animal's appearance or behaviour than generally assumed. The discussion between Barber and Trimen also hints at tensions between radical eastern Cape settlers and Cape Town liberals.¹⁰⁵ The contextualisation of Trimen has highlighted ambiguities in the worldviews of liberals in Cape Town as well as how ideology had an impact on naming. It also shows how the butterflies' habitat and context played a much stronger role when being named in near colonial proximity rather than in the metropole.

While Barber had described botany as a 'sovereign remedy'¹⁰⁶ in the Cape-Xhosa Wars, naming had a similar function to help the British cope with the horrors of war. As such, the naming of the three butterflies can be read as one coping strategy among others for the British desperate to overcome the fear of war and loss. At the same time, the heroising of chiefs—who the amaXhosa celebrate as freedom fighters today—by naming butterflies after them allowed colonial naturalists to conceal the true nature of indigenous-settler relations and the Xhosa interpretation of events by conversely appropriating their identities and, upon a first glance, paradoxically lionising them.

Barber's position within natural history was complex. As she contributed to various disciplines, she had intersecting roles that contradicted each other from time to time. Barber occupied a space in between European travellers and Africans, women and men scientists, the metropole and the periphery, wealth and poverty. Her economic, cultural and social capital varied according to the context of her research, but she was never entirely silenced. This is evident in Chaps. 4, 5 and 6, which present the complexity of her marginalisation and explore how she dealt with the highs of being published in renowned scientific journals and praised for providing corroborative evidence for evolutionary theory alongside the lows of being ignored, neglected or plagiarised.

The increasing South Africanisation of science aided and abetted these developments. In 1866, the botanists Peter MacOwan and Harry Bolus had founded the South African Botanical Exchange Society, an endeavour which aimed to send duplicates collected by amateur naturalists to over-

seas herbaria and thereby raise worldwide interest in South African flora.¹⁰⁷ In 1878, Barber was 'quite proud' that Trimen praised her paper 'On Colour',¹⁰⁸ as she coveted his approval more than that of Darwin or Hooker.¹⁰⁹ Barber, however, was convinced that Cape naturalists were already equal to their colleagues in England, if not superior, and wanted to promote this view. She predicted that South Africa 'will eventually prove to be one of the greatest and wealthiest countrys [sic!] of the world. With a flora second to none.'¹¹⁰ After the country's unification in 1910, the botanist Alice Marguerite Pegler (1861–1929), a teacher in Kentani who had collaborated with MacOwan, Bolus, Henry Harold Welch Pearson, Selmar Schonland, Illtyd Buller Pole-Evans, and others and who would become the first woman associate member of the Linnean Society of London in 1912, wrote in a letter to Pearson that she had sent her fungi specimens to experts in South Africa, rather than to those at the Royal Botanic Gardens Kew, as she firmly believed that South African, and not British, botanists should do the work on South African flora.¹¹¹ This was indicative of an increasingly prevalent and self-confident national identity in science as South African botanists asserted their independence from British institutions and began to send specimens to experts in their own country rather than abroad. To what extent this 'South Africanisation' of science occurred during Barber's lifetime and how racial ideology shaped this process is discussed in more detail in the following chapter.

NOTES

1. See for example (Raj 2007); (McCalman 2010); (Sivasundaram 2013).
2. (Farber 1982, 100).
3. See (Jacobs 2016, 78–100).
4. (Trouillot 1995, 82).
5. Also referred to as Le Vaillant.
6. See (Levaillant 1790a, b, 1795, 1796).
7. (Levaillant 1799a, b, 1802, 1805, 1806, 1808).
8. (Sundevall 1865).
9. (Jacobs 2016, 83).
10. (Layard 1867, 12, 15–16, 17, 20, 21, 22, 29, 36, 42, 49, 51, 139); (Walters 2003, 83–86).
11. (Hockey et al. 2005, 10).
12. (Rookmaaker et al. 2004); Also see (Rookmaaker 1989, 177–271); (Huigen 2009, 119–145); (Glenn 2009, 93–94).

13. Patrick Harries, as one among many of his colleagues, for instance, assumed that he had always been well known. Jacobs does not mention his marginalisation; see for example (Jacobs 2016, 76, 82–83, 86–87, 96, 99, 107, 244). For a recent publication which celebrates Levaillant, see (Siegfried 2016).
14. (Partridge 1996, particularly 297).
15. See for example in (Brontë 1996, chapter 1, 20).
16. Prideaux John Selby's *Illustrations of British Ornithology* (1821–1834), Henry Leonard Meyer's *Illustrations of British Birds* (1835–1841), Thomas Campbell Eyton's *Rarer British Birds* (1836) a supplement to the much-loved Thomas Bewick's *History of British Birds* (1797, 1804), William Yarrell's (1837–1843) and William Macgillivray's (1837–1852) *History of British Birds*, William Jardine's *Illustrations of Ornithology* (1825–43), and William Swainson's *The Naturalist's Library* (1833–43).
17. Jane Loudon, Reverend F. O. Morris, C. A. Johns, J. G. Wood were among the most well-known of these.
18. Audubon to John Bachman, 20 April 1835, in (Irmscher 1999, 832); also quoted in (Smith 2006, 92).
19. I met and corresponded with Dr. Gerald Klinghardt, Curator: Anthropology, Iziko Museums of South Africa, Cape Town, in 2011 and 2014, looked for sources at the Natural History Museum in London and traced his autobiography to the Manuscripts, Rare Books and Special Collections department of the McGill University Library in Montreal. However, none of his correspondence could be found.
20. (Gray 1840).
21. (Gurney 1868, 135).
22. (Layard 1867, vi). See for example (Layard 1869, 74, 77, 365, 366, 370, 371, 373–374); (Bowdler Sharpe 1875, 150, 782).
23. Layard to Richard Owen, Natural History Museum, London (NHM), Owen Correspondence, Vol. 17, Letter 248, Cape Town, 15 April 1870, underlined in original.
24. (A. Sparrman 1776, 2:190–191); (D. A. Sparrman 1777, 45); (Levaillant 1796, 107); (Jacobs 2016, 99).
25. RES, Trimen Correspondence, Box 18, Letter 108, Kimberley, 2 September 1878; Bertram Egerton Bowker, Reminiscences, HM, SM 57(b), 3; http://www.s2a3.org.za/bio/Biograph_final.php?serial=100, date accessed 12 February 2016.
26. M. E. Barber to Amenia Barber in England, Highlands, 16 November 1868, Late Gareth Mitford-Barberton's Private Family Archive, Serial No 015.
27. Barber, *Wanderings*, MS 10560 (a), Vol. 1, 19–20, 35–37.

28. (Broderip 1833).
29. By the 1880s, the dodo had become an 'extinction icon' see (Cheke and Turvey 2008).
30. Mary E. Barber, *Wanderings*, Vol. 1, MS 10560 (a) 41–42. See for example (Hammel 2016, 131).
31. Barber painted the Colesberg Kopje or New Rush, 1871, a few months before it was recognised as being diamondiferous. See (Schonland 1904, 100); Art Store, History Museum, Albany Museum Complex, Picture 1.
32. 'General view of Kimberley in the "early days." A town of tents.' (Schonland 1904, 100). Art Store, History Museum, Albany Museum Complex, Picture 2.
33. (Barber 1878, 27).
34. Barber, *Wanderings*, Vol. 1, MS 10560 (a), 4.
35. (Barber 1871, 332).
36. RES, Trimen Correspondence, Letter 123, Grahamstown, 24 April 1885; Letter 124, Grahamstown, 26 July 1885.
37. Barber, "A Plea for Insectivorous Birds", HM, SM 5501 (46), 5.
38. In another context, William Beinart has shown how the Natal forest code, for instance, had drawn on similar legislation in Mauritius from the eighteenth century (Beinart 1989, 147).
39. (Saxena 2015).
40. (Merriam 1890).
41. See for example (Forbes and Jermier 2002); (Merchant 1984, 2016). An exception is (Bonhomme 2007).
42. Jane Carruthers argues that Le Vaillant was not a scientist, as he did not use Linnean nomenclature and sees Dr Andrew Smith as South Africa's pioneering ornithologist (Carruthers 2004, 93). See (Merton 1963, 1973).
43. The East Riding Association for the Protection of Sea Birds was founded in 1867 and the Association for the Protection of British Birds in 1870, see (McCormick 1992, 15); (White 2013, 454). With the exception of the earlier 'An Act for the Preservation of Game and Protection of Birds in the District of Columbia' (1879) http://memory.loc.gov/cgi-bin/query/D?consrvbib:16:./temp/~ammem_xh1k::, date accessed 4 May 2014.
44. (McCormick 1992, 18).
45. (Hornaday 1913, 145); (Doughty 1975, 29).
46. (Patchett 2011).
47. KLAA, Director's Correspondence, Vol. 189, Letter 115, Highlands, 9 May 1867. See (Hooker 1866a, b, 1867a, b). She might also have read and referred to an earlier work: (Hooker 1847).
48. KLAA, Director's Correspondence, Vol. 189, Letter 114, Barber to Hooker, Highlands, 6 May 1867.

49. KLAAs, Director's Correspondence, Vol. 189, Letter 115, no date, underlined in original.
50. (Barber 1880, 195).
51. See for example (Lotka 1910, 1920, 1925); (Volterra 1926).
52. RES, Trimen Correspondence, Box 17, Letter 40, Highlands, 5 January 1865.
53. (Barber 1880, 195).
54. (Barber 1880, 218).
55. No evidence for this part of her hypothesis has been found, as historian and ecologist Clive Spinage has argued in (Spinage 2012, 521).
56. (Barber 1880, 202–203, 204–205).
57. Barber, *Wanderings*, Vol. 2, MS 10560 (b), 53.
58. "Report of the Commission appointed by his Excellency the Governor to inquire into and report upon the means of exterminating the insect of the family *Coccidae*, commonly known as the Australian Bug" published at Cape Town, 1877, and from the letter of Roland Trimen, dated 5 February 1877 and published by the Government Secretary of Cape Colony as "Government Notice No. 113, 1877".
59. See (Wallace 1896, 10, 94, 197–198).
60. Barber, *Wanderings*, Vol. 2, MS 10560 (b), 54–55.
61. Barber, *Wanderings*, Vol. 2, MS 10560 (b), 53. See for example (Lubbock 1877a, b, 1880).
62. (Ormerod 1889).
63. Scholarly debate has hitherto focused on linguistic imperialism which refers to the devaluation of both vernacular names and insights. The discussion centred on whether the Linnaean systematics shared in the underlying logic of European expansion and colonisation. Some have argued that Linnaean binominal nomenclature included many more vernacular names than initially thought and that the nomenclature system was created to mediate between cultures rather than allow one to benefit at the expense of others. See for example (Cook 2010, 128); (Cooper 2007, 166–172); (Müller-Wille 2005, 48). Yet, like American historian of science Londa Schiebinger, I am convinced that however inclusive of vernacular names a European naturalist may have been, non-European plants were inevitably subsumed into a European classificatory logic (Schiebinger 2007, 105).
64. (Cohen 2002, 206). Today, entomologists distinguish four suborders *Zeugloptera* (mandibulate archaic moths, considered the most primitive extant lineage of Lepidoptera), *Aglossata* (kauri moths), *Heterobathmiina* (primitive, diurnal, metallic moths, confined to southern South America) and *Glossata* (all butterflies and moths that have a coilable proboscis.).

65. See for example (Trimen 1862, 403). Trimen was not the first naturalist to name animals after African people. Levaillant had been in close contact with Khoekhoen and had two friends after whom he named *Apaloderma narina* (Narina trogon) and *Chrysococcyx klaas* (Klaas's cuckoo) in *Oiseaux d'Afrique* as an acknowledgement for their assistance. The names of 13 out of 300 species included in Levaillant's book had their roots in Southern African vernacular languages, especially in Cape Dutch, the pidgin which the Khoekhoen spoke at the time. Likewise, there were earlier examples of animals named after African chiefs. Sir Andrew Smith of the South African Museum in Cape Town, who led the 'Expedition for Exploring Central Africa' through Tswana territory in what is now the province of North West in South Africa from 1834 to 1836, recorded seventeen bird names' origination from Sotho-Tswana languages. However, he neither translated these nor disclosed their origins. For example, Smith named the white-browed sparrow-weaver as *Procepasser mahali* without any explanation. Jacobs has shown that Tswana speakers employed the term *mogale* to describe a brave or heroic individual and that Smith's *mahali* is based on *mogale*. She has not made a connection between *mogale* and the name of the powerful chief Mogale wa Mogale of the Po chiefdom of the Batswana, a territory which stretched from Magalisberg to Northcliff Ridge, the Vaal River and present-day Hartbeespoort Dam. He is believed to have ruled over a kingdom of miners and traders of gold, which was broken up by Zulu king Shaka, Mzilikazi and their followers, before the Voortrekkers invaded and took over land in the area of today's Mogale City. Mogale wa Mogale is recognised as one of the first freedom fighters in South Africa. Whether Smith was ignorant of these origins or deliberately chose to name the bird after Chief Mogale wa Mogale to celebrate him or European conquest of his land remains unclear. Trimen's and Smith's motives differed from Levaillant's recognising his Khoekhoe friends (Jacobs 2016, 82–83, 85, 87, 89, 94); (Hilton-Barber and Berger 2004, 41).
66. As detailed by the British Parliamentary Select Committee report on Aborigines in 1836. See (The Aborigines Protection Society 1837).
67. (Bank 2006, 66, 317).
68. See for example (Bennun 2004, 8); (Skotnes 2007, 272).
69. This obituary was first published as: R. Trimen, "Obituary of WHI Bleek", *Cape Argus* and republished as (T [Trimen] 1875). According to Bank, this sentence 'has rightly attracted censure for its racist contrast' between Bleek and the San informants, 'a view scarcely in keeping with Bleek's own research ethic'. (Bank 2006, 257). Dubow, however, has stressed Bleek's own ambiguous attitude towards the San (Dubow 2006, 110).

70. See for example (Bank 2000); for a discussion of different approaches to the Bleek-Lloyd Archive, see (Rassool 2006).
71. Therefore, much of this section remains speculative. Yet as Andrew Bank has shown, historians can elucidate much about scientific practices in nineteenth-century South Africa by conjecturing. See for example (Bank 2006; Bank and Bank 2013).
72. RES, Trimen Correspondence, Box 17, Letter 39, Highlands, 6 September 1864.
73. See (Trimen 1887a).
74. RES, Trimen Correspondence, Box 17, Letter 39, Highlands, 6 September 1864, underlined in original.
75. (Mavor 1823, 324).
76. See (Stapleton 1993, 325).
77. RES, Trimen Correspondence, Box 17, Letter 39, Highlands, 6 September 1864, underlined in original.
78. See “*Lycaena Gaika*, Trimen”, (Trimen 1887b, 2:50–52); “*Lycaena Hintza*, Trimen”, in (Trimen 1887b, 2:79–80); “*Thymelicus Macomo*, (Trimen)”, (Trimen 1889, 3:302–303).
79. See for example (Trimen 1862, 1864).
80. (Trimen 1864, 177, 403, 1866, 2:50, 243, n. 144, 2:297–298, 1887b, 2:79). Other interesting butterfly names are: *Nisoniades Djaelaetae*, *N. Mokeezi* and *N. Kobela*, see: (Trimen 1866, 2:310–312), *Nisoniades djaelaetae* is now known as The Small Marbled Elf (*Eretis umbra*), *N. Mokeezi* as The Large Sprite, Large Flat or Christmas Forester (*Celaenorhynchus mokeezi*) and *N. kobela* as The Mrs. Raven Flat or Mrs. Raven Skipper (*Calleagris kobela*).
81. Sketch of King Hintsa aka Khawuta, see for example (Legassick 2010, between pages 72 and 73), original: CL, APN252075. For a photograph of *Zintha hintza*, see <http://www.lolldaiga.com/butterfly-list/> accessed 2 December 2018. André Coetzer, member of The Lepidopterists’ Society of Africa, provided me with his photographs which I used in my PhD thesis. John Barrow, for instance, described him in 1797 as ‘the adored object of his subjects; the name of Gaika was in every mouth, and it was seldom pronounced without symptoms of joy’. And Hinrich Lichtenstein (1780–1857), who met Ngqika in 1803, wrote: ‘It is not hazarding too much to say that among the savages all over the globe a handsomer man could scarcely be found. Nay, one might go farther, and say that among the sovereigns of the cultivated nations it would perhaps be difficult to find so many qualities united, worthy of their dignity.’ (Barrow et al. 1806, 151); (Lichtenstein 1812, 320).

82. An engraving of the youthful Ngqika, the chief of the Rharhabe Xhosa, 1813, an impressionistic contemporary sketch, can be seen in (Mostert 1992, n.p. between 320 and 321); the original is at the Cape Archives. André Coetzer provided me with a photograph of The Gaika Blue or Tiny Grass Blue (*Zizula hylax*) he took in 2009, and similar photographs can be found online.
83. *Lycæna gaika* in (Trimen 1862, 403–404).
84. (Mostert 1992, 466).
85. (Peires 1979).
86. See for example (Crais 1992, 115).
87. (Mostert 1992, 366); (Lalu 2009, 34); (Peires 1989, 84–85).
88. (Lalu 2009, 31, 34).
89. See for example (Peires 1975).
90. In ‘the War of the Axe’ (1846–1847) ‘Colonial sources attempted to discredit Maqoma by claiming that he capitulated early because of alcohol-induced insanity’, (Stapleton 1993, 326).
91. The teenage prophetess Nongqawuse initiated a millennialist movement that culminated in the Xhosa cattle-killing crisis of 1856–1857. She called on thousands of amaXhosa to slaughter their cattle and cast their seeds to the wind, a disastrous appeal which resulted in the death of 25,000 people from mass starvation and the loss of much of their land as well as the migration of thousands of amaXhosa into the Cape Colony as labourers (Stapleton 1993, 321); Saunders, “Maqoma (1798–1873)”, in (Stapleton 2016, 455). For more on Nongqawuse, see (Bradford 1996, 2007, 2008; Bradford and Qotole 2008).
92. Governor D’Urban is said to have been more Whig than Tory in disposition and liberal-minded when he arrived in Cape Town on 10 January 1834. His outlook was humanitarian, and his main aim was to treat Africans better and to enable slave emancipation, which he succeeded in accomplishing on 1 December 1834. While D’Urban only allowed shooting at the frontier in self-defence, he was unaware of the gravity of the conflict (Mostert 1992, 635, 639–640, 645, 650, 728).
93. “Benjamin D’Urban” in *Encyclopaedia Britannica*: <https://www.britannica.com/biography/Benjamin-DUrban>, last updated 8 April 2009, date accessed 21 November 2016.
94. See for example in the novel (Mda 2000, 86).
95. (Watson 2012, 109); Timothy J. Stapleton, “Hintsá (c. 1790–1835)”, in (Stapleton 2016, 349).
96. (Mostert 1992, 727, 728).
97. (Watson 2012, 110).
98. (Watson 2012, 116).

99. Given the absence of contemporary sources in isiXhosa and of research literature by Xhosa historians, we need to reconstruct how the amaXhosa experienced the three chiefs' lives differently through literature that has taken Xhosa oral histories into account. Interpretations and narrations changed over time, but the core and the main difference to settler interpretations have been fixed since the events' occurrences. See for example (Peires 1981, 1989); (Wells 2012); (Stapleton 1993, 1994, 77, 111, 113, 118, 121–122, 127, 131, 138–140, 223–224); (Peires 1981); Saunders, “Maqoma” in (Stapleton 2016, 454); (Legassick 2010, 23); (Lalu 2009, 28, 74). The Xhosa proverb *omasiza mbulala*, ‘they who came to help came to kill’, emerged from the Xhosa nation’s experience with the British while under Ngqika. Quoted in (Peires 1981, 79). The ruling Xhosa king has awarded the King Hintsa Bravery Award since 1999.
100. Two early pieces of Australian sculpture, the British artist Benjamin Law’s busts of Woureddy (1835) and Trucaninny (1836)—two of the most celebrated Tasmanian Aboriginal individuals of the 1830s—have attracted considerable attention in this regard. These were recognised as ethnographic records depicting Aborigines ‘in their primitive state’, not as pieces of art by contemporary artists (Bonyhady 2010). Mary Mackay, for example, described Woureddy’s bust as depicting a ‘hunter, warrior and man-in-command, a Greek hero in kangaroo skin’, in (Thomas et al. 1988, 93). Truganini (*1812), the best-known Tasmanian Aboriginal woman of the colonial era, was from the Nuenonne group, Bruny Island, and spent twenty years in detention on Flinders Island and another seventeen years in the Oyster Cove camp, south of Hobart. Hundred years after her death, the Palawa people, modern Aboriginal Tasmanians, cremated her remains and scattered her ashes in the D’Entrecasteaux Channel, close to her birthplace and homeland (Florek 2016a, b).
101. An exception is l’Ons by now famous depiction of Makhanda, for more on that see (Wells 2012, 50).
102. My translation for ‘beredtes Schweigen’.
103. In German, I would call it ‘ersichtlich gemachtes Verhüllen’.
104. (Habermas 2016, 17).
105. I do not go into further detail here as Andrew Bank has already done so in (Bank 1995).
106. Letter to Harvey in *Flora Capensis*, quoted in (Mitford-Barberton 1934, 85).
107. (Gunn and Codd 1981, 183).
108. (Barber 1878).
109. RES, Trimen Correspondence, Box 18, Letter 105, Kimberley, 11 April 1878.

110. Barber to Joseph D. Hooker, KLAA, Director's Correspondence, Vol. 189, Letter 134, Johannesburg, 4 March 1888.
111. Alice M. Pegler to Dr. Pearson, Kentani, 19 June 1912, Manuscripts and Archive Division, UCT, BC 234.

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PART III

Negotiating Belonging Through
Science



Arguing with Artefacts, Biofacts and Organisms: Barber's Advocacy for 1820 Settlers' Supremacy and Land Rights

BARBER'S CONSTRUCTION OF AFRICANS

In the mid-1830s, the heated public debate ignited by the Sixth Cape-Xhosa War about Xhosa–British relations saw the Bowkers' attitudes shift. During this period, the twin myths of vacant land as well as Xhosa aggression supposedly leading to the outbreak of the Sixth Cape-Xhosa War were established.¹ Barber's brothers played a significant role in reinforcing this biased point of view with occasional papers published in the *Graham's Town Journal*. William Monkhouse Bowker (1803–1876), Barber's second oldest brother, wrote similar contributions in the local newspaper, as had his deceased older brother, John Mitford.² Andrew Bank has shown how liberals' favourable attitude towards indigenous peoples sparked a fierce counter reaction from the British settler community—on the colony's eastern frontier in the 1830s and 1840s—who could read theories of scientific racism and biological determinism.³ This growing denigration of and hostility towards the amaXhosa was not a discussion limited to men, as letters from Barber's mother demonstrate.⁴

Barber's attitude towards Africans hardened after the Eighth Cape-Xhosa War and particularly in Kimberley. In the War, the Barbers and Bowkers lost virtually everything they had owned and found it difficult to cope with their renewed loss of property and status. While living in Kimberley in the 1870s, the economic difficulties which her family faced (see Chap. 8) as well as the sheer number of Africans she encountered for

the first time left her feeling anxious. Due to the mineral revolution during which whites required cheap and subservient black labour to mine for their conglomerates without the labourers' claiming rights to the fortunes made, there was an increasing need to clarify the ideological implications of race so that African miners would accept their place within a society moulded along imperialist and racial-supremacist lines.⁵

In Kimberley, Barber was best known for her articles and poems which contrasted 'civilized Europeans and uncivilized Africans'.⁶ These were published in the *Cape Monthly Magazine* (*CMM*) and were addressed at fellow settlers. By the 1870s, however, it had become clear that this generalist journal could no longer satisfy scholars conducting detailed research on literary works, in art history and in the sciences. Two separate societies emerged to fill this gap, the South African Fine Arts Association (1871) and the South African Philosophical Society (1877). The formation of the latter was part of the trend towards the differentiation of academic disciplines and the professionalisation of the sciences in South Africa.⁷ Unlike smaller regional journals and societies which experienced difficulties in recruiting sufficient members and subscribers, these large societies formed equivalents to the Linnean Society and Royal Society in England. From 1878, the *Transactions of the South African Philosophical Society* (*TSAPS*) were published, and the society soon became the country's premier general scientific institution.⁸ Remarkably, Barber's articles in the *TSAPS* did not differ in rhetoric from those which she published in the *CMM*, which may indicate that the readership and authorship of the two publications largely overlapped and shared the same ideological convictions.

From the 1870s, *CMM* articles in general became more and more derisive of Africans.⁹ White settlers were presented as victims—not oppressors—and their sufferings were explained at length. Such sentiments were shared among many settlers in the British colonies, who considered themselves at home on the land, while the local indigenous population were aggressive assailants.¹⁰

As an erratic example, in Barber's 1873 article on 'The Dark Races of the Diamond Fields', she suddenly shifts from two opening paragraphs on African mine workers to a discussion of flies. She argues that the English fly is 'the best-behaved': coming 'from highly-civilized Europe' it has 'superior manners to its swarthy savage South African brethren'.¹¹ But black flies now predominated, despite bluebottles, house and gad flies also occurring in great numbers.¹² Black flies felt at home, appropriated dwellings, stole liquor, were always on the lookout for food and were

omnipresent in troubling Barber and her white compatriots—an analogy to black mine workers, and white diamond diggers' strained relations with the Africans present.¹³ Meanwhile, the common black crickets of Griqualand West served as an analogy to the local Griqua people, as—according to Barber—the crickets (Griqua) were a constant irritant and terror for their singing and destruction of the land.¹⁴

The article ends in a series of rhyming couplets of a poem entitled 'The New Rush Flea'.¹⁵ According to the South African literary critic Jeanette Eve, Barber had written these verses for the amusement of herself and her friends and betrayed no poetic talent in the process.¹⁶ In this poem, Barber uses the metaphor of the flea to describe African mine workers and thus goes beyond a dichotomy between white 'civilisation' and African 'barbarism' to describe the differences between the races.¹⁷ The short life expectancy of fleas, their lack of an abdomen, their slowness in flight and weak defence mechanisms against danger also made them suitable metaphors to denigrate the bodies of Africans. Yet despite their alleged physical inferiority, Barber had strong anxieties:

I dread the solemn hours of night;
I dare not e'en put out the light;
Surrounded by the shadowy foe,
The hours of rest are hours of woe,
Although their "face I never see,"
Most vampire-like they fix on me.¹⁸

Besides her paranoid feelings, she saw their relations as an all-encompassing struggle. She found herself in a constant battle against the black enemy.¹⁹ In the entire article and its accompanying poem, Barber presents African mine workers as non-human and thus only further fans her readers' racist sentiments.

The years 1877 and 1878 were turbulent years for the Barbers. They were unhappy in Kimberley, due to a lack of economic success, yet they could not return to Albany due to the Ninth Cape-Xhosa War (1877–1879). Barber was afraid that her brother James Henry would have to return to Basutoland as he had been acting as the high commissioner's agent there from April 1868 to May 1870 after the British annexation of the territory.²⁰ He was engaged in the Ninth Cape-Xhosa War instead.²¹ Barber's correspondence suggests that she was exhausted and particularly tired of the endless talk of war:

I wish the world would learn to live quietly without wars, I hate wars. How fearfully the Turks and Russians [in the Russo-Turkish War (1877–1878)] are watching each other just now, and all the world looking on and taking notes, and making pictures of these ruffians, the *Illustrated* and the *Graphic* have “gone in” for a series of the most murderous pictures that were ever printed, I am sick of them, page after page of dead mens [!] legs, and arms, and heads. &c. &c. [!] we are fast returning to barbarians if such pictures entertain an enlightened public!²²

However, it was not local but overseas wars which riled her moral senses, and she was less disturbed by the act of war itself than the media sensation mongering which surrounded it. At the Cape, she rarely observed the immediate results of war first-hand, and war scenes were seldom depicted in her writings. Besides, it was not until the Anglo-Zulu war in 1879 that George Taylor Ferneyhough became the first South African photographer to accompany troops into the battlefield.²³

However, the scenes which Barber described in the quotation and those which she had witnessed at the Cape all the more inflated her belief in ‘the survival of the fittest’ in the struggle for life. When she left Kimberley in 1878, Barber commented in her travel journal how ‘some of the existing races who still [sic!] inhabit the continent of South Africa have made but little progress in the scale of civilization, through the long ages that have passed away’,²⁴ an aside which is symptomatic of her wish to expel them and her exterminatory leanings.

Barber’s article on ‘Locusts and Locust Birds’, which was read to the South African Philosophical Society on 27 August and 30 September 1879 and published in *TSAPS* in 1880, was intended to affirm white supremacy and British superiority. While ostensibly a paper on birds’ dependency on locusts,²⁵ Barber attempted to legitimise the actions of British settlers and what she perceived as their right to land.

In 1885, the same article was read before the Grahamstown Natural History Society—not to inform white settlers on birds and locusts but to self-affirm their feeling of supremacy.²⁶ Barber employed different animal species as metaphors for the British and Africans. The British were birds, the Africans locusts. Locusts would retreat into the interior, where they lived a precarious existence and merged with other locust swarms—analogueous to the Khoekhoen and San—and left the land they had originally populated to the locust birds.²⁷ At the same time, the article generalises individuals into ethnic groups but constructs a nuanced picture of the

social hierarchy Barber imagines among African ethnicities. These descriptions do not include references to biological aspects, but solely to socio-cultural behavioural traits which, she argued, justify the unequal distribution of power along racial lines. She imagines a social hierarchy with the amaXhosa at the top, followed by the Sotho, Batlhaping (of the Tswana), Griqua, Khoekhoen and Ba-Kalahari.²⁸ The nomadic San are at the lowest rung, as from Barber's point of view, they do not have the capacity to think about the future and are naively happy to live from hand to mouth.²⁹ The next subsection offers an in-depth analysis of this article and Barber's construction of Afrikaners.

In her travel journal, Barber also used plants as a means of expressing social hierarchy and to promote Cape Colonial nationalism. For instance, she compared a Xhosa man to a huge succulent plant in reference to his 'domestication'. Influenced by Atherstone's research on lunatic asylums in Britain, Europe and at the Cape, she visited such an institution on Robben Island where she encountered a Xhosa man whom she compared to a Mexican species of cactus which have been common in the area around Makhandla (Grahamstown). In analogy to the American prickly pear (*cactus opuntia*), which Barber no longer considered to be an invasive plant at the Cape due to its domestication, acclimatisation and adapted thorns which resembled those of indigenous plants, Barber felt this Xhosa man had been silenced and successfully assimilated into British settler culture. She sarcastically added that 'if some exasperated, thrice ruined frontier farmers had seen this Kafir, they would have exclaimed "Oh that they were all as good and quiet as he is"'.³⁰ To domesticate, then, also carries 'as one of its meanings the action "to civilize"'. Through often violent 'rituals of domesticity', plants and people were 'inducted through the domestic progress narrative into a hierarchical relation to white men'.³¹ The expression of social hierarchy for Barber promotes the systemic civilising of 'inferior' species.

Barber, thus, did not subscribe to the eugenic views of Ernst Haeckel who called for the killing of the sick, weak and handicapped to promote the survival of the fittest of the species. Instead, she shared the opinion of William Porter, the first chancellor of the University of the Cape of Good Hope (1876–1880), who argued that Christians should not kill the sick and weak, but build hospitals for them.³² Yet Barber did not fully agree with Porter's supposedly advanced or progressive Unitarian Liberalism—with its strong beliefs in charity and the fundamental equality of all human beings—when it came to the amaXhosa and the Africans she experienced as potential threat.

BARBER'S USE OF METAPHORS TO EMPHASISE AFRIKANERS' INFERIORITY

Barber and her extended family initially had enjoyed good relations with the Afrikaners in Albany, but over time developed anti-Afrikaner sentiments. Two of Barber's brothers got married to two Afrikaner sisters in 1827 and 1836.³³ As her private correspondence did not include mentions of them, she was presumably not in as close contact with them as she was with her other relatives. Relations between 1820 Settlers and Afrikaners deteriorated and led to the Great Trek, Afrikaners' north-eastward emigration away from British administration in the Cape Colony during the 1830s and 1840s. Some of the communities had already led an isolationist and semi-nomadic lifestyle before the trek to evade the developing administrative complexities in Cape Town. Yet the Afrikaners had particularly been alienated by the 1834 decision to abolish slavery in the British colonies.

Barber for the first time openly voiced her anti-Dutch feelings in 1847, when she wrote to her oldest brother John Mitford with the view that there were too many Afrikaners who were envious of the English and their achievements after visiting a farm near Graaff-Reinet.³⁴ Entries in the journal of Sophia Beddoe, governess to Bertram's children, indicate that the Bowkers' anti-Afrikaner sentiment had become quite strident by 1864.³⁵

In the 1870s, prior to the First South African War (1880–1881), the Afrikaners were more heavily criticised by the British settlers. The *CMM* presented the stereotypical Afrikaner as an anti-progressive and 'anti-modern variant of the European noble savage'. Their lack of regard to time and industry, their subsistence lifestyle and disinterest in material progress was seen as the very opposite to British vigour and determination. Yet the *CMM* was never anti-Dutch per se, with liberal Anglophones prepared to include the supposedly advanced or progressive Afrikaners within a common Anglo-Dutch Cape colonial identity.³⁶

In 'Locusts and Locust Birds', Barber referred to Afrikaners as *voetgangers*, young locusts in the wingless stage. Hierarchically, the Afrikaners were situated between the 1820 Settlers and the amaXhosa. The *voetgangers* are said to lie dormant and passively await a brighter future while leaving devastation and ruin in their wake. The damage they caused in the process, she argued, was worse than that wrought by the Imago locusts—the amaXhosa—who did not leave the land completely bare.³⁷ The *voetgangers* had lived on the Fish River heights, but left the neighbourhood

when the birds came along taking a northern course into the interior, in analogy to the Great Trek.³⁸ *Voetgangers* were

a terrible scourge to the country wherever they occur, clearing off fields of corn and gardens of vegetables, and leaving devastation and ruin in their wake – in fact, destroying every green thing, not only in the cultivated fields, but throughout the length and breadth of the land, to the utter destruction of all pasturage, leaving no food for cattle. They are considered worse even than the Imago locusts themselves.³⁹

Barber describes the destruction of the land inflicted by the Afrikaners and *voetgangers* in an identical way, as a comparison of the above passage with the one following taken from her travel journal (c. 1879) of her journey from Kimberly to Durban via Cape Town shows:

The homesteads of the rude uneducated Boers are all alike throughout this country. They are pictures of squalid wretchedness and discomfort, entirely without the improvements which Civilization should carry in her wake; not that I have much faith in civilization, it may be a mistake altogether, however, we expect from it, and, I fear, reap but little. Let us bear in mind that these Boers are included in the list of civilized men. Has the country, I wonder, benefitted by their possessing it? They have certainly acted as pioneers, they have cleared the way, driven out the original inhabitants! Before their long rifles the magnificent herds of antelopes have almost entirely disappeared, together with the elephant, the buffalo, the giraffe, rhinoceros, hippopotamus, lion and the wild Bushman with his poisoned arrows: all are gone, even the reed beds which gave them shelter, which in former times fringed the margins of our rivers; rivers which were once running streams, but are no longer so; the scrubby, bitter, Karoo bush has taken the place of the once charming fields of grass, and other valuable pasturage plants. Such is the result of civilization, and the love of greed, of over-stocking and ruining a fine country: and after all this, what have we left? [...].⁴⁰

She portrays *voetgangers* as swifter still than adult locusts, reflecting her conviction that Afrikaners are superior to Africans. She also sees the *voetgangers*' colour as gradually changing as they assimilate to their adopted homeland.⁴¹ Among humans, this process was called 'going native' or 'Verkaffering', a term that the Germans adapted from Afrikaans in South-West Africa to describe the loss of distance and an over-assimilation of the colonial population to the locals. Barber highlights how the intellectually

vastly superior British settlers were thereby left with the responsibility of protecting nature by restraining its human foes, the Afrikaners and Africans alike.

Through descriptions of landscape in her travel journal, Barber offered further arguments for the inferiority of Afrikaners. During a period of political upheaval in the region during the Anglo-Zulu War and shortly before the First South African War, Barber repeatedly emphasised the stark contrast between indolent Afrikaners living in isolated, wild settings and British settlers who had built schools and houses of (what she experienced as) admirable architecture in ‘park-like and picturesque’ scenery which testified to their industriousness.⁴² In contrast, she observed the typical homesteads and kraals of Afrikaners’ and the customary Xhosa dwellings and dams with a sharp eye for their respective failures in agriculture, gardening and cultivation. She criticised Afrikaners for planting invasive species such as willow trees, American aloes, fig trees and blue gum trees in their gardens⁴³ and expressed disappointment that civilisation had brought so little for the uneducated Afrikaners whose homesteads all looked alike. She henceforth excluded them from ‘the list of civilized men’. Yet, she differentiated between uneducated and educated Afrikaners. The latter she praised for their Dutch Reformed Church buildings and farmhouses that she found ‘homelike’ and reputable in prosperous-looking district towns such as Victoria West on the bank of the Brakrivier in the central Karoo region.⁴⁴ Barber clearly distinguished between Afrikaners in remote, rural areas, whom she deemed ‘primitive’ and backward, and urban, progressive ones. Her correspondence and scientific collaborations were nevertheless curtailed to English-speaking partners.

THINKING WITH PLANTS: BARBER’S HOSTILITY TOWARDS AUSTRALIANS/BRITONS AND BOTANICAL NATIONALISM

Besides Afrikaners and Africans, Barber was particularly critical of Australians. Her disdain extended to Australian insects and plants, and she accused Australian blue gum trees, for example, of being ‘interlopers’ which ‘harrowed up’ her ‘African feelings’.⁴⁵ Similarly, in her mind, the Australian beefwood was gloomy and apt to emit a funeral sound in the wind which caused any passers-by to contemplate suicide.

In the 1870s, there were many Australians on the diamond fields, and Barber possibly linked her family’s failures at diamond digging to them (see Chap. 8). Moreover, she seemed resentful that the colonial

government had employed the Australian Edward John Dunn as Cape government geologist, instead of an 1820 Settler from her own network. She refused to refer to research by Australians and eventually only reluctantly did so upon Trimen's urgings. The Cape Colony and Australia were competitors as both wanted to be the superior colony and the first in the Southern hemisphere to give rise to scientific revolution or innovation.

Yet, Barber was equally critical of Britons who had arrived much later than the 1820 Settlers and were quick, for example, to plant pine trees to the exclusion of indigenous trees, which she considered to be better adapted, 'more varied and interesting'.⁴⁶ Barber also made sure to stress 1820 Settlers' superiority and the supremacy of their scientific contribution. She emphasised that they had far superior knowledge of South African plants than that displayed by European or Australian visitors, whom she disparaged as unaccustomed to finding the secret spots of plants and often incapable of spotting a single abundant plant species on their travels.⁴⁷

Barber also expressed 1820-Settler values through comments and observations on plants. The wild fig grows out of other trees' hollow trunks and forms a trunk of its own, a process which served as an analogy for original 1820 Settlers laying down roots in a foreign land and making it their own.⁴⁸ Similarly, the grapple plant, which spreads its seed by clinging to the fur of animals, served as a metaphor for British settlers, who were steadfast in defending their locations in the struggle for life, or the dispossession of land respectively. She admired the sprigs, in particular, for being tough, unbreakable and (re)bendable in any direction.⁴⁹ Barber admired invasive plants that courageously were able to cling to life in their new homes, withstood wind and weather, and displayed superior persistence to indigenous plants and people—an analogy to the, in her mind, well-adapted, brave 1820 Settlers who withstood the furies of the Cape-Xhosa Wars.⁵⁰

Barber was underlining the uniqueness of Southern African flora several years before Cape Town-based botanist Harry Bolus (1834–1911) made the now famous claim that the number of different plant species at the Cape far exceeded that of all other known regions of the world. This claim was preceded by the ones uttered by Sir John Barrow, Karl Wilhelm Ludwig Pappel, William Henry Harvey and the brothers Carl Friedrich and Johann Frantz Drège, yet—unlike the men colleagues who preceded her—Barber's was the first in the context of the raising Cape nationalism. Bolus wished to awake 'patriotic South African sentiment' in the period of

the Second South African War. While a strong identification with local flora was responsible for the awakening of a wider South African nationalism in the 1890s and the first decade of the 1900s,⁵¹ this botanical nationalism first gained momentum in the late 1870s.

The link which Barber drew between the natural and social worlds thus occurred primarily at a metaphorical level. In contrast, the discipline of archaeology allowed Barber to address her political concerns more directly, particularly as she was at the very centre of a scientific network which evolved around the first archaeologists at the Cape.⁵²

REASONING WITH ARTEFACTS AND BIOFACTS: THEORIES FOR APPROPRIATING TERRITORY

Barber and her older brother Thomas Holden Bowker were largely responsible for the birth of archaeology at the Cape.⁵³ The emerging discipline was inextricably linked with the annexation of land, and Bowker's presence in parliament during the 1857–1858 session was of particular importance in this regard. After his success as commandant of burghers at Whittlesea (1850–1853), for which he was given an award and testimonial, Bowker enjoyed great popularity in Albany. He became an acting member of the House of Assembly (the lower house) and the legislative council (the upper house) of the Parliament of the Cape of Good Hope (founded in 1853) for Albany, Victoria East and Queenstown from 1854 to 1863.

Since 1835 he had been concerned with 1820 Settlers' compensation claims for Cape-Xhosa War losses and had been known in Albany under the cognomen of 'Compensation Bowker'.⁵⁴ After the Eighth Cape-Xhosa War, he was part of a commission which distributed farms to supposedly deserving burghers who had fought against the forces of the Xhosa paramount chief, Sarili ka Hintska. In family lore, Bowker is remembered as selflessly waiting for the last piece of available land to be distributed before claiming his share, which would ultimately prove unsuitable for farming.

On experiencing ensuing financial difficulties,⁵⁵ he wrote a memorandum in which he listed all his achievements⁵⁶: he declared himself unappreciated and declared the achievement recompense for his deeds as an overlooked national hero his ulterior aim. Thanks to the government's lack of a frontier defence plan, he argued, he had had to sacrifice his career and fortune to protect his compatriots. He now demanded land, but not just any land: he demanded Theopolis, which had been a London

Missionary Society (LMS) station since 1814 and was situated to the east of Grahamstown.⁵⁷ This site was of symbolic importance as Bowker was strongly opposed to missionaries in general and those who had lived and worked at Theopolis in particular.⁵⁸

The Scottish missionary Dr. John Philip (1775–1851), superintendent of the LMS stations in South Africa, had frequently criticised the colonists and the colonial government's treatment of the autochthonous population, and Bowker was expressly opposed to him. While the House of Commons in London had adopted Philip's recommendations for the expansion of civil rights to 'indigenous and coloured people' at the Cape and had forced the colonial government to abide by his suggestions, his unpopularity among the settler community grew after the controversial Ordinance 50 was passed in 1828 which granted Khoekhoen and San free movement on the labour market. According to Philip, however, Ordinance 50 ensured little beyond the continued availability of Khoekhoe wage labour for settlers.⁵⁹ The Eighth Cape-Xhosa War was a catastrophe for the LMS: the Theopolis mission station had been broken up, the Philipton station burned to the ground and the Kat River Settlement was destroyed before white settlers were able to purchase much of its land.⁶⁰ Had Bowker received former LMS land, this would have been a significant victory for the settlers in this ideological battle as well as a touchdown of revenge for Bowker.

His memorandum was discussed in Government House on 31 March 1858 by Sir George Grey, who was the governor of the Cape Colony from 1854 to 1861. Bowker's was one among 400 applications for land, mainly from British settlers, discussed at the time.⁶¹ A committee questioned witnesses and resolved to report on the matter to the House before adjourning. Ultimately, the government did not recognise any of Bowker's claims, but Grey offered to lend him 100 pounds.⁶² As Bowker's hopes for financial recovery through land were dashed, he was turning to a quest for archaeological artefacts trying to find a reason why white settlers like him had a reason to occupy the land.

In March 1858, during the same parliamentary session, he had visited Edgar Leopold Layard, director of the South African Museum in Cape Town. Bowker entered Layard's office as the latter was unpacking a collection of flint artefacts from Copenhagen. Layard must have learned about these finds, which he had ordered for a display planned in Cape Town, through his eldest brother, Austen Henry Layard, who had excavated Nimrud and Niniveh in the Middle East and had uncovered the library of

Ashurbanipal in 1851. Bowker surmised that these Scandinavian finds resembled the stone arrowheads which he had found in his youth.

According to *The Lower Albany Chronicle*, the then twenty-year-old Bowker, who had been living at the Cape for seven years, had found flake points which he used as arrowheads on hunting expeditions in December 1827.⁶³ He had promised to send these to Layard, as the latter reported, if the barn, where Bowker had stored them on the farm Tharfield, 'had remained undisturbed, and had escaped the ravages and burnings of [Bowker's] foes, the Kaffirs' in the intervening decades.⁶⁴ After his return from Cape Town in 1858, Bowker conducted a search at the mouths of the Kowie and the Kleinemond, two small rivers which opened on to the beach on his land, and found further stone implements. Nonetheless, public recognition continued to elude him, and he was not elected president of the Orange Free State in 1863, even though he had been asked to be a candidate and supported by the press.⁶⁵ Bowker decided to seek fame in different ways.

For one of his attempts, he sent a letter on his finds to Layard, who in turn forwarded it to Professor Richard Owen at the British Museum in London. In this letter, Bowker maintained that the stone implements which he had found were produced by the same people who had made those he had seen from Copenhagen. Some of the perforated implements he had gathered bore the marks of strikes from a hammer or a long, hard pebble, an act of which he did not believe 'a stalwart savage' capable; as Bowker argued, Africans had no knowledge of any skills besides shooting. He further claimed to have found other, less complex implements which bore the mark 'of the savage whose ideas went no further in the art of stone cutting than is necessary for chipping a flint'.⁶⁶

In search of support for his theory that these implements were indeed made by originally white people populating Southern Africa, Bowker first turned to his sister Mary Elizabeth who had by then become a botanist, entomologist and ornithologist. She replied in 1865 that she did not believe that the original inhabitants of the region had been white; for if they had been, as she argued in a staunch Social Darwinist manner, they would not have subsequently vanished.⁶⁷

Bowker then contacted former governor of the Cape Colony and then governor of New Zealand, George Grey, who held a wide interest in pre-history and ethnology.⁶⁸ In 1838, Grey had been the first to document rock art in the Kimberley region of Australia, arguing that it was scarcely

probable that a self-taught Aborigine could have created these paintings and that their true origins were open to conjecture. The Aborigines whom he had questioned about the matter meanwhile never claimed their ancestors to be the original artists of these paintings, but that 'the moon, who was a man' had created them, something which Grey took as a reference to a white man. Like Bowker, Grey also argued for two distinct styles of cultural artefacts. While the rock art near the coast was 'nothing but the rudest scratches', the more complex drawings, which culminated at the furthest point from the sea, however, pointed towards a lost tribe of whites in the interior.⁶⁹

In a letter to Grey, Bowker argued that because the first European visitors had not seen the arrow and spearheads in use and the contemporary Khoekhoen did not use them, they had to be the only remaining evidence of the original inhabitants of the Cape, who would have been 'far anterior to the advent or immigration of' the amaXhosa, Khoekhoen or San.⁷⁰ In line with Jean-Jacques Rousseau, who had claimed that 'savages' had never used tools, and Scottish anatomist, ethnologist and medic Robert Knox's conviction that the Cape had remained unaltered over time,⁷¹ Bowker recorded that he had not seen any locals using tools to make fire or obtain honey as he himself had always done.⁷² As he considered Africans to be 'living fossils' who had not developed since the prehistoric period, he assumed that the San would still use such Stone Age tools if they had once made them.

By the 1870s, archaeological evidence allowed for two fluid and interwoven positions on the Khoekhoen and San and their place in Cape society: an admiration for their rock art and an acknowledgement of the importance of preserving it juxtaposed with the conviction that, as inferior peoples, the Khoekhoen and San were doomed to extinction.⁷³ Their expected demise was linked to an urgent quest to put them and their artefacts on display—whether in zoological gardens as part of live ethnological exposition, so-called *Völkerschauen*, or in museums—before they were gone forever.

That the San could have produced those so-called Bushmen stones was unthinkable for Barber. When on the Vaal, the San were no longer present; they had 'made room for civilization', as she euphemistically put it. Their ancestors from prehistoric times could not have made holes through these hard stones, she believed, as they had probably not been hardworking and were 'not an improvable people'.⁷⁴ She thus employed the idleness

trope, widespread among settlers, which constructed a distinction between diligent British settlers and idle, anti-modern, anti-progressive locals and argued that they had not evolved.⁷⁵

Roland Trimen seems to have criticised Barber's theory and to have referred her to publications by the English traveller Burchell and the Australian geologist Dunn.⁷⁶ Burchell had seen a San woman with three sticks upon which 'Bushmen stones' were fixed near Hopetown in 1812. She had used these either for walking or for digging wild roots.⁷⁷ In 1873, Dunn published an article in which he claimed to have been told by San people that they had been perforating stones until recently. He also observed a San woman in Struits Pits at the Sak River, close to Brandvlei in the Karoo, who had been using a stick for digging and who told him that hard, pointed stones were used to perforate stones. This, Dunn reported her saying, was being done from both sides until the holes met in the centre.⁷⁸ In 1879, Barber referred to both Burchell and Dunn in her travel journal when she described how the San and the 'Koranna' used sticks for digging.⁷⁹

Yet, Barber drew together a host of universalising observations in an attempt to undermine arguments about the uniqueness of San cultural practices and dispossess the San people of their cultural achievements. She devoted much attention in her travel journal to report on similar findings by Darwin in India and Giovanni Ignazio Molinas in Chile. In a *CMM* article in 1871, she claimed that early humans had used bored stones for similar purposes all across the world.⁸⁰ She argued that some of the existing races at the Cape had progressed little on the scales of civilisation since and were still using stone tools. The logical conclusion of her theory was to argue for the common ancestry of all humans. However, according to her, this had no implications of present-day equality across the species. Barber read in stone implements 'the simple history of a type of the human race, which was but slightly removed from its poor relations who dwelt in trees'.⁸¹

Even so, Barber's interpretation shifted over time. The knowledge that Barber produced in this interdisciplinary endeavour was both ever-changing and speculative in nature. Indeed, its very fluidity could serve to continuously legitimise contemporary colonial practices and policies and their accompanying aims of settlement and dispossession by recourse to perceived and self-constructed racial hierarchies. In 1877, Griqualand West was incorporated into the Cape Colony, and Barber justified this annexation through her interpretation of the 'Bushmen stones'. She had

changed her mind and now perceived them as evidence for the theory of an original white population having inhabited the area after all.

Barber had discussed this interpretation with Charles Warren, who during his time with the Royal Engineers in Palestine had been commissioned by the Palestine Exploration Fund to carry out archaeological research in the region, explicitly on the Temple Mount (Jerusalem). Warren now was an officer in the Royal Engineers squad which was working on defining the boundary between Griqualand West and the Orange Free State, an independent Boer sovereign republic.⁸² He reported to Barber that he had found similar bored stones in the valley of Jehoshaphat—presumably the Kidron Valley on the eastern side of the Old City of Jerusalem—with Hebrew inscriptions.⁸³ In response, Barber suggested that white people of Jewish descent had perforated the Griqualand West stones. Having presumably read Alfred Russel Wallace's argument that Jews retained the skin colour of the Germanic races everywhere,⁸⁴ Barber believed a lost tribe of Jews may have lived in Southern Africa millennia ago. The ancient Kingdom of Israel consisted of twelve tribes, and when the kingdom collapsed in 722 B.C.E., the Assyrians were widely believed to have exiled ten tribes who subsequently disappeared from historical records. This reflected the popular discursive trope in the Victorian period that the ancient ancestors of the British people were the lost tribes of Israel.⁸⁵

Barber's explanation is not dissimilar to German explorer and geographer Karl Gottlieb Mauch's theory concerning the ruins of Great Zimbabwe. In his report to Justus Perthes' Geographical Society from September 1871, he speculated about the site's possible association with the biblical King Solomon and the Queen of Sheba.⁸⁶ He argued that the structures had been built to replicate the Queen of Sheba's palace in Jerusalem⁸⁷ and believed a wooden lintel, which he found at the site, was made of Lebanese cedar brought to present-day Zimbabwe by Phoenicians.⁸⁸ Inevitably, Mauch believed that the contemporary Shona inhabitants' ancestors could not have built these structures. The Sheba legend soon became pervasive in the white settler community and a legitimised reason to lay claim to the gold found in present-day Zimbabwe. In a strange twist of logic connecting antiquity, culture and land, indigenous African peoples thus became transient interlopers wedged between earlier and later possessions of the land by whites.⁸⁹ Bowker and Barber in the same way erase the history of contemporary Africans by positing a vanished white Jewish presence which only the settlers could revitalise.

Prospectors such as Cecil John Rhodes, who visited Great Zimbabwe for the first time in 1891, informed Lobengula, the leader of the Ndebele—who had established his kingdom in present-day Zimbabwe after being driven north by the Afrikaners in 1837—that ‘the “ancient temple” which the “Great Master” was visiting had once belonged to white men’.⁹⁰ That Africans would never have been capable of initiating such labour was common knowledge, J. Theodor Bent argued, an English author and explorer who went on an archaeological expedition to Great Zimbabwe sponsored by Rhodes. As he regarded Africans as nomads and anarchists, Bent deemed them incapable of organising themselves in the social structures required to execute such a task, and he concluded that Africans could only have built Great Zimbabwe as slaves of a higher civilisation. Scottish-born South African ex-civil servant and politician Alexander Wilmot, then the leading textbook writer at the Cape, whom Rhodes paid for archival research of descriptions of Zimbabwe in European libraries, argued that Southern Africa was a white man’s land in which the only role for Africans was that of cheap labourers.⁹¹

Despite that, settlers also perceived indigenous people as irritants intruding on and disturbing their peace.⁹² Settlers disregarded the histories that preceded their arrival and considered themselves to be the first real inhabitants of the land on which they settled.⁹³ As the literary scholars Anna Johnston and Alan Lawson argue, a settler narrative follows two goals: it aims to suppress and efface the indigene, while, conversely, also seeking to indigenise the settler in the founding and growth of cultural—in this case Anglophone Cape Colonial—nationalism.⁹⁴ Archaeological discourse in Southern Africa is a clear example of how these two aims supplemented each other.

As a system of knowledge, the British Empire, in this case, articulates itself and is negotiated through relevant scientific disciplines and institutions such as anthropology and phrenology which held crucial roles in colonial society. The Bowker siblings also collected contemporary tools because there were no clear lines between anthropology and archaeology and no professionals in these fields yet. They also did so because they thought that Africans were developmentally speaking millennia behind and thus historical artefacts themselves. For example, Barber’s brother Octavius Bouchier Bowker (1816–1899) held a great interest in weapons. He was a partner in the weapons firm Hayton and Bowker and traded firearms with Afrikaners in the Orange Free State. As a burgher, he served in the Senekal’s War of 1858 and the Sequiti War (1865–1866, 1867–1868)

against the Sotho and collected many of their 'war implements'. He sent a letter that has not survived to Barber, who was then living on the farm Highlands near Grahamstown and mentioned it in a letter to Trimen. Barber subsequently contacted Trimen in Cape Town, inquiring whether the Sotho 'war implements' were worth sending to the Paris Universal Exhibition, which was scheduled for the following year. Trimen's reaction is not known, but we can assume he helped Barber sending them to responsible actors who displayed these 'assegais, clubs, and shields of Basutos' in Paris in 1867.⁹⁵ To all appearances, Barber intended to demonstrate the primitive developmental stage at which the Sotho found themselves, and declared how the 'war tools remind one of the stone arrow heads' of the San who she imagined as the lowest representatives of the human species.

This is another revealing example of visible concealment; in the process of collecting these artefacts and offering them to urban, metropolitan institutions, the original ownership of the objects is stripped in various ways. Most obviously through the very act of collection, the owners of the weapons are deprived of their tools. The drawing, arranging, inscribing and naming of the artefacts by Bowker and Barber then further remove them from their Sotho context and allow for their dissemination and display among and within the Northern networks of knowledge and exhibition. This process transposes them into an entirely new setting, where the histories of their original production, possession and collection are further silenced. Thus freed from their background and history, they are presented as trophies of British supremacy which conceals their true origins.

The Sotho war tools, stripped of any context or history, ultimately satisfied a European public curious for displays of artefacts made and used by indigenous people. Their display at the Paris Universal Exhibition formed part of the same 'entertainment economy' as 'Völkerschauen' or the tours of 'professional savages'. The relationship between such artefacts or 'performers and the public was marked by a distancing that fostered stereotypical attitudes'.⁹⁶

Cape-born and bred, James Henry Bowker—the lepidopterist—was convinced that land inhabited by cannibals should be appropriated. As agent to the high commissioner, he visited the caverns in the Transgariep region of today's Free State province. He thus sent his sister a detailed account of his observations from the excursion which she then remodelled into the paper which was later erroneously published under the name of a 'Mr Layland'.⁹⁷ The letter focussed on the allegations that the Sotho were

cannibals and Bowker's bewilderment as to why they ate 'their own wives and children' since the 'savages' lived in 'a fine agricultural tract of country, which also abounded in game'. These 'horrible practices of this degraded people' had not been abandoned, he claimed, as he had spotted fresh evidence of human bones. He described how the agriculturally promising area near the Caledon River, including a section of the banks of the Putesana River, had been inhabited by cannibals in the past, and he further claimed there were 'still a good many of the old cannibals in existence' including people who even then lived in caves, for instance 'near the sources of the Caledon River'.⁹⁸

In 1880, James Henry Bowker collected stone artefacts in KwaZulu-Natal after the Anglo-Zulu War and reported that he observed Maluti San using stone arrowheads.⁹⁹ In an article in the *Natal Witness* on 17 April 1880, he argued that the artefacts which he had found at Rorke's Drift and Isandhlwana did not differ from those found at the Cape, in Griqualand West or in the Free State; he thus argued for a white original people populating the entire region.¹⁰⁰ He was, thus, in agreement with his siblings.

In 1884, after Basutoland became a British Crown Colony, he published an article, 'Other days in South Africa' in the *TSAPS*, which was based on the 1868 'Layland' article. In it, he attempted to justify the British annexation of more than half of the territory's arable land in 1871, when the boundaries were fixed. He spurred imperialists into reconquering further agriculturally promising land near the sources of the Caledon River.¹⁰¹ He also reported on how Tswana refugees from the Caledon River valley had been employed on his father's farm and that a boy who had learned English had told him about the barbarian practices of his people. These sections had not been part of the 1868 version, and no other references to Tswana people living on any of the Bowkers' farms could be found.¹⁰² They suddenly became important as their supposedly cannibalistic and uncivilised practices allowed Bowker to justify the colonisation of their cultivatable land. In his *History of South Africa Since September 1795*, the settler historian George McCall Theal, whose focus was invariably 'the spread of white settlement and "civilization"', and the moral and material progress that accompanied that process', included a renarrated account of Bowker's visit to the cave in July 1868 taken from his correspondence with the high commissioner. It thus earned itself a place in the traditions of settler history.¹⁰³

Besides collecting anthropological and archaeological artefacts and supposed evidence of cannibalism, the Bowkers also collected human remains.

Barber most likely came into contact with phrenological theory through the medic H. E. Macartney, who had opened a practice in Grahamstown after the Sixth Cape-Xhosa War and spoke widely on phrenology in public lectures.¹⁰⁴ Barber and Thomas Holden Bowker presented some of their finds from the vicinity of the Tharfield farm at the first meeting of the Albany Natural History Society on 11 September 1867. Among these were potsherds, stone tools and fragments of human skulls. *The Graham's Town Journal* openly reported Bowker's plundering of a young woman's grave—a grave surrounded by others which may have been robbed as well. The dead body, which had been buried in a sitting position,¹⁰⁵ was most likely of Khoesan or Xhosa origin. It was not mentioned whether this find was a chance discovery or the result of an archaeological excavation, nor whether the young woman had died recently or centuries earlier. As phrenology had died out decades before the 1880s, Barber and Bowker were physical anthropologists.

It is noteworthy that this was the skull of a woman and not the usual male specimen which local and European phrenologists were usually most interested in. For instance, Swiss naturalists Paul and Fritz Sarasin from Basel, who collected skulls in the British crown colony of Ceylon between 1883 and 1886, only regarded men as meaningful representatives of the physical and psychological levels of development of their respective 'race' or 'variety'.¹⁰⁶ While the difference between zoological 'species' and human 'varieties' was always of a gradual nature to them, gender differences were categorical and absolute.¹⁰⁷

In 1870, Barber recounted to Trimen that she and her little nephew came across exposed bones while they had been collecting 'specimens' at the beach. They went on to excavate an entire human skeleton. As nobody had been reported missing in the fifty years she had been living in the area, Barber was convinced that the skeleton must have belonged to a shipwrecked seaman. She then added a telling aside on how it could also belong to 'some creature that fell in war', 'but natives are never buried'¹⁰⁸ which shows that Barber was ignorant of Xhosa, San and Khoekhoen burial practices. She did not forget the skeleton; in Kimberley, some six years later, she wrote a poem entitled 'Lost' and speculated on the missing person and forgotten life story behind the bones.¹⁰⁹

It is not known whether this was the only time Barber collected human remains, but the practice was common in the region at the time.¹¹⁰ Zurich-based botanist Hans Schinz, who stole and preserved human remains from

South-West Africa for anthropological collections in Berlin, described in his travel report how he had secretly dissected ‘a well preserved corpse of an Omundonga [a person of the Kingdom of Ondonga] fallen in combat’ on a wagon roof, rubbed the bone fragments with arsenic soap and exposed them to the sun. When the wind caused the box hiding the bones to fall to the ground, his ‘carefully guarded secret revealed itself’.¹¹¹ Schinz was aware of how problematic the appropriation was, but, as he wrote to his mother, ‘one has to collect everything’.¹¹² Nevertheless, he was careful to hide the skeleton from the eyes of his travelling companions and locals and did not record the reactions of those who witnessed its fall. Yet, there is scant doubt that his actions only brought him distrust, shame and aversion.¹¹³ Twenty years earlier, on a journey in Australia, the curator of the South African Museum, Edgar Leopold Layard, collected four skulls of Aborigines, which he described as ‘trophies’. The only discomfort he recorded during the episode was having to inhale the aromatic balm with which the mourners had rubbed the dead.¹¹⁴ It is quite likely that the skeleton which Barber found became part of a collection—she never mentioned what she did with it in the remaining sources.

Barber’s collecting practices must be seen in the context of her multiple and competing identities. Barber was a fervent imperialist who constantly hoped that the Cape Colony and the British Empire would expand and who animated her men compatriots to fight for the expansion through her writing. In her poems and letters, she spurred on the violence and conquest perpetrated by British men. One such poem is ‘Egypt’, written in Grahamstown in May 1885, in which she addressed the British soldiers:

‘Bright thy history, but not brighter
 Than the deeds which now are done,
 When each bold and valiant fighter
 Strives for victories begun.
 England’s sons know but their duty,
 Hearts of oak, they scorn to fly
 For Egypt, or our Isle of Beauty,
 Win the victory – or die.
 Onward, onward, all undaunted,
 When the bugle calls to war,
 When our strong arm most is wanted,
 Men of England! There we are.’¹¹⁵

The poem described the Battle of Khartoum, in which the Mahdist forces conquered Egyptian-held Khartoum after a ten-month siege of the city

between March 1884 and January 1885. All Egyptian soldiers and about 4000 Sudanese civilians are said to have been killed in this battle. Barber was deeply concerned that the fallen general, Charles George Gordon, would be forgotten and wrote this poem to commemorate British heroism in Egypt and Egyptian-held Sudan. The poem was published in *The Royal Engineers Journal* in 1886 to encourage further British imperial conquest.¹¹⁶

Another example of her steadfast imperialism is the following letter which presumably is the only available letter to her husband, written in 1891 shortly before his death, in which Barber wrote that:

There is plenty of fine country in Mashonaland [a region in northern Zimbabwe] and what does it signify whether Rhodes got it fairly or unfairly, at any rate we have as much right to Mashonaland as the Matabeli have, for they were oppressing the Mashonas, which we would not do. They were carrying off their children for slaves, or wives, and taking their cattle too, and all we shall do is to take some of their land, perhaps pay them for it, give them plenty of work, plenty of money, plenty of liquor and, if they will go to the bad why that is their own fault, their destiny and the law of evolution. If people can not [!] hold their own then good bye to the survival of the fittest, that's all. Their destiny is not in our hands, we can not [!] alter their future. The Fingoes are doing well, and they are under our protection.¹¹⁷

Barber legitimised British settlers' actions by invoking a social Darwinist discourse which underlined their supposed moral superiority, right to land and righteous acquisition thereof.

Her arguments were reflected in and reinvigorated by her sons', son-in-law's and brothers' imperialist actions. For example, her son-in-law Alexander Cumming Bailie (1850–1903) left his mark as a geographer, land surveyor and fellow of the Royal Geographical Society. Bailie was a grandson of lieutenant John Bailie, a civil servant and Royal Naval officer, who had been the captain of George Rex's brig, the *Knysna*. Alexander worked in government service as an assistant to Major Owen Lanyon, the administrator of Griqualand West in Kimberley in the 1870s. He then collaborated with Charles Warren in the Department of the Surveyor-General and undertook a survey assessing the feasibility of a trans-African telegraph system in 1877.¹¹⁸ As surveyor-general of Griqualand-West, Baillie was sent to Matabeleland in 1876 as a labour recruiter for the diamond mines, but was also tasked with mapping the route and reporting on the economic potential of the areas through which he passed. Travelling via

Taung and eastern Botswana, he arrived in Bulawayo before travelling back to Kimberley in 1877, a journey of some 1400 kilometres in total. From 1881 to 1884, Baillie acted as a magistrate in Basutoland. Thereafter, having found no employment in the Cape civil service, he moved to Johannesburg in 1885, where he became a founding member of the executive committee of the Chamber of Mines two years later.¹¹⁹ Baillie's and Barber's imperialist ideologies had a deep impact on his brother-in-law and her son, Henry Mitford Barber. This manifested itself, for instance, in 1892 when he wrote an article on the bellows used for iron-fusing furnaces in the vicinity of Pilgrims' Rest and Mac Mac in today's Mpumalanga province. He claimed that the perforated stones served to connect the bellows to the forge. In doing so, the stones prevented the injuries of the horns through the heat of the charcoal.¹²⁰ The stones, however, were neither manufactured, nor used by San. For Baillie, as for his mother and uncle, the San were 'idle' and 'erratic' and with their 'wandering thiftless habits' would not 'devote hours of labour to this work' nor 'carry them from one part of the country to another'.¹²¹ He argued that the stones were instead made by 'Shangaris' and Sotho people.¹²² Mitford Barber's article needs to be seen in connection with Barber's, his uncles James Henry and Thomas Holden's arguments for African inferiority and thus 1820 Settlers' rights to land rich in mineral resources. Alluvial gold had been found in Mac Mac, and the town soon became very crowded. It was officially declared a goldfield in September 1873, by which time the settlement had quickly grown to 1500 inhabitants. In the 1880s, the alluvial gold dwindled and prospectors moved on to the newly discovered gold deposits which later became known as Barberton, where claims were bought up by the end of the nineteenth century. Barberton is named after Barber's nephew Graham Hoare Barber (1835–1888), who had found a rich gold-bearing reef there in 1884.¹²³ Mitford Barber argued that the Africans living in the mountains near Pilgrims' Rest and Mac Mac were of various ethnicities, consisting chiefly of 'Shangaris' and Sotho people who had no more right to the land there than British settlers. His argument justified his and his compatriots' mining. Meanwhile, better-funded mining companies started digging deeper. By 1895, three years after his article was published, several of these mining companies amalgamated to form the Transvaal Gold Mining Estates (TGME).

In 1912, Henry Mitford Barber sold his farm in South Africa and bought one at Kyambu, close to Nairobi, Kenya. He named this farm

Ivanhoe after the protagonist in Sir Walter Scott's novel *Ivanhoe* (1820), the crusader Sir Wilfred of Ivanhoe from twelfth-century England. As in *Ivanhoe*, in which the Normans surround the remaining Saxon noble families, Mitford Barber saw himself as being encircled by the Kikuyu people. His wife, Mary Layard (née Bowker), loved the area and wrote a description of their first years in East Africa, which she called 'Pioneering in East Africa'.¹²⁴ In the First World War, their two oldest sons, Ivan and Raymond, served in the campaign in German East Africa (later Tanganyika, now Tanzania) and Portuguese East Africa (now Mozambique).¹²⁵

This short exploration of the Barber family's colonial ties demonstrates the value of examining imperialism through the lens of individual families and transgenerational acts of settlement and dispossession inside and beyond the Cape. South African Empire Studies explore colonialism in the shadow of European imperialism and pay attention to multiple forms of colonialisms and nationalisms,¹²⁶ including South Africa as both colonised and seeking to build its own empire. The Union of South Africa in 1910 has been taken as the starting point in the revisionist historiography of South African imperialism.¹²⁷ Yet, we should go back in time to study colonialisms already in the nineteenth century.

As Barber wrote about insects, plants and archaeological findings, she discovered more about herself and her settler compatriots. She was collecting, interpreting and affirming her self, her imagined community and distancing them from others.¹²⁸ And so, reassessing the genesis of archaeology as a local discipline can contribute to a rethinking of the role of science in South Africa's past. Archaeology and its practices were not created in Europe and subsequently 'diffused' to the South. While it has also been claimed that archaeology originated at the Cape, it is perhaps better to see the birth of the discipline, and indeed most scientific innovations, as a product of many people. Archaeology was born in many areas of the world at approximately the same time—one such area was the Cape. However, some of the settler desires which acted as motivating factors for and structuring elements of early archaeology in the Cape—and other settler-dispossessory societies such as Australia—have not only survived unchallenged in South Africa, but found their way into Northern metropolitan archaeological discourses.¹²⁹

As seen in Chap. 3, San collectors and informants' making sense of the artefacts became intertwined with Barber's and the Bowkers' interpretations as well as Bowker family lore. The traces in the remaining sources suggest their important contribution to archaeological knowledge production and the birth of the discipline. Similar contemporary reasoning, such as from German Carl Mauch on Great Zimbabwe or George Grey in Kimberley, the northernmost region of Western Australia, also influenced their interpretations, indicating that knowledge circulated widely and transimperialy in the global South as well as within European and extra-European Empires. Understanding and analysing the desires and urgency which fuelled the Bowkers' and other settlers' imaginings of human origins in Southern Africa is still a task for a changing South Africa today and part of a wider endeavour to rethink South Africa's past. The next chapter is a similar invitation to rethinking science as a space in which gender relations were negotiated in an interplay between the Cape, other colonies and the metropolises of the North.

NOTES

1. See (Crais 1991); (Godlonton 1835, 1836).
2. See for example: *The Graham's Town Journal*, 23 September 1872; 4 October 1872; 3 November 1873; 23 May 1873.
3. (Bank 1996, 392, but see entire article); (Bank 1995). For more on how history was employed by liberals as well as the Cape Dutch and British settler conservatives in their own ways to justify their positions on race, see (Bank 1997).
4. See, for example, Anna Maria Bowker to her brother Bertram Mitford of Horsley, Tharfield, 16 December 1853, CL, MS 1930.
5. (Brantlinger 2003, 44).
6. (Weedman 2001, 5).
7. (Dubow 2006, 119).
8. The society changed its name to the Royal Society of South Africa in 1908.
9. (Dubow 2006, 111).
10. See for example (Curthoys 1997).
11. (M.E. Barber 1873, 379).
12. (M.E. Barber 1873, 378).

13. (M.E. Barber 1873, 378).
14. (M.E. Barber 1873, 379–380).
15. “The New Rush Fleas”, Kimberley, 15 November 1874, in (M. E. Barber 1898, 20–22).
16. (Eve 2003, 185).
17. (M. E. Barber 1871a) from A. M. L. Robinson (ed.), *Selected Articles from the Cape Monthly Magazine*, New Series, 1870–1876, Van Riebeeck Series Second Series No. 9 (Cape Town: Van Riebeeck Society, 1978), and (M. E. Barber 1871b; M.E. Barber 1873) quoted in (Weedman 2001, 5, 27, 37).
18. (M.E. Barber 1873, 380).
19. (M.E. Barber 1873, 380–381).
20. See (Tylden 1950, 107).
21. From the war, Bowker forwarded a racist caricature full of stereotypes to one of his colleagues that purported to show how the amaXhosa were conspiratory, primitive, naked and addicted to alcohol. See: ‘The Chalumna Scare’, hand-drawn cartoon in eight captioned episodes app. Featuring episode of the Ninth Frontier War, 80×90 on back: ‘My dear [Walter Ernest] Merriman, I send the enclosed it was done by a policeman named [John Xavier] Stanford, J. H. Bowker & Kreli War, Chalumna River CP.’ © National Library of South Africa: Cape Town Pictures ARA 7954.
22. RES, Trimen Correspondence, Box 18, Letter 102, Kimberley, 26 November 1877.
23. His work resulted in 55 photographs of the war and an album on the post-war journey by the empress of France (1853–1870) Eugénie de Montijo, wife of Napoleon III, as well as 105 photographs of the conflict that are archived at the KwaZulu Natal Museum, Pietermaritzburg and the Killie Campbell Museum, Durban. (Beyers 1981, 156–157).
24. (M. E. Barber 1962, 43).
25. See Chap. 6, Barber’s theories.
26. *The Graham’s Town Journal*, Wednesday, 22 April 1885, 3.
27. (M. E. Barber 1880, 193).
28. (M. E. Barber 1880, 203).
29. (M. E. Barber 1880, 202).
30. Barber, *Wanderings*, Vol. 2, MS 10560 (b), 53.
31. (McClintock 1995, 35).
32. (Porter 1876, 76, 77, 78).
33. As mentioned in Chap. 2.
34. Barber to J. M. Bowker, 10 March 1847, HM, SM 5325 (16).
35. See for example Sophia Beddoe, Diary: 1862–1864, CL, PR 7182, Thursday, 15 September 1864, 44.

36. (Dubow 2006, 113, 115, 116).
37. (Dubow 2006, 208–210).
38. (Dubow 2006, 211).
39. (Dubow 2006, 210).
40. Barber, *Wanderings*, Vol. 1, MS 10560 (a), 11–12.
41. (M. E. Barber 1880, 200).
42. Barber, *Wanderings*, Vol. 1, MS 10560 (a), 43; Vol. 2, MS 10560 (b), 67, 71, 85.
43. *Ibid.*, Vol. 1, MS 10560 (a), 11; 31.
44. *Ibid.*, 38–39.
45. Barber, *Wanderings*, Vol. 1, MS 10560 (a), 10, 31. She uses the agricultural term ‘harrow’ to situate herself in her agricultural background and stress her superiority as someone who had by that time lived 59 years in the Cape.
46. Barber, *Wanderings*, Vol. 2, MS 10560 (b), 53, 56.
47. See for example (M. E. Barber 1903, 18); Barber, *Wanderings*, Vol. 3, MS 10560 (c), 104.
48. Barber, *Wanderings*, Vol. 3, MS 10560 (c), 101.
49. *Ibid.*, Vol. 1, MS 10560 (a), 22–23; Vol. 3, MS 10560 (c), 91.
50. *Ibid.*, Vol. 1, MS 10560 (a), 11.
51. (Dubow 2006, 95); (van Sittert 2003, 113–118, 2002, 102–112); (Lester 2001, 86).
52. See (Cohen 1999).
53. Much of what follows on archaeology is taken from (Hammel 2018).
54. (I. Mitford-Barberton and Mitford-Barberton 1952, 175).
55. Three of his brothers had also financial difficulties. Western Cape Archives and Records Service, CSC 2/2/1/121, 1/11, January/February 1857, 12 January 1857, CSC 2/2/1/132, 1.71, Provisional Cases in the Supreme Court Oct to Dec 1859, William Heddingh L.L.D. versus Septimus Bouchier Bowker, Octavius Bouchier Bowker and John Henry Bowker (Summons), 12 December 1859 ended.
56. Message from His Excellency the Governor to the Honorable House of Assembly, transmitting
 Copy of a Memorial from Mr. Thomas Holden Bowker. Printed by Order of the House of Assembly,
 4 May 1858. CL: MS 18 641.
57. For a sketch of Theopolis from 1836 see (The British Immigrants of 1820 1836, 206).
58. For instance, in a pamphlet: (The British Immigrants of 1820 1836) HM [no archive number]. It was based on a series of articles that had already been published in the *Zuid-Afrikaan Newspaper*. (The British Immigrants of 1820 1836, 208). See (Ross 1986, 78); (Jaffe 1994, 59).
59. See (Philip 1828).

60. See (Elphick and Davenport 1997, 44–45).
61. (Lester 2001, 86).
62. CL: MS 18 641; Grey to Bowker, Morijah, 20 September 1858, quoted in: (I. Mitford-Barborton and Mitford-Barborton 1952, 177).
63. Edward John Morse's *The Lower Albany Chronicle* (1964), quoted in: (I. Mitford-Barborton 1970, 28).
64. The racist end to the quote was left out by Cohen in: (Cohen 1999, 123). This side-comment provides some insight into Bowker's racialised views and the Eurocentrism of *The Journal of the Anthropological Institute of Great Britain and Ireland* which printed this comment (Layard 1872, xcvi).
65. Letter in the *Volks Blad*, 12 September 1863 by S. J. J. van Tonder, D. F. van Tonder, L. J. van Tonder, J. Hendriks, G. J. van Tonder, J. E. de Wet and 22 others, quoted in: (I. Mitford-Barborton and Mitford-Barborton 1952, 178–179).
66. Layard to Owen, South African Museum, 14 April 1864, NHM, Letter 240, General Library: Owen Collection Layard, Edgar Leopold (1825–1900), England and South Africa. 14, 1 reply, and printed, February 1854–June 1884 and undated. 17/226–259; Suppl. 3.
67. Barber to T. H. Bowker, Highlands, 14 June 1865, HM, S.M.D. No 932; Barber's contributions to archaeology have hitherto only been mentioned in hagiographic articles. See for example (Cohen 1999) and encyclopaedic articles such as (Weedman 2001, 5, 27, 37).
68. (Dubow 2006, 65).
69. (Grey 1841, 261, 263–264). The argument that the Gwion Gwions—previously known as Bradshaw rock art—were painted by white people continues to be hotly debated. See for example: “A critique of Grahame Walsh's publication on the Gwion Gwion rock art of the Kimberley region”, www.makinghistoryatmacquarie.wordpress.com/2011/11/22/a-critique-of-grahame-walsh-publication-on-the-gwion-gwion-rock-art-of-the-kimberly-region/, 22 November 2011, date accessed 16 April 2015.
70. Bowker to Grey, Tharfield (near Bathurst), 8 February 1869, National Library South Africa, Cape Town: Sir George Grey (Auckland) Collection, MSB 223, 1 (22) (75).
71. (Delaney 2009, 45); (Brantlinger 2003, 44).
72. Barber to T. H. Bowker, Highlands, 14 June 1865, HM, S.M.D. No 932.
73. (Dubow 2006, 110).
74. Barber to Roland Trimen, RES, Trimen Correspondence, Box 18, Letter 106, Vaal River, 29 April 1878.

75. (Coetzee 1988, particularly Chapter 1), also see (Meskell and Weiss 2006, 89–90, 94, 95).
76. See for example (Burchell 1824a, b); (Dunn 1873).
77. Burchell, *Travels*, Vol. 2, 26, 29–30, 45, plate 4, quoted in (Wilson 1985, 1).
78. Quotes from (Deacon and Deacon 1999, 145–147). See (Deacon and Deacon 1999); See (Dunn 1873).
79. Barber, *Wanderings*, Vol. 1, MS 10560 (a), 28. In 1786, Sparrman had ‘described the bored stone being used by Bushwomen to weigh a digging stick’, but Barber does not mention this description. (Clark 1959, 24).
80. (M. E. Barber 1962, 52). ‘These implements are to be met with in all parts of the world, scattered over its surface or buried beneath the soil, in the washings of rivers or the beds of lakes and caverns, [...]’ (M. E. Barber 1871b, 39).
81. Barber, *Wanderings*, Vol. 1, MS 10560 (a), 5–6.
82. (Humphreys 1986, 4).
83. Barber to Roland Trimen, RES, Trimen Correspondence, Box 18, Letter 106, Vaal River, 29 April 1878. Warren has been called the ideological forefather of the Zionist state of Israel and a devoted advocate of Jewish colonisation. The ‘Jewish Question’, namely the perceived problem of Jewish belonging and the Jewish quest for a homeland, was widely discussed in Britain at the time. George Eliot’s novel *Daniel Deronda* (1876), for instance, passionately appealed for the recreation of a Jewish polity and was widely read and debated in Britain and beyond (Friedman 1992, xxxviii); <http://spikethenews.blogspot.ch/2014/02/founder-of-zionist-state-of-israel-sir.html>, date accessed 5 April 2016.
84. Alfred Russel Wallace delivered this famous paper on *The Origin of Human Races and the Antiquity of Man Deduced from the Theory of Natural Selection* to a meeting of the Anthropological Society of London on 1 March 1864. It was printed in Volume 2 of the Society’s Journal later in the same year. <http://people.wku.edu/charles.smith/wallace/S093.htm>, date accessed 6 August 2015.
85. (Brantlinger 2003, 26). ‘At times, the indigenous community’s very indigeneity is questioned. In these cases, they are perceived and treated as exogenous Others and become likely candidates for deportation (it is a recurrent phenomenon: black South Africans were thought to have entered the settler space after the Boer treks of the 1830s, and, in a different context, but in a similar fashion, Palestinians have also been represented as non-indigenous to Palestine; more generally, indigenous peoples – even Australian Aborigines – are frequently seen as “lost tribes” coming from somewhere else’ (Veracini 2010, 25–26.).

86. This had already been suggested by earlier writers, such as the Portuguese João dos Santos, See for example (Schütte 2013, 30–31).
87. “Vast Ruins in South Africa – The Ruined Cities of Mashonaland”, *The New York Times*, 18 December 1892, 19.
88. (Pikirayi 2001, 9).
89. For his part, Mauch claimed that the Shona were of Jewish descent, a widespread trope to describe indigenous peoples in the settler colonial context. At the Cape, the amaXhosa were often analogised with the Jewish ‘Other’ in Europe, while it was also particularly common to talk of the Jewish descent of the amaZulu. Mauch, for instance, described a Shona sacrificial rite which resembled the prerequisites of a Jewish service. Barber and Bowker seem to have been familiar with Mauch’s research, yet they never referred to the discussion that Africans could be of Jewish descent. Their interpretation also differed from that of settlers in Australia and the US who ‘scientifically reconfigured’ Aboriginal Australians or Native Americans ‘as archaic, or simply dark, Caucasians’. Those European settlers who claimed the autochthonous population was of Jewish descent or even one of the lost tribes themselves tended to a justification of settlement via existing connections. Proto-Caucasian, Aryan-Maori or lost tribe theories allowed for the depiction of a historic continuity which concealed instances of blatant dispossession. See (Parfitt 2005, 56, 64, 67–68). ‘Die Ähnlichkeit dieser Opfer mit jenen vom Israelitischen Kult vorgeschriebenen ist eine unverkennbare’, (Petermann 1874, 51); (Anderson 2003, 6, also see: 193–194, 200–202, 204, 206); See (Jacobson 1998).
90. (Kuklick 1991, 139).
91. Bent 1896: xiv, 33, xiv, and passim, quoted in: (Kuklick 1991, 140, 142).
92. (Veracini 2010, 89).
93. (Veracini 2010, 90, 93).
94. (Johnston and Lawson 2000, 369).
95. (I. Mitford-Barberton and Mitford-Barberton 1952, 285–287). Barber to Roland Trimen, RES, Trimen Correspondence, Box 17, Letter 50, Highlands, 26 August 1866; ‘4 Bowker, O., Bloemfontein: Assogais, clubs, and shields of Basutos’, Cape of Good Hope, Class XL, *Paris Universal Exhibition of 1867: Catalogue of the British Section* Containing a list of the exhibitors of the United Kingdom and its Colonies, and the Objects which they exhibit (London: Printed for her Britannic Majesty’s commissioners and sold by spottiswoode and Co.), 267.
96. (Poignant 2004, 120); see also: (Thode-Arora 2014).
97. (Layland 1869).
98. (Layland 1869, 77–78).

99. (J. H. Bowker 1872). He is also said to have collected Stone Age artefacts in the Maputo and Inhambane regions of Mozambique and near East London in the eastern part of the Cape Colony. See (Gooch 1881).
100. (Mitchell 1998, 16).
101. (Eldredge 1987, 68).
102. (J. H. Bowker 1884, 69–71).
103. (Saunders 1988, 19); (Theal 1889) digital print 2010, 295. It would be interesting to conduct further research on the discussion of cannibalism in the area.
104. (Bank 1996, 396–399).
105. Albany Natural History Society, *The Graham's Town Journal*, Friday, 13 September 1867.
106. Johann Friedrich Blumenbach introduced the term ‘varieties’, while Immanuel Kant did the same for ‘race’. ‘Race’ was then adopted by Blumenbach, but both terms were common for a period. See for example: Immanuel Kant, “Of the Different Human Races”, in (Bernasconi and Lott 2000, 8–22); Johann Friedrich Blumenbach, “On the Natural Variety of Mankind”, in: (Bernasconi and Lott 2000, 27–37).
107. (Schär 2015, 225, 232, 234).
108. RES, Trimen Correspondence, Box 18, Letter 80, Highlands, 13 November 1870.
109. See Mary E. Barber, “Lost”, in (M. E. Barber 1898, 119–123).
110. See for example: (Bank 1996); (Legassick and Rassool 2015); (Rassool 2015a); (Rassool 2015b); (Rassool 2012).
111. (Schinz 1891, 259 f.), my translation.
112. Hans Schinz to Julie Schinz-Vögeli, Amboland, Olukonda, 24 October 1885, in (Beckmann 2012, 86), my translation.
113. (Beckmann 2012, 86–88).
114. See the following passage from Layard’s autobiography, written ca. 1860–1861: ‘the evening before we turned our faces homewards, wrapped them up in our “swag”, & strapped them on my back. We had not ridden far, when my host said “What is that strong aromatic smell, it seems to follow us” I then told him what I had done. “My heavens” he said “it was too bad of to get you to do this – if the natives of that tribe scent you, they will know what you have been at – rifling their dead, & they will spear you to a certainty”. We hurried on, however, & got clear away, not falling in with any natives, & I brought home my prizes in safety, but it is the last time I shall go on a “Head hunting” expedition; especially when the natives use these strong aromatic to embalm their dead.’ Edgar Leopold Layard (1824–1900), *Autobiography partial*, http://en.wikisource.org/wiki/Edgar_Leopold_Layard_Autobiography, date accessed 23 May 2015, pdf p. 10.
115. (M. E. Barber 1898, 95); (Mary E. Barber 1886, 10).

116. (Mary E. Barber 1886, 10); (M. E. Barber 1898, 94–98).
117. Mary E. Barber to F. W. Barber, Malvern, 7 January 1891, Late Gareth Mitford-Barberton's Private Family Archive.
118. (Siveright 1877).
119. See (Baillie 1878). This was reprinted as a pamphlet in London in 1879.
120. (Mitford Barber 1892, 304).
121. (Mitford Barber 1892, 303).
122. (Mitford Barber 1892, 302–304).
123. (Raper 1989, 69).
124. (G. Mitford-Barberton 2006, 68).
125. (G. Mitford-Barberton 2006, 71).
126. (Henrichsen et al. 2015, 431–432).
127. See the JSAS special issue 41:3 (2015), edited by Dag Henrichsen, Giorgio Miescher, Ciraj Rassool and Lorena Rizzo, which emerged out of the conference 'Re-figuring the South African Empire', Basel, 9–11 September 2013.
128. (Clifford 1988).
129. (Hammel 2018, particularly 198–200).

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Barber's World of Birds As a Space of Gender Equality

From at least the end of the eighteenth century, English-speaking intellectuals had become interested in the social lives of birds. While less than one per cent of all known species of animals are birds, they are one of the most relevant groups of animals with which humans can compare their own social relationships.¹ Birds had long served as metaphors for humans due to their social structures and sense of community which have been regarded as independent from, yet homologous with, those of human societies.²

Authors and philosophers had been employing images of caged birds to voice their concerns about the subordinate position of women in society. In *A Vindication of the Rights of Women* (1792), the English writer and philosopher Mary Wollstonecraft, for instance, objected that women who were treated like caged birds were left with nothing to do other than to adorn themselves and gossip.³ For Olive Schreiner, writing about a century later in the Cape, women were similarly constrained, which in turn raised the rhetorical question of why they had to be trapped in metaphorical cages if, as men were apt to claim, women were satisfied with their situation.⁴

Barber, in a poem published one year before her death, with customary dry humour, used a bird metaphor to demand that men granted their wives more independence. During her childhood, she and her younger sister were almost as free to follow their own interests as their nine brothers. By the time she was eighteen, gender roles within the settler community in Albany had become more deeply entrenched as the local settler population

grew. Settlers sought to provide a model for the amaXhosa to imitate the gendered division of labour commonly practised in Britain.⁵ Despite this changing social climate with narrowing opportunities for women to follow their own interests, Barber continued to carve out a space for herself to pursue her passion of science. Yet, she encountered difficulties which is why she encouraged men to support their wives. In her 1898 poem, she played with a well-known proverb that she reversed, as she did with a series of similar sayings in other contexts, to prove them wrong.

“A bird in the hand is worth two in the bush.”
 “Why did you scream, my little man,
 As if you were half slain?”
 “This bird I’m holding in my hand
 Clawed me and gave me pain.
 It is a very savage bird,
 And this I’m bound to say,
 Although I’ve fed it night and morn
 It tears me every day.”
 “Let go that little angry bird,
 For to this I will stand,
 Birds are much better in the bush
 Than they are in the hand.”⁶

Here, Barber directly addresses a man complaining about the pain he had experienced through his ‘bird in the hand’, his wife. The man wonders what he did wrong, having fed his wife and given her all that he thought she needed. Barber advises him not to constrain her but to give her freedom and independence, by acknowledging that women are equal to men, have identical needs and are much happier when treated accordingly.

Barber’s approach differed from that of feminist writers and naturalists’ practices at the time. Unlike feminist writers, she—as the first woman ornithologist in South Africa—included ornithological information in her metaphorical descriptions of the social position of women. Yet, I am not interested in the scientific validity of her ornithological descriptions or her contribution to ornithology (see Chap. 4), but in what she observed in the bird world around her that her colleagues did not see. Naturalists had developed two main strategies to voice their social concerns through the

description of non-human animals: anthropomorphism and zoomorphism. The former was particularly popular, as, for instance, the popular children's stories by Beatrix Potter show.⁷ Darwin's philosophy, on the other hand, was zoomorphism.⁸ He was convinced that 'all human traits could be found to some degree in animals', which made him emphasise 'the animal nature of humans, not vice versa'.⁹ While Barber's work shows tendencies of both,¹⁰ she did not anthropomorphise birds but present them as homologues.

Barber by her own admission 'on all occasions made a point of taking the part of [her] sex'.¹¹ Some feminist scientists at the time abandoned their scientific careers to advocate for an end to women's exclusion from science, such as the botanist, astronomer and leader in the early British suffrage movement Lydia Ernestine Becker (1827–1890).¹² Others did not voice their opinion on women's role in society for their careers in science, such as Mary Treat. Barber was eager to empower women, promote their self-confidence and show her compatriots what women could achieve in men-dominated domains such as science. Barber's colleagues, in contrast, have hitherto either presented themselves or been portrayed by memoirists and historians as being reliant on men scientists, such as the English economic entomologist Eleanor Anne Ormerod.¹³

This chapter provides a detailed exploration of Barber's scientific feminism. Many influential studies investigating the intersectionality of gender, race and class, have studied the historical construction of white femininity in a racist society.¹⁴ In these studies, feminists were women who pursued their careers as doctors, and later anthropologists, at the Cape, and showed an interest in other women's lives and adversities.¹⁵ The subjects of these studies, however, did not voice their opinions in regard to a woman's social and scientific position.¹⁶ This creates the false impression that there were no women advocating for gender equality at the time, which is why more studies are needed. Indeed, one may be led to believe that among her contemporaries Barber was an exception in her ideology. Yet, this was not the case as a critical reexamination of cases in other parts of the world shows. It is my contention that scientific feminism was more widespread among women scientists than hitherto thought.

Barber's interest in ornithology had blossomed from 1862 onwards, when she began painting a series of South African birds.¹⁷ In these illustrations, she did not follow the conventional bird iconography, pioneered by the French naturalist Georges-Louis Leclerc, Comte de Buffon

(1707–1788), which emphasised the appearance of male birds and the classificatory importance of the species' habitats.¹⁸ Barber, in contrast, focussed equally on the male and female of every species she studied.¹⁹ Similarly, her descriptions of birds in her correspondence with Layard also transgressed conventions.²⁰

Through her ornithological descriptions and depictions, she created what a century later the theorist of media, visual art and literature W. J. T. Mitchell would call an 'imagetext'.²¹ Barber combined images and texts that supplemented each other, so that her aquarelles were not merely for illustrative purposes. On the contrary, she emphasised illustrations' importance in her work out of a conviction that visuals could provide information which language could not, allowing her to present evidence useful for addressing and convincing a non-specialist audience in distant parts of the globe. I then reconstruct her intended imagetexts and provide a comparative, intervisual and intertextual analysis contextualised within contemporary ornithological practices.²² As in Part I, I draw attention to the potential of critically analysing visual sources to shed light on issues otherwise unvoiced—in this case how ornithologists articulated social critique in their scientific illustrations.

Avifauna—the world of birds—was simultaneously a human-made, physical space and a mental concept which was both homologous with and metaphorical for, but in many ways diametrically opposed to, Cape settler society. Unlike Foucault's heterotopias which have a material correspondent in the real world,²³ the reality of this correspondent radically diverges as differences emerge which render them as counter-places to ordinary social spaces. Through counter-places, a tension-filled relationship with the dominant culture and its spatial order is enacted. The territory of avifauna is defined in opposition to the cultural sphere, but at the same time has to correlate with it. Unlike a national park or Foucault's examples of heterotopias such as boats and brothels, avifauna is mostly envisioned as a space destitute of human beings. Barber did not turn the bird world per se into a counter space; through her imagetext, she created a space of difference on paper and could thus conceptualise a utopian, gender-equal society by describing and depicting the local bird world.

EGALITARIAN PARENTING AND BIOLOGICAL EQUALITY

Barber paid more attention to nurturing among birds than other ornithologists at the time. To challenge the perception that childrearing was the natural duty of women, Barber accentuated the egalitarian division of labour practised by birds while rearing their young. Ostriches, for instance, were said to partner equally: the female ostrich protected her eggs or young during the day, before the male took over at night, a pattern of behaviour which she claimed also explained their respective brown and black plumage.²⁴ According to Barber, male sunbirds, Cape canaries, yellow finches and red sparrows, meanwhile, performed a full share of the laborious duties involved in nest-building and the rearing of their young. Barber went on to emphasise that while the male of these species assisted the female in numerous ways, partner birds did not necessarily perform the same tasks. Yet, they always divided their labour equally. Among the sunbirds, Barber noted with interest, the male looked after young females, while the female reared young males.²⁵ In other instances, she used the term 'parent bird',²⁶ without indicating whether a bird was female or male, to emphasise their equality. To demand equal parenting was extremely unusual in the mid-nineteenth century.

The ideal woman at the time was portrayed as 'the Angel in the House'. The expression comes from the narrative poem *The Angel in the House* by Coventry Patmore, first published in 1854 and expanded until 1862. The term came to be used in reference to women who embodied the Victorian feminine ideal: a wife and mother who was selflessly devoted to her children, submissive to her husband and found fulfilment in the domestic sphere.²⁷ The anthropologist Ann Stoler has observed that childbearing in the nineteenth century was seen as 'a national, imperial, and racial duty' with motherhood standing 'at the centre of empire-building'.²⁸

While pioneers in the women's rights movement, particularly in England, underlined the special skills of women in the realms of childcare, healthcare, education and domestic morality rather than emphasising women's similarity to men,²⁹ Barber lamented her husband's lack of participation in raising their children, which would have allowed her more time for her own scientific pursuits. In a letter to her sister-in-law in 1854, she complained that she felt like 'the old woman that lived in the shoe' as her three children demanded the majority of her precious time to the extent that she felt she 'often waste[d] time in talking and playing with them that [she] might employ otherwise'.³⁰ In her unconventional

description of her child-rearing activities, she criticised the prevailing Aristotelian view that women were passive vessels for the foetus, that maternal instincts determined a woman's character and that maternity and caregiving were the duty and sole source of fulfilment for women.³¹ She barely mentioned her children, Frederick Hugh, Henry Mitford and Mary Ellen, in her scientific correspondence, unlike even Hooker and Darwin.³² Unlike many colonial white women, she seems not to have had African servants to assist her with these supposedly women's duties.

Barber criticised the constraints of domesticity through the example of hornbills: these birds used mud and sticks to build their nests in old, damaged or hollow trees so that during incubation the female would be trapped in the nest by the male who closed the entrance in such a way that it became impossible for her to escape, leaving only a small hole through which to feed his mate during her lengthy confinement. Barber did not know the duration of the female hornbill's 'imprisonment', but described how she found the females to be cramped, weak and unable to fly when she freed them. Nevertheless, she believed that there had to be a reasonable cause for the male's behaviour, such as to help his mate survive at a time when she was too weak to defend herself. In the case of human couples, however, she could find no explanation for similar behaviour beyond the stubbornness and arrogance of men, which led them to act irrationally and thoughtlessly by confining women to a world of household chores and parenting.³³ Barber's empathetic description indicates that she felt imprisoned by her own situation in which she, like the female hornbill, was forced to remain at home with her children, while her husband could venture off to wherever he wanted.

Barber repudiated the existence of gender personae³⁴ and sought to prove their non-existence with observations of stereotypically female-associated behaviour in male birds and vice versa. The female Cape bristle-necked thrush, for instance, protected her mate and uttered a piercing cry when warning him of any nearby danger. For Barber, this example illustrated that female birds—like women—could act independently of their mates and were capable of protecting both themselves and others. She also highlighted the female thrush's low and cawing notes which resembled those of a frog and thereby challenged the notion that female organisms had high-pitched voices.³⁵

Through descriptions of male birds, she criticised the paternalistic behaviour of men. In 1868, she described two rare African birds, specimens of which she had borrowed from Edwin Atherstone's Albany

Museum collection. One was 'a military character in a scarlet and black and green uniform' with 'a proud overbearing look', while the other 'must have been in his own country a great King for he wore an imperial purple shot with gold and blue'.³⁶ This is one of her many side-comments in letters through which she, on the one hand, described what she was currently working on, and, on the other, anthropomorphised birds. By describing them as military and royal characters, she humorously, yet critically, reflected on patriarchal structures which she saw mirrored in their appearance. Similarly, she ridiculed the chirping of the male buff-streaked chat as merely a means to annoy or amuse his mate. According to Barber, this type of bird—keen on positioning himself upon elevated rocks that enabled him to overlook his surroundings and to make himself visible by twittering, opening and shutting his wings, and 'bowing and scarping'—thought 'no end of himself'.³⁷ She thereby registered her disapproval of showmanship and scorned the male's desperate attempts to be chosen by the powerful female, who—she emphasised—enjoyed ultimate power over her male counterparts.

Barber was particularly interested in describing and depicting species which exhibit only a slight degree of sexual dimorphism, such as the South African hoopoe, to emphasise gender equality. These barely visible differences between males and females of some species usually consisted in only a slightly smaller size or shorter wingspan, bill or crest in one sex or in faint alterations in colour between the sexes. Of the eleven remaining undated ornithological watercolours held in the Art Store at the History Museum of the Albany Museum Complex, there are three bird pairs depicted with their nest and eggs, two pairs with only their nest, two same-sex birds (one male, one female) sitting on a branch and one bird depicted killing a member of another species of bird without any reference to the sex of either.³⁸ Presumably, some of these were those seen by Emil Holub in Kimberley, from which it can be assumed that she painted these in the 1860s or 1870s, when she collaborated with Layard. Slight sexual dimorphism is depicted in five of the watercolours—exactly half of the paintings which include more than one bird of the same species—and their accompanying notes, but the negligible nature of these differences is highlighted. Among other species, Barber observes no perceivable difference in appearance between males and females as she informed Layard.³⁹

Barber's depiction of the bird world as a space of gender equality must be seen in the context of contemporary discourse on gender relations in ornithology. In the British ornithologist John Gould's (1804–1881) *The*

Birds of Great Britain (1862–1873), bird families were shown in their nests. In contrast, nests had rarely been depicted in the plates of Audubon, who is widely regarded as having set the standards for bird iconography. In the exceptional cases when nests were included in his illustrations, Audubon emphasised nest construction, but ignored the role nests had as the domestic setting for the rearing of offspring.⁴⁰ In contrast, Gould visualised monogamous domesticity and familial harmony rather than intrasexual competition, sexual display or female choice.

Gould had already adopted this strategy in *Birds of Australia* (1840–1848),⁴¹ but further developed and bolstered it with reference to Darwin's publications and the concomitant discourse on females' place in nature.⁴² His studies on Australian birds increased his fame thanks to the ground-breaking illustrations of his wife. Elizabeth Gould started including young birds in her illustrations, most likely as a result of missing her young children, whom she had to leave behind in England while she accompanied her husband to Australia.⁴³ Elizabeth died shortly after their return in 1841, after the birth of their seventh child.⁴⁴ Gould then turned his focus to British birds. The untimely death of his wife may have influenced him to follow this new direction to be close to his children. The prospect of the undertaking of a patriotic project at the height of his career, however, must have piqued his interest. As British birds had already been well-documented, he was forced to think of innovative strategies, such as illustrating the brood. By frequently depicting females near their nests, incubating, protecting, feeding or hovering over their offspring while males stood or perched to the side, he provided new information on British birds while reinforcing the idea of separate spheres through his influential illustrations. In the process, he naturalised the culturally constructed gender stereotypes and family norms shared by his readership, who were mainly drawn from the conservative gentry.⁴⁵

While Gould reinforced the Victorian gender values that Darwin had applied to birds as 'facts of nature rather than constructions of culture',⁴⁶ he envisioned an (ornithological) world in which neither natural nor sexual selection were at work. He thereby aimed to challenge Darwin's vision of nature which, Gould believed, had disrupted notions of gender roles, as sexual selection empowered females and women and considerably enlarged their scope of action. Instead of the act of sexual reproduction, he depicted 'married couples', nests, eggs and young birds, while stressing the fixity of species and the 'wisdom, power, and the beneficence of [the] Creator'.⁴⁷

A comparison of Barber and Gould's respective ornithological illustrations is revealing in terms of the radically different family lives they imagined for humans. Figure 8.1 shows a female and male redwing by Gould, native to Europe and Asia. Both sexes look similar: plain brown backs, dark brown spots on beige underparts, red flanks and underwings as well as fawn-coloured stripes above the eye. The female protects the nest with its four eggs, while the male is observing her from a distance, as if suggesting the female bird was in the domestic and the male in the public sphere.



Fig. 8.1 *Turdus musicus*, thrush, Gould's *The Birds of Great Britain*, 1862–1873, hand-coloured lithograph. (© Rare Books Division, The New York Public Library, Astor, Lenox and Tilden Foundations)



Fig. 8.2 *Myrmecocichla bifasciata*, male and female. (© History Museum, Albany Museum Complex, Art Store no 7, photographed by Paul Greenway, P3 Photography, December 2015. All rights reserved)

Figure 8.2 is Barber's depiction of a female and male buff-streaked chat, endemic to South Africa, Lesotho and Swaziland in areas of dry lowland and rocky, sour grassland. The male has a black throat and upper breast. The rump and underparts, the wing underside, are buff-coloured. The female's underparts are lighter.⁴⁸ The male and female are almost of equal size and height, positioned on eye-level and share child-rearing duties. While Gould naturalised Victorian gender roles, Barber exposed them for cultural constructs in her depictions of birds.

Comparing Barber's illustration to her written descriptions discussed above shows that the visual and the textual elements complemented one another. While she criticises male chauvinistic behaviour in her texts, she depicts birds of both sexes equally, sharing child-rearing duties, in her illustration. The imagetext she created thus allows her to reject the Victorian gender roles that Gould projected onto birds.

A comparison of Gould's illustration of the male and female European roller (*Coracias garrulous*) (Fig. 8.3) with that by Barber (Fig. 8.4) is equally meaningful. The European roller breeds in the Western, Southern and Central Palearctic, before usually wintering in the dry, wooded,



Fig. 8.3 *Coracias garrula*, Roller, Gould's *The Birds of Great Britain*, 1862–1873, hand-coloured lithograph. (© Rare Books Division, The New York Public Library, Astor, Lenox and Tilden Foundations)

savannah or bushy plains of eastern and southern Africa. As the migratory bird can be observed both in Britain and South Africa, it caught both Barber and Gould's attention.

With its lack of sexual dimorphism (same size and weight), and its almost identical colouring, it remains a particularly fascinating species for ornithologists.⁴⁹ The only difference between the sexes is that the female is slightly paler. Comparing Gould and Barber's illustrations again serves to suggest the forms of relationship which they believed were most suitable



Fig. 8.4 *Coracias garrula*, male and female. (© History Museum, Albany Museum Complex, Art Store no 14, photographed by Paul Greenway, P3 Photography, December 2015. All rights reserved)

for human couples. While Gould focused on the male when placing the female in the background, Barber depicted both sexes facing each other as equals, on eye level, appearing to function in harmony out of care for one another.

BARBER'S OPINION REGARDING THE INSTITUTION OF MARRIAGE

There are hardly any sources that provide insight into the married life of Mary and Frederick William Barber, but the few glimpses we can glean paint a rather bleak picture of an unhappy relationship. They may have been introduced at the wedding of Mary's younger sister to Frederick's cousin on 5 September 1842 and married just three months later, on 19

December 1842.⁵⁰ Their marriage appears to have been a pragmatic arrangement. In Frederick's sole remaining description of his wife, Mary is portrayed as a tomboy who would 'rather climb the trackless mountain "all unseen" than figure a quadrille in a heated room' and as 'a plain, simple-minded', 'slight and rather tall', 'well informed' 'girl'.⁵¹ Mary, meanwhile, did not mention her husband in any of her writings; indeed, in her travel journal, she did not even reveal that she was travelling with him on the same journey.⁵² In a letter written in 1847 to her sister-in-law, Barber mentioned that she had spent 'unhappy' times in her marriage, but she did not elaborate on what exactly she meant.⁵³ She was a pragmatist who argued that humans forged their own destiny and thus attempted to always make the best out of every situation in which she found herself.⁵⁴ The only surviving letter between Barber and her husband was discussed in Chap. 7. It is limited to discussing the potential expansion of the British Empire in Southern Africa and displays no personal affection towards him.

From the very beginning of their marriage, the Barbers led separate lives. They spent little time together due to the gendered nature of the division of labour on the farm.⁵⁵ While Frederick would often be away on expeditions, hunting trips or in the fields farming, Barber was primarily occupied with reading, writing and working in the house. Later, while Frederick fought in the Seventh and Eighth Cape-Xhosa Wars, Barber hid with their three very young children in camps in churches or on relatives' farms. In the 1870s, Frederick was preoccupied with diamond digging and ginger ale manufacturing. By Easter 1876, twenty months after buying the ginger ale factory, their financial situation was no better than when they had arrived on the diamond fields, and the Ninth Cape-Xhosa War (1877–1878) prevented their return to Albany. When a fire destroyed their belongings in Kimberley in 1878,⁵⁶ however, they were left with little choice but to leave. By this time, their marriage had become strained, and he left the Cape and her behind.⁵⁷ In her travel journal, she displayed anger towards men in general, as her descriptions of some encounters during the journey reveal,⁵⁸ while also making a point of repeatedly emphasising the handsomeness of their wagon-driver, Klaas—perhaps out of anger with her spouse or, in the unlikely event that he came to read her travel journal, to spite him.⁵⁹

Frederick left for England to live with his older brother Alfred (1808–1884) and to turn over a new leaf in his own life. Alfred, a photographer with his own studio, lived in Totterdown, on the outskirts of Bristol.⁶⁰ He moved in with him, his housekeeper, Charlotte Bellinger,⁶¹ as

well as a lodger, the widow Elizabeth Louisa Blamey (c. 1853–1926), Bellinger's niece, who was aged thirty-three at the time of Frederick's arrival.⁶² Frederick seems to have immediately fallen in love with Blamey, as correspondence with Alfred suggests.⁶³ On a trip to London, he failed to bring a botanical illustration to the Royal Botanic Gardens Kew that his wife had asked him to deliver in person; this and the letter he later sent to Hooker suggest that he had other priorities at the time.⁶⁴ His mind was preoccupied with the young woman he had met and fallen in love with, and his wife was far away—both geographically and emotionally.

In 1884, Alfred died and Frederick decided to stay in England. Bellinger moved to a house in Stoke View, Fishponds, further outside of Bristol, and Blamey and Frederick moved in with her. Having learned the necessary skills from Alfred, he seems to have earned a living as a photographer. He displayed no wish to return to Kimberley, which he proclaimed to loathe 'excessively' in his letters to a friend, and appeared neither homesick nor to have any yearning to see his family. Ambivalent about his marriage, he wrote that 'Mrs B. is seriously thinking of coming [...] this year or next'. His family had not mentioned it in correspondence, and he had already 'begun to think that the idea was given up'. He said he had 'written advising her to come *at once*. "Procrastination is the thief of time"' and that he wanted her 'to come *now*, have her spree, see all she cares about seeing'. As he did not 'want to go back yet', he made sure that she knew she could 'return home quite well without [him]'.⁶⁵ It would take her nine years to visit him in England.

From 1879 to 1889, Mary Barber led a peripatetic life. After her husband left the colony, she stayed with her brother, James Henry, in Malvern near Durban, Natal, a setting which she found to be wonderful and inspiring for naturalists as she could regularly meet with intellectuals such as the bishop John William Colenso and the botanist Katharine Saunders.⁶⁶ The Anglo-Zulu War forced her to leave Natal and to return to Kimberley. She left Kimberley permanently in May 1881, just before the 'share mania'. Barber and her children split up, shared the remaining money and no longer had a common base. Her oldest son, Fred, attracted by the first ostrich feather boom (1865–1870), lived on Broxley, Junction Drift, a farm on the Fish River, Commadagga Station, Cradock line, where he reared ostriches,⁶⁷ while her daughter, Mary Ellen, had moved to Cape Town. Barber and her youngest son, Hal, moved to Grahamstown before their planned trip to England. However, Mary and her sons decided to buy the ostrich farm, after which the state

of her and her sons' finances no longer allowed for her passage.⁶⁸ Barber resided at Junction Drift until 1887.⁶⁹ When Broxley was sold, Barber spent time with her relatives on Table Farm, fourteen kilometres from Grahamstown, and then lived with her daughter Mary Ellen in Grahamstown. Barber accompanied Mary Ellen and her children to the goldfields of Johannesburg in September 1887, where they joined Barber's sons and son-in-law. In 1888, she sent her last surviving letter to Trimen, while also reinitiating correspondence with the recently knighted Hooker at Kew.

In May 1889, Barber and her sons travelled from Cape Town to Southampton on the Union Company's steamer *Athenian* for a holiday to visit Frederick in Bristol. Whether the couple had maintained correspondence and what happened to Frederick in Bristol in the meantime remains unknown.⁷⁰ The entire family left Southampton for Cape Town on 4 October 1889 on board the *Athenian*. After their arrival in Cape Town in November 1889, the family soon scattered again. In a letter she sent to her niece Mary Layard Bowker, Barber wrote how her husband 'was boasting about his having such a lot of letters from young ladies', a statement which indicates that their relationship was more strained than ever as she had never before explicitly mentioned her husband's possible adultery.⁷¹ While Barber usually went to live with her sons in Johannesburg during summer and spent the winters with her brother James Henry at Malvern, Frederick joined his sons in Johannesburg⁷² and returned to Grahamstown, where he was taken ill and hospitalised before dying on 21 January 1892. He was buried the next day without the presence of his wife and children.⁷³

The Barbers could have contemplated divorce, yet it remained effectively impracticable at the time. After the second British invasion of the Cape, Roman-Dutch law remained in force. However, from 1827 court procedures in the colony had to be held in English, while the British-trained lawyers and judges who were not versed in Roman-Dutch law argued and heard their cases according to English law by claiming that the two systems were equivalent.⁷⁴ Whereas in Roman-Dutch law, women and men had equal rights to dissolve a marriage, the British system was 'the most rigid and harsh towards women' at the time.⁷⁵ Even *The Matrimonial Causes Act* in Britain, which established secular divorce in 1857, allowed for a husband to obtain divorce from his wife on the simple grounds of adultery, while a woman could only seek divorce if she could prove 'adultery aggravated by desertion, cruelty, rape, sodomy, incest, or bigamy'.⁷⁶ However, this act was still unhelpful to Frederick Barber, who seems to

have longed for a law similar to recently introduced legislation in France which ‘made divorce easily obtainable’ if a couple had been married for twenty years and the wife was forty-five years of age or older, when both parties desired separation. This he considered to be ‘an excellent law’ that would certainly ‘increase the amount of happiness in the world’.⁷⁷ Yet, in his own case, according to the remaining sources, his wife had not been adulterous, nor could Mary Barber have proven her husband’s alleged adultery nor argue, had it indeed occurred, that it had been aggravated by any of the above acts. In reality, Frederick would most likely not even have been able to pay her maintenance.⁷⁸ They therefore agreed to private separation, thereby also saving themselves from submitting their failed marriage to the settler community’s scrutiny.

These experiences and Barber’s observations on the lives of other married couples made her question the institution of marriage in general and aim to advocate to her daughter and nieces alternative vocations to that of lover, wife and mother.⁷⁹ By the mid-1870s, Barber was rather outspokenly sceptical of marriage. For example, she commented wryly on a fellow ornithologist’s wedding that ‘the fatal knot was tied, from which there is no escape!’, a comment which also stressed the virtual impossibility of divorce at the time. She firmly believed in the English satirical magazine *Punch*’s ‘Advice to people about to marry – don’t’.⁸⁰ To her penfriend and niece by marriage, Amenia Barber, in England, she highlighted that her daughter then at the age of twenty-two was ‘[...] not engaged she might have been married over and over again [...], but she is not yet inclined to sell her liberty. I have not a high opinion of matrimony myself and I have perhaps set Highlie rather against it, which some people would think a pity, [...]’.⁸¹

Apart from these views which she expressed in her private correspondence, Barber voiced her concerns about marriage in a parable in which she described bird mating pairs. Here, Barber uses the relations between birds not as a metaphor but as a simile:

Many species of birds, [...] choose their mates once for all, and they live together (provided no accident occur to either sex) through the natural term of their lives, in such cases there is but little display on the part of the males of fine feathers, or singing to enchant the females; such birds pursue the even tenor of their way as do married people of the human race, displaying, however, great affection for each other, which is not always the case on the part of human beings.⁸²

These lines were written in Kimberley, a town which she described to Trimen as 'such a dull uninteresting old place',⁸³ at a time when her marriage was foundering. In Kimberley in the 1870s, she experienced most explicitly how white women were treated as second-class citizens. Among the 30,000 residents of Kimberley at the time, women formed a small minority. White women were particularly rare.⁸⁴ These circumstances forced Barber into an entirely different role to the one she had enjoyed in Albany. She now had to entertain guests, such as eighteen-year-old Cecil John Rhodes, who had arrived in Kimberley in 1871. The hunter and explorer Frederick Courtney Selous met Barber in Kimberley in December 1879, and when he became seriously ill, Barber and her daughter carefully nursed him back to health.⁸⁵ For Barber, entertaining guests was a chore, and nursing riled her in particular.⁸⁶ In Kimberley, many women, who were not allowed land, labour or any means of profit of their own, became equally aware of their perilous exclusion from white men's scramble for diamonds and their mining capitalism. A prominent literary example thereof is Schreiner's eponymous character in the novel *Undine*, who came to the realisation that white men have money, autonomy and sexual power, while women's fate is to be dependent and subservient.⁸⁷

Barber's parable illustrates how she longed for devotion and faithfulness in marriage, but was left with no option but to criticise men for making little effort to please their wives. Birds, in contrast, continued to show great affection for their mate throughout their relationship. She hereby compared birds' sexual relations with the behaviour and values of heterosexual human couples and emphasised monogamy, lifelong fidelity and harmony as typical of avian rather than human relationships. Barber saw marriage as inevitably destined to fail due to the different expectations and needs of women and men in Victorian gender ideology. This critique, in turn, highlights her view that notions of marriage did not promote gender equality, a sense of community or harmony.

Barber's aversion to marriage was reinvigorated when she witnessed how independent women turned into dependent wives and abandoned their scientific pursuits. She found it difficult to accept that the new generation of women who enjoyed more freedom of career choices than she had ever had, set different priorities for their own lives.

As Barber wrote to her niece Amenia, her daughter had been much-loved in Kimberley as 'a clever girl' who was 'perfectly fearless' and capable of doing 'almost anything' including riding 'any sort of animal no matter how wild'.⁸⁸ However, as much as Barber emphasised her daughter's

rampancy and was proud of the way in which she had raised her, the two women proved to be very different as adults. While Mary Ellen had helped her mother collect butterflies when she was younger, her scientific pursuits came to an abrupt end when she married Alexander Cumming Bailie in 1878, at the age of twenty-five.⁸⁹ Mary Ellen would ultimately give birth to nine children, whose upbringing required her full attention, and Barber turned to her as a caregiver shortly before her death.

After her disappointment with her daughter's life choices, Barber held high hopes that her favourite niece, Mary Layard⁹⁰ (1863–1928), the daughter of Thomas Holden Bowker, who was ten years younger than Mary Ellen, would follow in her footsteps and take up a career in natural history. She left to complete her schooling at the Huguenot Seminary in Wellington near Cape Town in 1879, at the age of sixteen, to which she later returned as a qualified teacher.⁹¹

In September 1888, shortly after the death of Mary Glanville, the curator of the Albany Museum, Barber wrote to her niece, encouraging her to apply for the new vacant post. James Henry Bowker and Barber further promised to recommend her for the position as well as to back her up. Barber also sought to convince her niece that it would 'not require a great amount of knowledge of different branches of natural history to fill such a place', 'a good general knowledge is all that is required'. Convinced that Atherstone would support the application, Barber, along with Bowker, encouraged Mary Layard not to 'underrate [her] own abilities' and pointed out that Glanville had been 'very ignorant on natural history subjects' when she arrived at the museum.⁹² Whether this was true or Barber only said so to encourage her niece remains unknown. It is also not known how Mary Layard reacted to this proposition or whether she indeed applied for the post. In 1889, Mary Layard received her Public Schools Certificate from the Cape of Good Hope Department of Public Education.⁹³ A proud Barber wrote to her in November, professing how:

you are quite right in what you have done, in having left dear old sleepy Tharfield with all its natural treasures and gone forth into the world to carve out a career for yourself and as Byron says:
 "better to sink beneath the shock
 than moulder piecemeal on the rock
 in sullen creek or silent Bay
 unseen to drop by dull decay."⁹⁴

Besides this is the age of enterprise and energy, more than all that have gone before, every day we are hearing of both young ladies, and married women, putting their shoulders to the wheel and doing good service for themselves and families instead of being an encumbrance.⁹⁵

Bowker thus joined a profession which was dominated by women, who made up almost 75 per cent of white teachers at the Cape in 1891.⁹⁶ Roland Trimen acknowledged Mary Layard in his *South African Butterflies* (1887–1889) for her collections of Lepidoptera and the information she provided, while she donated insects with natural history notes and land shells to the Albany Museum and the South African Museum in 1889. She also collected the type specimens of two land snail species of the same genus, which were named after her as *Gulella mariae* and *Gulella bowkerae* in 1892.⁹⁷

Soon thereafter, the thirty-one-year-old married Barber's son Hal, who was then forty-four.⁹⁸ In 1912, they sold their farm to buy a farm at Kiambu, close to Nairobi in Kenya. Mary Layard, meanwhile, had adopted a very different lifestyle, abandoning her scientific pursuits and her career as a teacher to focus on her household, gardening and agricultural work on the couple's coffee plantation.⁹⁹ Olive Schreiner had observed similar transformations in middle- and upper-class women with marriage and their dependency on their husbands. In *Women and Labour* (1911), she described them as “sex parasites”, economically dependent on men, taking without giving anything except their bodies in return.¹⁰⁰ However, Schreiner was supportive of ‘a true marriage’ that was ‘the most holy, the most organic, the most important sacrament of life’ as long as ‘the woman should be absolutely and entirely monetarily INDEPENDENT OF THE MAN’.¹⁰¹

Barber, who had attempted to earn money through her research, illustrations and collected specimens, would have agreed with this, but had herself gone a step further in questioning the very foundations of marriage itself. Barber and Schreiner's relation to birds and how they related to their advocacy for gender equality also differed. Schreiner was equally interested in reflecting on gender equality through bird species which displayed minimal levels of sexual dimorphism or an equal division of labour between mates.¹⁰² In *The Story of an African Farm* (1883), Lyndall explains to Waldo that she likes ostriches as ‘they share each other's work, and are companions’. An example of this behaviour is provided in her commentary of the male ostrich which broods on the eggs while the

female forages. From ostriches, Lyndall then suddenly changes the topic to women's rights and asks: 'Do you take an interest in the position of women, Waldo?', to which she adds: 'I'm sorry you don't care for the position of women; [...] it is the only thing about which I think much or feel much'.¹⁰³ With similar passion, Schreiner recalls in *Woman and Labour* how she saw 'cock-o-veets',¹⁰⁴ or bokmakieries (*Telophorus zeylonus*), small yellow and green birds with black horizontal stripes across their necks, as a child, probably in the Karoo.¹⁰⁵ She admires their 'inter-knit love-songs' as well as the fact that she observes them 'building their nests together, and caring for and watching over, not only their young, but each other'. This image, she discloses, '*has powerfully influenced all [she had] thought and felt on sex matter since*'.¹⁰⁶ Certain species of birds, according to Schreiner, thus attained the 'highest aesthetic, and [...] intellectual, development on earth: a point of development to which no human race as a whole has yet reached, and which represents the realization of the highest sexual ideal which haunts humanity'.¹⁰⁷

Barber's ornithological observations, on the other hand, confirmed her preexisting ideas about gender equality. She had long been aware of the difficult position in which women found themselves in settler society. By closely observing settler and African societies for decades, Barber realised that birds, which were deemed to be on a lower rung of the evolutionary ladder than humans, were actually far more advanced in notions of gender equality—an argument that Schreiner would pick up and use, as seen above. Through her ornithological descriptions and illustrations, Barber voiced her argument for total gender equality, a philosophy so radical at the time that it was still inexpressible in concrete terms.¹⁰⁸

BARBER ON BIRDS, PLATONIC FRIENDSHIPS AND ALTERNATIVE RELATIONSHIPS TO MARRIAGE

In her illustrations of the bird species known as Delalande's green pigeon (*Vinago delalandei*) as well as of the South African hoopoe (*Upupa africana*),¹⁰⁹ Barber demonstrated an open-mindedness towards alternative forms of relationships. She may have depicted two further bird species which exhibit only slight degrees of sexual dimorphism. In the case of green pigeons, ornithologists regard the sexes as (nearly) identical in appearance, but in this case, Selmar Schonland, a botanist and then director of the Albany Museum, determined the illustrated birds in 1904 to be

two males.¹¹⁰ The hoopoes might be a female and a male, but as they are rather pale on their lower torsos and have stripes on the back, typical characteristics of the female, it is more likely that Barber depicted two females despite their slightly different postures.¹¹¹ While Barber's more obvious depictions of males and females contain nests and show the birds facing one another, these two watercolours do not.¹¹² She might therefore have depicted a same-sex couple.¹¹³

Barber was undoubtedly interested in platonic friendships between members of the same sex. For instance, she depicted two Zulu women holding hands in a historiated initial, an enlarged letter at the beginning of a chapter of her travel journal that contains a picture (Fig. 8.5).¹¹⁴

Besides being a stereotypical depiction of African women with large buttocks, elongated arms and no facial features or other markings of individuality, Barber's illustration is an idealised image which portrays the amaZulu's communal harmony and is reminiscent of representations of 'noble savages'. The depiction also hints that she herself longed for this public-spiritedness, solidarity and friendship.



Fig. 8.5 Two Zulu women in Maritzburg (Pietermaritzburg), initiating Chapter 20, MS 10560. (© Cory Library. All rights reserved)

The ambiguity of at least these two ornithological images offers several possible interpretations, which are not mutually exclusive and are all relevant to the question of the differences between the sexes. While Barber again emphasises the insignificance of variations between the sexes, she also presents and promotes alternative forms of sexual relationship for humans. Barber thereby challenges the heterosexual structure of bourgeois gender regimes and depicts platonic relationships to emphasise the value of friendship over that of marriage.¹¹⁵ Barber thus underlines comradeship and collaboration among different species of birds forming a recurring theme in her nature tales.¹¹⁶ This reflects her own yearning for friendship, particularly after her husband returned to England (1879).

From this stage, with her children now leading their own lives and without the financial means of a Marianne North, Barber had to rely on relatives for accommodation. However, as she did not want to be a burden to anyone, she frequently changed hosts, a lifestyle which she despised. In 1847, she had commented on a similar period of her life after the wars when she was left with the impression that she had ‘scarcely ever been a week or fortnight in one place’. Like then she must have felt that she had become ‘a vagabond upon the face of the earth’.¹¹⁷ In this period of her life, she longed to see her penfriends, such as Trimen or her niece Amenias, to whom she was particularly close and the only ones who rivalled her brother, James Henry, for affections. This trio provided Barber with what she missed in her husband—namely, ceaseless confidence in her abilities and support for her scientific work without a corresponding demand for her to fulfil the duties which were socially expected of her as a woman, wife and mother.

By the 1880s, Barber was no longer painting ornithological illustrations or corresponding with other ornithologists about her observations. Her interest had since shifted to the protection of endangered bird species for the benefit of local agriculture in Albany. In what follows, I return to her ‘Plea for Insectivorous Birds’—among other sources—and argue that, besides being an early example of activism in the field of bird conservation, this was also an attempt to argue for a ‘New Woman’ and increased rights for women.

ADVOCACY FOR THE PROTECTION OF BIRDS AND THE RIGHTS OF WOMEN

Barber became a corresponding member of the South African Philosophical Society in 1878, the year of her daughter’s marriage, when Barber wrote to Trimen to advocate for an opening up of science to women. She com-

mented that she did not 'see any reason why a lady should not in a quiet way be a member of any scientific society'.¹¹⁸ While Alan Cohen has taken this statement at face value and seen it as an argument for women's quiet membership in scientific societies, I see it as a criticism of the contemporary ideal of the 'quiet woman'. Quietness, according to Barber, was everything but 'a blessing in a woman's character'¹¹⁹ and the main reason why women's positions in society had remained unaltered for so long. With irony, she also referred to the common assumption that the 'happiness of our home', as Darwin put it in a letter to the American woman rights activist Caroline A. Kennard, would 'greatly suffer' if women were educated.¹²⁰ Barber used the example of the Scottish mathematician and astronomer Mary Fairfax Somerville (1780–1872) to show her men colleagues what women could achieve in both science and society. Somerville, the first woman member of the Royal Astronomical Society, had reconciled family life with her career as a scientist. She had had two sons in her first marriage and four more children in her second. Her first husband, Captain Samuel Greig, whom she married in 1804, neither hindered nor supported her in her scientific endeavours as he deemed women intellectually inferior to men.¹²¹ After his death, the inheritance gave Somerville the means to participate in the scientific community of mathematicians and publish her own work—for which she won the mathematical repository's medal—under a pseudonym. Initially, mathematics was a way for her to understand the workings of God, but her work led her far away from those of leading mathematicians. Her second husband, the navy physician Dr. William Somerville,¹²² was very supportive of her scientific pursuits.¹²³ Her paper on 'The Magnetic Properties of the Violet Rays of the Sol or Spectrum', which was presented to the Royal Society in 1826, as well as her volumes on *The Mechanism of the Heavens* and *On the Connection of the Physical Sciences*, which were published in 1831 and 1834, respectively, saw her become one of the foremost scientific writers of her day.¹²⁴ Barber argued that Somerville's virtues as 'a good wife, and a kind mother' exceeded even 'her scientific abilities'.¹²⁵ Barber thereby underlined that middle-class and upper middle-class women could accomplish the domestic duties which men expected of them while still fulfilling their intellectual vocation, and should thus be allowed to become equal members of scientific societies.

Barber may have also admired Somerville for her activism on issues of women's education. Somerville, who was convinced that women had the intellectual capacity to assume a much higher place in society than that

which was currently assigned to them,¹²⁶ was also the lead signatory on John Stuart Mill's petition for women's franchise and was a member of the General Committee for Women's Suffrage in London. These endeavours, as well as her firm belief in white supremacy,¹²⁷ made Somerville the ideal role model for Barber.

Barber hoped that the next generation of white women in the Cape would be able to hold similarly high positions in science and society. To achieve this, Barber felt, she had to raise awareness for the need of a 'new woman'. In 1886, Barber subtly criticised the Victorian ideal of womanhood in her paper on 'A Plea for Insectivorous Birds'. Six years earlier, the Anglo-Australian writer and illustrator Louisa Anne Meredith (née Twamley, 1812–1895) had published *Tasmanian Friends and Foes* (1880), in which she, as an early member of the Society for the Prevention of Cruelty to Animals, lobbied against the plume trade. She blamed, through a man character, 'vain, idle women' who did not realise that 'our ideal of the sex, would be too humane and gentle to endure the thought that a single sparrow should be destroyed for their pleasure'.¹²⁸ The quote suggests that according to men's ideal of women, women would not be capable of killing birds due to their moral superiority. With this sentence, Meredith both criticised women's behaviour and the image of women held by men which was seen as responsible for women's behaviour in the first place. Barber, however, disapproved of women who were only concerned with pleasing their husbands, did not manage to scold their sons for killing birds and were unaware of what was going on outside the domestic sphere. Barber described matter-of-factly how birds in full plumage were shot in the middle of the breeding season to supply the plume trade. The consequences, she argued, were the perishing of offspring, while mates would die 'of grief' as non-gregarious birds lived in pairs and were 'most affectionate and kind to each other'.¹²⁹ Furthermore, every bird which was killed, Barber claimed, allowed the survival of 'tens of thousands' of insects, which resulted in locust swarms and the corresponding deterioration of the environment. Unlike the curator of the Albany Museum Mary Glanville (Chap. 4), who had blamed only the hunters who shot birds for women's fashion, Barber held women responsible:

[...] I could enumerate many ladies of high character and standing, with warm generous, and true hearts, who would shrink from allowing their children to do a deed of cruelty, even to the destruction of a fly, nevertheless,

thoughtlessly and inadvertently, they will wear in their hats that ghastly emblem of death, a stuffed bird!¹³⁰

Barber's condemnation of the plume trade was, thus, also a criticism of women who followed the Victorian gender ideology and felt they had to please men with their beauty. She thus blamed both men and women, producers and wearers, for the plume trade and contemporary gender ideology.

After its publication, the paper circulated as a pamphlet, and the colony's Educational Department was asked by the Natural History Society to prepare 'an illustrated sheet for the use of schools, with a description of our useful birds, giving such information respecting our insectivorous birds in general'.¹³¹ Barber's ideas on the protection of birds as well as knowledge of her advocacy for women's rights thus circulated among settlers in Albany. As birds provided a vehicle through which she could urge for women's rights, Barber referred to them as her 'companions' or 'best friends'.¹³²

The emancipatory component of the transnational campaign against the plume trade has hitherto been neglected in the scholarly debate. In February 1886, a few months before the publication of Barber's paper, the American conservationist and editor of the magazine *Forest and Stream*, George Bird Grinnell, had announced the foundation of the Audubon Society. This society urged the public to oppose the killing of birds for the millinery trade and appealed to women to serve as leaders in this fight.¹³³ The American ecofeminist and historian of science Carolyn Merchant has argued that American women who responded to this call, such as the ornithologist Florence Augusta Merriam Bailey, were 'predominantly conservative in their desire to uphold traditional values and middle-class life styles' and drew on 'a trilogy of slogans – conservation of womanhood, the home, and the child'.¹³⁴

It is true that there are conventionally gendered notions in her work, but Bailey herself appears to have employed such stereotypes only in order to dismantle them. For example, she wrote how 'the timid female' was not very different from the 'lordly male' as, after being 'painfully shy' for a while, 'she was actually making a pass at a usurper'.¹³⁵ Bailey argued further how, 'Like other ladies, the little feathered birds have to bear their husbands' names, however inappropriate'. She found that an 'innocent creature with an olive-green back and yellowish breast' was always called 'the black-throated blue warbler, just because that happens

to describe the dress of her spouse!¹³⁶ These two exemplary statements suggest that it is well worth reevaluating the movement in the US to ascertain whether there were similar attempts such as those of Barber's advocacy for women's rights through the writing of pleas for the protection of birds.

The bird protection movement paralleled the emergence of the women's rights movement. However, according to the English schoolteacher and governess Beatrice Hicks, who lived in the Eastern Cape from 1894 to 1897, the latter had yet to develop at the Cape. In *The Cape as I Found It* (1900), she rather exaggeratedly reported to her readers that while the women's rights movement had triumphed in England, it was only at its very beginning at the Cape.¹³⁷ She went on to compare the purportedly miserable situation in which women at the Cape found themselves with the comfortable social position enjoyed by British women.¹³⁸

In the late nineteenth century, amid the changes wrought by early Cape industrial capitalism on the diamond and gold fields, a suffrage movement had developed out of a wider social transformation which had also occasioned a redefinition of gender roles. Its leaders were middle-class, urban, Anglophone women who followed the example of metropolitan, especially British, suffragists.¹³⁹ British suffrage efforts date back to 7 June 1866, when John Stuart Mill and Henry Fawcett had presented a petition to the House of Commons for an extension of the franchise to all householders. This was drafted and signed by 1499 women, including many prominent figures, such as Mary Somerville, Florence Nightingale and Harriet Martineau. In 1867, the first women's suffrage societies were founded in London, Edinburgh and Manchester, where Lydia Becker initiated the Society for the Promotion of Women's Suffrage.¹⁴⁰ In 1869, Mill published *The Subjection of Women*, which became the bible of the women's suffrage movement. Although legislation such as the *Custody of Infants Act* (1873) or the *Second Married Women's Property Act* (1882) enhanced the situation of women in Britain by granting them the right to maintain custody of their children after divorce and to keep their property separate from that of their husband, suffrage remained the ultimate goal for the movement.¹⁴¹ Limited success was achieved in this regard, with a woman's suffrage bill introduced every year throughout the 1870s (with the exception of 1875),¹⁴² and the introduction in 1870 of a municipal franchise for women to vote in local elections.¹⁴³

At the Cape, the candid criticism of the subordinate status of women in Schreiner's *The Story of an African Farm* caused controversy and deeply

impacted upon the suffrage movement both locally and abroad. In 1886, sixty years after its foundation, the South African College in Cape Town opened its chemistry classes for women on a trial basis for a period of one year before becoming the first university college at the Cape to fully accept women students the following year. In 1892, seven years before Barber's death, a motion for granting the franchise to white upper-class women was defeated in the Cape House of Assembly. The proposed legislation had blurred notions of whiteness, civilisation and property to argue for women's suffrage.¹⁴⁴

Barber's arguments differed from those of her English suffragist contemporaries in that she did not acknowledge any gender differences. Suffragists had generally argued that, while women and men should be treated equally, there were also clear differences between the sexes. It was precisely the varying interests arising from these differences, they argued, which required adequate representation through the advent of the franchise for women.¹⁴⁵ Furthermore, both proponents and opponents of women's enfranchisement agreed that women were morally superior but physically weaker beings, who paradoxically derived their virtue from their very weakness. As such, the virtue of women in the domestic sphere was presented by suffragists as the civilising antidote to the vice of men in the public sphere.¹⁴⁶ Barber, on the other hand, was convinced that women shared identical abilities with men and could achieve whatever men had hitherto accomplished.¹⁴⁷

In contextualising Barber's arguments within contemporary debates about gender equality, I did not mean to imply that the idea of women's rights was developed in the metropole and subsequently imported to the global South. Bill Schwarz has shown how systems of thought around notions of 'racial whiteness', 'white men's countries' and the conviction that white men were destined to reign over humanity were forged in settler colonies, such as Australia, New Zealand, South Africa and Rhodesia, before being introduced to Britain and the rest of the world.¹⁴⁸ White gender relations, which were negotiated through ornithological work on birds from the South, in white settler colonies such as Australia and the Cape Colony—as Barber and Gould's case shows—were brought back to Britain and the rest of the world through publications, which concurs with Schwarz's argument that a peculiar white masculinity was shaped in settler colonies of the South and then introduced to Britain, and not vice versa.¹⁴⁹ In addition, the developing women's rights movement was likewise a parallel undertaking in numerous parts of the world which overlapped with

other campaigns, such as that for the protection of birds. Actors throughout the world and across these various movements influenced one another. Schreiner, for instance, undoubtedly had an impact on the women's rights movement outside South Africa.

Virginia Woolf followed in Barber's footsteps with her feminist article on 'The Plumage Bill' (1920). Woolf did not actually refer to Barber but seemingly drew on her. Woolf's meticulous research on her feminist predecessors for her lectures at Girton College and Newnham College, Cambridge, which eventually resulted in *A Room of One's Own* (1929), shows that she knew about many previous women scholars, scientists and writers. She had been aware of women ornithologists fighting against the plume trade and advocating for women's rights at the end of the nineteenth century. Woolf argued here—much more explicitly than Barber—that it was wrong to blame women for the plumage trade as they were also its victims, rather than its agents. She claimed that if women contributed to the suffering of birds, it was only through their ignorance and dependency on men, rather than due to hard-heartedness or a greedy taste for luxury. Sexist society made them act as they did by condemning women's pleasures as sinful, while valorising men's lust for women, hunting trophies and money. In the case of the plumage trade, men were particularly to blame as they hunted birds, sold feathers and, as members of parliament, failed to support the proposed legislation to prevent these very acts. Woolf's attempt to follow two agendas in one article was seemingly misunderstood. While she was criticised for writing more about 'injustice to women than about the suffering of birds',¹⁵⁰ Barber's subtler advocacy for women and birds had been equally misinterpreted, attracted much less attention and was quickly forgotten.

BARBER AND THE RIGHTS OF AFRICAN WOMEN

Whether Barber advocated for the rights of African women is a challenging question. It is clear that Barber observed gender relations among groups of Africans whom she encountered, noting examples of egalitarian relationships between the sexes, or women who displayed characteristics that were traditionally gendered as men's in Britain and settler society. For instance, she described with humour how at Durban Bay, she frequently saw what were probably Zulu women "paddling their own Canoes", quite independent of the lordlier sex'.¹⁵¹ On another occasion, Barber described how the San living in the Kalahari collected food together. She idealised their cross-

gender communality and shared labour practices, possibly out of longing for more egalitarian relationships between the sexes in her own society.¹⁵²

Barber's contemporaries were similarly inspired by what they observed among Africans. The 'stridently imperialistic'¹⁵³ writer and political commentator Harriet Ward (1803–c.1865), for example, wrote in the first Southern African colonial novel—the first English novel set entirely at the Cape—*Jasper Lyle* (1851) that as soon as 'a Kaffir woman' 'taste[d] her freedom', 'she is like a bird on the wing again'.¹⁵⁴ Ward wished that settler women could also be as free as birds and longed them to follow the example set by Xhosa women. Barber, who had probably come across Ward's writings, shared this view.

How much Barber knew about Xhosa, Mfengu and San gender relations is difficult to determine. Yet, as it seems that she had more admiration for the nature of the relationships between African couples than for those between European husbands and wives, she appears to, at least in this regard, have prioritised the fight for gender equality above the need to present an unflinching belief in the supremacy of all aspects of white culture.

Nevertheless, as much as European women at the Cape were concerned about demanding rights for themselves, they trained African women for—and thereby forced them into—domestic roles. As Xhosa women were often employed in domestic service, the relationship between white and black women was characterised by both physical proximity and social distance. According to the sociologist Jacklyn Cock, the 'external inequality' inherent in this relationship 'blocked any recognition of a common womanhood on the part of the employers'.¹⁵⁵ In missionary institutions, African women were likewise socialised into domestic roles typical of Western women. Although many women teachers and missionaries challenged some aspects of the limited role assigned to women in Western societies, they did not question the education of black girls as domestic servants in their own schools.¹⁵⁶

The Scottish doctor and teacher Jane Elizabeth Waterston, for instance, educated African girls and women within circumscribed gendered spheres while working as Superintendent of the Girl's Institution at Lovedale Seminary, near Alice, British Kaffraria from 1867 to 1873. She had been one of the first women to study medicine and gain a medical degree in Britain, ran a medical department at Lovedale from 1880 to 1883, and worked as a physician in a private practice in Cape Town, where she educated midwives and established a Ladies Branch of the Free Dispensary. Waterston, the first woman doctor at the Cape,¹⁵⁷ thus succeeded in rais-

ing her own status in society, but was not concerned with changing that of other women.¹⁵⁸ What she was doing instead was working from the inside to ameliorate their situation and physical wellbeing.

The British feminist Vron Ware has shown in her case studies how ideologies of racism and feminism overlapped. She has demonstrated how white women had to construct black women as in need of salvation by white women. These white women thereby legitimised their racist and imperialist actions, in order to create themselves as ‘guardians of civilisation’ and empower themselves.¹⁵⁹ Ware analysed a similar case to that of Waterston when she focused on how Annette Ackroyd (1842–1929) who travelled to Calcutta when she was twenty-nine to start a school for Hindu girls. Ackroyd hoped to change gender ideology but found herself trapped in her imperialist attitudes due to which she could not adapt to Indian women’s lifestyles. Ackroyd and others believed that British women had a civilising role to play in uplifting Indian women subordinated by a backwards culture.

Although Barber did not engage with the Woman Question publicly, she did so privately and on a theoretical level. Unlike proponents of the women’s rights movement in Britain, Barber did not focus on differences between the sexes—whether in terms of body, mind or character—but underlined the commonalities shared by men and women which, she believed, should give rise to gender equality. Barber referred to differences either to dismiss the idea of gender characteristics or to ironically argue for these characteristics being both part of male and female species.

A close reading of her writings, however, has shown that those whom she had in mind when she wrote about ‘women’ were primarily those from her immediate social network of British settler women.¹⁶⁰ Furthermore, her scientific feminism was inextricably interlinked with the racist discourse of her science. As a member of the ‘superior race’ and ‘weaker sex’, she felt privileged and enabled to change white women’s situation in science and society.¹⁶¹ Barber drew from her observations of Africans and occasionally acknowledged African influences in her scientific writings. Nevertheless, the progressive views on conservation and gender equality which she partly derived from these influences were still fused within overtly racist paradigms of thought.

Barber marginalised herself with constructing avifauna as a sphere of gender equality. The two aims she followed in her ornithological research—to make birds better known and to advocate for gender equality—contributed to her marginalisation as an ornithologist, as she was received as a

collector and informant by Layard not as an equal colleague. Not openly voicing her concerns about the Woman Question, she marginalised herself from the women rights movement which did not see her as a pioneer. Given that women who did not fulfil the cult of domesticity were treated as having a mental disorder, that a woman without a husband was seen as a pathological case suffering from a personality disorder and that women were seen as living in an anachronistic space, 500 years behind the man,¹⁶² Barber's ornithological feminism is remarkable. Barber's 'Plea for Insectivorous Birds' was her last publication as a naturalist before her death.¹⁶³

Towards the end of Barber's life, women at the Cape increasingly began to organise and empower themselves. European, and particularly British, immigrants introduced the ideas of social movements such as the women's rights movement to Cape intellectuals. Yet, these few radical thinkers found themselves in an environment which was very hostile to further female emancipation. The Women's Christian Temperance Union, founded in 1889, was the first organisation to fight for women's suffrage at the Cape. Afterwards, the South African Labour Party was for many years the only party in the South African Parliament to include women's suffrage as part of their programme. These first advocates for women's enfranchisement, like in Britain, were middle-class Christians who believed in women's moral superiority. At best, these white women addressed the situation of black women from 'the perspective of charity, not sisterly solidarity'.¹⁶⁴

Unlike Barber, the suffragists in the 1910s and 1920s did not challenge that women had nurturing capabilities, greater moral purity and were therefore responsible for domestic duties as wives and mothers. Instead, it was argued that due to these characteristics women had a special contribution to make to politics and that their enfranchisement would therefore lead to the general good.¹⁶⁵ After 1923, the issue of race determined the debate and was where the political interests lay.¹⁶⁶

After women gained the vote in Britain in 1918, and the vote on the same terms as men as a result of the Representation of the People Acts 1928, the racially exclusive Act of Parliament on 19 May 1930 enfranchised white women over the age of eighteen in South Africa. There was no common sisterhood or sense of community among women who were separated due to linguistic and ethnic boundaries as well as race consciousness.¹⁶⁷ The interests of white women who had already been privileged were advanced.¹⁶⁸ White women in South Africa and Rhodesia wanted

gender equality but not racial equality as they were satisfied with their position as part of the ‘superior race’.

Prior to women’s enfranchisement, the Plumage Act was eventually adopted in 1921 and prohibited the sale, hire and exchange of the plumage and skins of certain wild birds. The abolition of the trade had much to do with humanitarian ideals as well as with changing mores in the everyday lives of women. These deemed the wearing of oversized, constraining hats as outmoded and favoured new hairstyles such as the bob and other shorter cuts which suited different kinds of hats.¹⁶⁹ This new fashion had much to do with the ideal of the ‘New Woman’.

An analysis of the micro-politics of Barber’s knowledge production should not stop with Barber’s death; the collections which she left behind in museums, herbaria and archives require continued critical examination, both in terms of how their uses have changed over time, what their impact on historiography has been and will continue to be. Chapter 9, thus, connects the themes examined in Parts I, II and III and sets the scene for the conclusion. It explores what has become of selected collections since Barber’s death and what the potentials, benefits and dangers of current archival practices are.

NOTES

1. (Jacobs 2016, 6–7).
2. (Lévi-Strauss 1966, 204); (Galaty 1998, 229).
3. (Wollstonecraft 1833, 58).
4. Quoted in (McClintock 1995, 286). In *Darwinism and Politics* (1890), the British philosopher David G. Ritchie criticised anti-feminist statements in regards to locking up women like birds in narrow cages and then blaming them for being ‘incapable of flying’ (Ritchie 1909, 68–69).
5. On 7 January 1836, during his inaugural speech as governor of the Province of Queen Adelaide, Sir Harry Smith, for instance, emphasised to the gathered Xhosa chiefs that—unlike commonly practised in Xhosa culture—agriculture was a man’s duty, while women should occupy themselves with sewing, repairing and washing men’s clothes as well as cooking their food, milking livestock and keeping house and children clean (Cohen 2011, 25).
6. Reversed Proverbs, No. IV, in (Barber 1898, 87).
7. Potter was also a scientific illustrator and naturalist, contributing to research on English and Scottish fungi, lichens, fossils and insects. See for example (Lear 2007, 76, 77, 85, 98, 127).

8. (Levine 2006, 197); See for example (Harley 2014).
9. (Hamlin 2014, 6).
10. As can be seen, for instance, in the anthropomorphic ink sketch of the stone grasshopper found in Grahamstown, notable for its anthropomorphic friendly face, RES, Trimen Correspondence, Box 17, Letter 62/2, Highlands, 2 November 1868.
11. "A Plea for Insectivorous Birds: A Paper by Mrs. F. Barber", HM, SM 5501(46), 12.
12. Becker won a gold medal in the Kensington Society's national competition in 1862 for her collection of dried plants. This encouraged her to share her botanical knowledge in writing (L. E. Becker 1864). Becker also wrote 'a book on elementary astronomy [sometimes referred to as *Star Gazing for Novices*], which did not get into print' (Kent 1987, 186); (Parker 2001, 630). For biographical information on Becker, see (Kelly 1992); (Blackburn 1902, 23–43, 180–188).
13. See for example (Wallace 1904; Le-May Sheffield 2001, 139–194).
14. (McClintock 1995; Stoler 2002; Ware 2015).
15. See for example (Bean and van Heyningen 1983); (Walker 1990); (van Heyningen 1996); (Bank 2016). This tendency can be observed not only in South Africa.
16. Anthropologist Winifred Tucker Hoernlé (1885–1960), for instance, voiced her concerns in speeches. Women scholars often were active champions of women's rights in lives and works, with a deep belief in gender equality. Andrew Bank has described the pioneering anthropologists not only as humanists with their universalism and deep understanding and respect for African societies but as feminists in their establishment of gender studies long before African history became a discipline. More explicitly feminist was the social anthropologist and scholar-activist Iona Simon Mayer (1923–), see (Bank 2019).
17. Barber to Thomas Holden Bowker, Highlands, 16 June 1862, HM, SM 5325(9).
18. Smith in (Shteir and Lightman 2006, 93).
19. Selmar Schonland listed seventeen of her ornithological paintings. (Schonland 1904, 101–102); At least two, including one of a pair of hoopoes (number 13), have been used to illustrate a set of notelets sold in the museum as souvenirs. The hoopoes are also on the cover of *Kronos* 41 (2015).
20. As one of his main sources of information, many passages from Barber's letters, which constitute the only evidence of their collaboration and are closely analysed in this chapter, were quoted in (Layard 1867). Unfortunately, none of Barber's stuffed birds could be traced in the Iziko Museums of South Africa collection or at the Albany Museum.

21. See for example (Mitchell 1986, 1994, 5, 95); RES, Trimen Correspondence, Box 18, Letter 109, Kimberley, 27 November 1878.
22. The iconography of birds could be discussed much more broadly within the British Empire and beyond. I could also have taken research on other non-human animals such as bees and monkeys into account, but decided to limit myself to the case study at hand. See for example (Daston and Mitman 2006); (Kosek 2010); (Mavhunga 2011); Also see (Raffles 2001, 2013).
23. See (Foucault 1984, 2006, 317–329); <http://foucault.info/doc/documents/heterotopia/foucault-heterotopia-en-html>, date accessed 3 November 2016; Foucault's concept of 'heterotopia' has recently attracted increasing attention, see for example (Kupper 2012).
24. (Barber 1878, 34–35).
25. (Barber 1878, 30).
26. (Bowdler Sharpe 1884, 582).
27. Feminist author Virginia Woolf wrote about it in a 1942 article. (Woolf 1966).
28. (Stoler 1991, 82).
29. (Vicinus 1977, x).
30. M. E. Barber to Mrs. Holden Bowker, 13 May [1854?], HM, SM 5325(2).
31. See (Paxton 1991, 23); Romanes, July 1887, quoted in (Hamlin 2014, 71).
32. See for example (Endersby 2009).
33. (Layard 1867, 226); (Bowdler Sharpe 1884, 128).
34. (Hausen 1976).
35. (Layard 1867, 105); (Bowdler Sharpe 1884, 204).
36. M. E. Barber to Amenia Barber in England, Highlands, 16 November 1868, Late Gareth Mitford-Barberton's Private Family Archive, Serial No 015.
37. Mary E. Barber to E. L. Layard, 22 June 1865, quoted in (Layard 1867, 240–241).
38. See (Schonland 1904, 101–102).
39. (Layard 1867, 105).
40. (Smith 2001, 58).
41. See (Smith 2007).
42. See for example (Smith 2001, 2006a, b).
43. See (Chisholm 1944).
44. A recent biographical novel allows insights into the long-overlooked Elizabeth Gould's life and work: (Ashley 2016).
45. (Smith 2006b, 88–89). For feminist critiques on the subject, see, for example, (Beer 2000, Chapter 7); (Jann 1994); (Richards 1983); (Russett 1989); (Yeazell 1991).
46. (Smith 2006b, 89).

47. Quoted in (Smith 2006a, 100, 103).
48. (Sinclair and Davidson 2006, 206).
49. (Fry and Fry 1999, 100–101, 298–300). They have been ‘near threatened’ since 2005: <http://www.birdlife.org/datazone/species/factsheet/22682860>, date accessed 8 August 2015.
50. They may also have encountered one another at one of the frequent afternoon picnics or evening dances that were organised for eligible singles in Albany. See, for example, Diary of Sophia Beddoe 1862–1864, CL: PR 7182. However, most texts date their wedding to some three years later, in 1845. Most biographical notes, see for example (Gutsche 1972); (Gunn and Codd 1981, 87–88); (Beinart 1998, 793), follow Mitford-Barberton’s erroneous date of 1845: (I. Mitford-Barberton 1934, 71). Botanists White and Sloane dated their wedding to 1840: (White and Sloane 1937, 100). Yet, the actual entry in the marriage register of St George’s Church, Grahamstown, and the marriage notice in the *Graham’s Town Journal* confirm it had taken place in 1842. Marriage register of St George’s Church, CL (MS 14879/2); marriage notice in *Graham’s Town Journal*, 22 December 1842. David Hilton-Barber, a great-great grandson of Hugh Atherstone Barber, Frederick’s brother, argues that their courtship had been an ‘on-and-off affair’ for a period of five years. His description is one-sided, arguing that Mary Elizabeth must have been attracted to her future husband, as he was a good match: cultured, educated, handsome, healthy, only five years older than her, interested in science, well-connected in settler society, related to the Atherstones and had a regular income. Hilton-Barber believes that the Bowkers had given up hope that Mary would marry, as she was already twenty-seven by the time Frederick proposed (1845) (Hilton-Barber 2014, 52). Family rumour has it that he then requested that Mary join him on the farm Bloemhof near Graaff-Reinet, where he was very busy in his job as an overseer, and that the wedding should take place there. To this proposition, Mary’s indignant mother is said to have replied that if he did not deem her worthy of fetching himself, Frederick could forget about any possible union (I. Mitford-Barberton 1934, 72); (Hilton-Barber 2014, 52). Given that they married in Grahamstown, he did what his mother-in-law expected him to do.
51. F.W. Barber to Rev. Henry Barber, Near Glen Avon, Somerset, 3 March 1844, HM, SMD 739.
52. See (Hammel 2016, especially 123–125).
53. M. E. Barber to Mary Anne Bowker, 15 November 1847, HM, SM 5325(18).
54. RES, Trimen Correspondence, Box 17, Letter 36, Highlands, 22 March 1864.
55. (Cohen 2011, 26, 37). Initially, Mary joined her husband on the Bloemhof farm, where—besides his role as farm overseer—they sup-

- ported the Powell family after the sudden death of the farm owner's wife. Barber might have looked after the four young children who had just lost their mother.
56. RES, Trimen Correspondence, Box 18, Letter 107, Kimberley, 17 August 1878.
 57. Julia Eliza Bowker to her daughter Mary Layard Bowker at the Huguenot Seminary, Wellington, 4 January 1879, Late Gareth Mitford-Barberton's Private Family Archive.
 58. See, for example, 'all men are liars', RES, Trimen Correspondence, Box 18, Letter 107, Kimberley, 17 August 1878; (Barber 1962, 45, 50, 63, 64).
 59. As discussed in Chap. 3.
 60. The Bristol Record Office stores a number of photographs which Alfred took in his studio (Ref. no. 41990/P/21-25).
 61. (Cohen 2015, [page 6]).
 62. (Cohen 2015, [6, 8]).
 63. He soon left his brother for a three-to-four-month trip to see old family sites and visit relatives. While travelling, he frequently corresponded with Alfred and always enquired about Blamey's welfare and seems to have anonymously sent her a gift. F. W. Barber to Alfred Barber, Leek, 14 June; Leek, 22 June; 39 Bath Street, Leek, 25 June; 39 Bath Street, Leek, 27 June and 18 Bridge Terrace, Harrow Road, 29 June 1879, Late Gareth Mitford-Barberton's Private Family Archive. (Cohen 2011, 4).
 64. F. W. Barber to J. D. Hooker, Cisco Villa, Totterdown, Bristol, 23 December 1879, KLAA, Director's Correspondence, Vol. 189, Letter 100.
 65. F. W. Barber to George Hull, quoted in (Cohen 2011, 5). Underlined (here italics) in original.
 66. See (Guy 1983, 1997, 2001); (Creese and Creese 2010); (Bayer 1979); (Gunn and Codd 1981; Glen and Germishuizen 2010).
 67. After concerned nature conservationists started lobbying against millinery and the wearing of bird feathers obtained from threatened species in the colonies, ostrich feathers became a popular alternative as ostriches did not have to be killed in order to acquire their feathers, with the trade soon becoming a lucrative branch of the Cape Colonial economy. See for example (Stein 2010).
 68. RES, Trimen Correspondence, Box 18, Letter 112, Grahamstown, 11 August 1881.
 69. See for example (Cohen 2000). Her sons followed the gold rush to the Witwatersrand and what later became known as the town of Barberton, 360 kilometres east of Johannesburg. Barberton was named after Barber's nephew Graham Hoare Barber (1835-1888) who informed the state sec-

- retary that he and his two cousins Fred and Harry, Mary Elizabeth Barber's sons, had discovered gold where the Umvoti Creek entered the De Kaap valley. The magistrate of Lydenburg was asked to investigate the matter and named the township Barberton on 24 July 1884. Harry later commemorated the discovery in his applied surname Barberton that he later hyphenated to Mitford-Barberton. See (Hilton-Barber 2014, 81–88).
70. She took this opportunity to call on Marianne North at Mount House in nearby Alderley, Gloucestershire. Barber and her sons had also planned to travel extensively in England and Europe to visit their scientific friends, but she had difficulties finding her way in large urban areas to which, having hitherto spent her life almost exclusively in the remote countryside, she was yet to grow accustomed. Her brother James Henry wrote to Trimen that he had 'to send her some addresses of people in London and although she is there herself she cannot find them it seems awfully stupid of her'. Nevertheless, she was able to fulfil a dream by paying several visits to the Royal Botanic Gardens Kew, although she missed meeting its director William Turner Thiselton-Dyer on each occasion. She seems to have left her address book at the Cape, did not know the address by heart and might not have been able to make an appointment; or found it unnecessary to do so in the conviction that the director would always be in his office. RES, Trimen Correspondence, Box 21, Letter 366, the Durban Club, 24 July 1889.
 71. M. E. Barber to M. L. Bowker, Woods Hotel, 28 November 1889, Late Gareth Mitford-Barberton's Private Family Archive.
 72. There they were unsuccessful and left deeply in debt and borrowed money from their cousin Hilton Barber and uncle James Henry Bowker to rebuild their lives. (Cohen 2015, n.p. [page 15 out of 20]).
 73. According to *Dictionary of South African Biography*, his date of death was 2 January, but his tombstone reads 21 January, as does his death notice, which was filed on 19 March 1892 and signed by Edwin Atherstone. See (Cohen 2011, 91); (Mathie 1998, 2:215).
 74. Beat Lenel, "The History of South African Law and its Roman-Dutch Roots" (2002), 5, <http://www.lenel.ch/docs/history-of-sa-law-en.pdf>, date accessed 8 March 2016.
 75. Justice Cloete quoted in (McKenzie 1997, 221).
 76. (Christensen Nelson 2004, xxi–xxii); (Kitchin 1912, 184).
 77. F. W. Barber to George Hull, quoted in (Cohen 2011, 5). Underlined (here italics) in original.
 78. Frederick first obtained a lucrative job as an overseer, superintending Khoekhoe and Mfengu shepherds who were looking after flocks of 4000

to 5000 sheep. This was a lucrative job at the time (see advertisement in the *Graham's Town Journal* for a similar position on another farm suggests: *Graham's Town Journal*, 2 March 1842). He then struggled to make a living as an independent farmer. In 1844, he confidently predicted in a letter to his brother, a parson in the US, that through owning 4000 sheep and by growing their own vegetables, his family would be able to live comfortably (Cohen 2011, 38). The Seventh Cape-Xhosa War interrupted this plan, however, as the family lost many of their cattle and sheep and had twice been 'reduced to the verge of ruin' (KLAA, Director's Correspondence, Vol. 59, Letter 8, W.G. Atherstone to W. J. Hooker, 9 March 1849). Frederick also supported his brother Hugh, who had followed him to the Cape in 1840 and continued to represent a considerable burden on the family income. See (Cohen 2011, 29). Sometime between 1848 and 1850, they bought the Highlands farm. Once the Eighth Cape-Xhosa War was over, Highlands was leased and the family moved again, first to Mary's brother Octavius' farm in the mountains near Graaff-Reinet. In recognition of Frederick Barber's services with the Burgher Forces which fought against Chief Sarili ka Hintska (1810–1892) in the Eighth Cape-Xhosa War, he was then given the Lammermoor farm on the Zwart Kei River near Queenstown, where the Barbers lived from 1854 to 1858. However, the Barbers were also unhappy there, as the area was too mountainous for sheep farming and equally unsuitable for crop and cattle farming. The family rented out the farm and returned to their beloved Highlands. Their descendants conceal the economic reason by explaining that the locality was 'detrimental' to Barber's health, as she had been suffering from strong rheumatism (I. Mitford-Barberton 1934, 76). From the mid-1860s, Mary Barber frequently alluded to a lack of money. See for example (I. Mitford-Barberton 1934, 36); RES, Trimen Correspondence, Box 17, Letter 56.1, Highlands, 26 December 1866; Barber to Hooker, KLAA, Director's Correspondence, Vol. 189, Letter 126, Kimberley, Diamond Fields Girqualand West, 30 June 1874; Barber to Thiselton Dyer, KLAA, Director's Correspondence, Vol. 189, Letter 128a, Kimberley, n.d. [probably between July and October 1876]. In 1870, Frederick departed for Griqualand West, where he hoped to commence a more fruitful career in diamond digging. A year later, his family followed. However, digging proved much less prosperous than anticipated. In 1876, Mary Barber observed that Kimberley was in 'a terrible state', while diamonds were 'not worth digging for' and fetched 'the same price as potatoes', if sellable at all (Barber to Mary Layard Bowker, Kimberly, 23 July 1876. Late Gareth Mitford-Barberton's Private Family Archive, Serial No 019). In the mid-1870s, the Barbers' claim had been worked out. They reached blue ground—a layer of non-oxidised kimberlite—named after the weathered kimberlite which was coloured yellow by

limonite, and which was hard to mine and less lucrative than the yellow ground—and was generally thought not to be diamondiferous. They thus turned to a new endeavour to support themselves by buying a soda water and ginger ale factory. At first, the factory prospered and Frederick estimated the profits between 70 and 75% if customers returned the bottles. Due to increasing competition, however, they soon had to lower their prices by 10% and, again, by a further 10% a few months later. Moreover, when gold was discovered in other parts of the Transvaal, many diggers decided to seek their fortunes elsewhere and leave Kimberley, which further diminished the Barbers' income significantly. They tried to sell the factory in March 1875, presumably in vain. See (Cohen 2011, [page 5 out of 22 in this chapter manuscript]).

79. See for example (Fourie 1995).
80. M.E. Barber to Amenia Barber, Kimberley, 5 June 1875, extracts only, original letter missing, from Roland Barberton file in Alan Cohen's Private Archive; Barber to Amenia Barber in England, Highlands, 16 November 1868, Late Gareth Mitford-Barberton's Private Family Archive, Serial No 015. See (Hammerton 1910).
81. M. E. Barber to Amenia Barber, Kimberley, 5 June 1875, Roland Barberton archive, copy in Alan Cohen's Archive. Extracts only, original letter missing, from Roland Barberton file; M. E. Barber to Amenia Barber, Highlands, 16 November 1868, Late Gareth Mitford-Barberton's Private Family Archive, Serial No 015. Amenia was the daughter of Frederick's brother Henry, who had immigrated to the US as a missionary. She visited and stayed with her uncle Alfred in Bristol, England, for a while. In 1859, Amenia had visited the Barbers on Highlands, and Mary Barber had immediately taken to her. They regularly wrote to each other thereafter, and Barber frequently asked her niece to visit her again. Amenia never married.
82. (Barber 1878, 30–31). She had written the paper in 'such a dull uninteresting old place' and asked Trimen to help with classification: RES, Trimen Correspondence, Box 18, Letter 101, Kimberley, 2 November 1877.
83. RES, Trimen Correspondence, Box 18, Letter 101, Kimberley, 2 November 1877.
84. As a traveller to Du Toit's Pan confirmed anecdotally when recalling having not seen a single white woman on his trip in 1871 (Rall 2002, 15). It is, thus, no coincidence that Barber's heightened awareness of women's subordination in colonial society and the expression of her most overtly racist sentiments coincided. As seen in Chap. 7.
85. (Selous 1907, 446); (Millais 1919, 125).
86. Barber wrote sarcastically in a letter how 'its a mercy' that one of her sisters-in-law had a sister of her own to help with her pregnancy 'or I should

- have been obliged to have offered her my services and you *know how fond I am of that sort of thing*?. Mary Barber To Major John Mitford Bowker, Care of David Standen Esq. Grahams Town, Portlock near Graff Reinnet [The Rubige farm since ca. 1838], 10 March 1847, HM, SM 5325(16).
87. (McClintock 1995, 276). NELM: 1973.422.19; 1976.13.1; 1997.12.1.1.1. Olive Schreiner, Diamond fields, Chap. 2; only a story, of course [unfinished 1872–1873?], transcriptions of manuscript, original in Cradock Public Library.
 88. M. E. Barber to Amenia Barber, Kimberley, 5 June 1875, Roland Barberton archive, copy in Alan Cohen's Archive. Extracts only, original letter missing, from Roland Barberton file.
 89. At that time she was most likely already pregnant. Their first son Frederick Alexander Hope Baillie was born on 29 September 1879.
 90. Mary Layard inherited her middle name from her godfather, Edgar Leopold Layard.
 91. (G. Mitford-Barberton 2006, 49).
 92. M. E. Barber to Mary Layard Bowker, Malvern Station, 2 September 1888, Banbury, Late Gareth Mitford-Barberton's Private Family Archive, Serial No 053.
 93. (G. Mitford-Barberton 2006, 55).
 94. Barber recalled the original poem inaccurately: 'Mid sullen calm, and silent bay,/ Unseen to drop by dull decay; –/Better to sink beneath the shock/ Than moulder piecemeal on the rock!'. George Gordon Byron, "The Giaour: A Fragment of a Turkish Tale" (1813), in (Galt 1837, 223).
 95. M. E. Barber to M. L. Bowker, Woods Hotel, 28 November 1889, this letter is incomplete and only the first page survived. Late Gareth Mitford-Barberton's Private Family Archive, Serial No 069.
 96. Walker in (Walker 1990, 322).
 97. http://www.s2a3.org.za/bio/Biograph_final.php?serial=324, date accessed 3 March 2016.
 98. In 1890, Hal Barber had become engaged to a woman called Phyllis, surname not mentioned by Mitford-Barberton. However, when her face appears to have become severely scarred—perhaps by smallpox, which was endemic throughout Africa at the time, or by burns—the engagement was cancelled. Mary Layard had also been previously engaged, although relatives never mentioned this relationship and no further details are recorded. These previous engagements may explain the relatively mature age at which they married each other. They were married in Bathurst on 28 March 1894 (G. Mitford-Barberton 2006, 58, 63).
 99. The nature of her previous scientific collaborations with the amaXhosa and amaFengu on Tharfield as well as with the Khoekhoen, San and Kikuyu people is not known.

100. (Rappoport 2012, 144).
101. (McClintock 1995, 286–288), quote: Schreiner, *Letters*, 178, quoted by McClintock p. 286, capitals in McClintock.
102. Schreiner argued that among the majority of species, ‘the female form exceeds the male in size and often in predatory nature. Nor are parenting tasks inherently female in nature.’ (McClintock 1995, 291).
103. (Schreiner 1883, 227).
104. English spelling of Afrikaans *kokkewiets*.
105. Both sexes look alike. Their small sexual dimorphism must also have fascinated Schreiner.
106. (Schreiner 1911, 4–5).
107. (Schreiner 1911, 5). For Schreiner, the equal treatment of females/women and males/men as well as collaboration between the sexes in a Lamarckian sense improves the condition of the entire species.
108. Tracing this argument in my *Kronos* article, the Swiss science journalist Urs Hafner interviewed me for a short article in the Swiss National Science Foundation’s research magazine, *Horizonte*, in June 2016. The title of the draft version of his article was ‘Of birds and humans’ before he changed this to ‘Learning gender equality from birds’ (my translations) in the published version without informing me. This title wrongly suggests that Barber, like Schreiner, reached the conclusion that gender relations among humans were unequal from her observations of birds (Hammel 2015); ‘Von Vögeln und Menschen’, Private Correspondence, Hafner to Hammel, 22 March 2016; (Hafner 2016).
109. *Vinago delalandei*, Salv. (Delalande’s green pigeon), two males?, History Museum, Albany Museum Complex, Art Store no 17; *Upupa Africana*, Bechst. (South African hoopoe), two females?, History Museum, Albany Museum Complex, Art Store no 13. (Schonland 1904, 101–102). For a reproduction of both images, see (Hammel 2015, 106) and the cover of *Kronos* 41:1 (2015).
110. (Schonland 1904, 101–102).
111. Thanks to Adrian Craig, ornithologist at Rhodes University, for all his insights.
112. See Figures 6 and 7 in (Hammel 2015, 106).
113. Barber may thereby have reacted to the contemporary pathologising of homosexuality in Europe, where homosexuality was illegal. Homosexuality led to trials like that of the author Oscar Wilde in 1895. Barber’s continued criticism of marriage and her negative comments about men have led some of my colleagues at conferences to question whether she was a lesbian. Others pondered whether she was transgender, probably associating her with James Miranda Stuart Barry, who was born Margaret Ann Bulkley (1795?–1865) and who, disguised as a man, became a military surgeon in the British Army at the Cape. There is no evidence for either

- of these assumptions and in the few remaining sources where Barber writes about relationships she does not address homosexuality. (A case in point being at the graduate workshop “Vorstellungen von Naturräumen”, Basel Graduate School of History, Basel, 18 December 2014; discussions with various academics in Makhada/Grahamstown). See for example (Du Preez and Dronfield 2016); (Beukes 2005, 34–46); (Holmes 2002).
114. Two Zulu women in Maritzburg (Pietermaritzburg), initiating Chapter 20, MS 10560, © Cory Library.
 115. The English writer and modernist Virginia Woolf later criticised the heterosexual structuring of bourgeois gender regimes when attacking the notion of the existence of only two genders in her essay *A Room of One's Own* (1929).
 116. Alan Cohen's Private Archive, “Nature Tales”: ‘The Dove and the Sparrow’, ‘The Rhinoceros and the Rhinoceros Birds’, ‘The Small Birds and the Owl’, ‘The Wood Robin’, ‘The Starlings’, ‘The Swallows’, ‘A Tale of the Locusts and the Locust-Birds’, ‘The Dove and the Grey Sand Piper's Nest’, ‘The Tame Blue Crane’, n.d., n.p.
 117. Barber to Mary Anne Bowker (her brother John Mitford's wife), Modderfontein, 15 November 1847, HM, SM 5325 (18). This is exaggerated as she had spent many years to decades on Tharfield, and would later live for extended periods of time on Highlands and in Kimberley.
 118. RES, Trimen Correspondence, Box 18, Letter 105, Kimberley, 11 April 1878.
 119. RES, Trimen Correspondence, Box 18, Letter 114, Grahamstown, 30 March 1882.
 120. Darwin to Caroline A. Kennard, 9 January 1882, Darwin Correspondence Project, Letter 13,607.
 121. (Neeley 2001, 60).
 122. Her second husband, William Somerville, had been a garrison-surgeon who had been stationed at the Cape between 1799 and 1802. He wrote a paper on the sexual characteristics of Khoekhoe women, which he deposited at the Royal Society in 1806 and published in 1816. Somerville in: (Somerville 1979, 236–241).
 123. His wedding present was a small library of the best French mathematical books then available, while he would regularly go to local libraries to procure for her any books which she needed as well as encourage her to move in the political and scientific circles in London in which she could best promote her work (Jim Secord 2011).
 124. One of the first colleges for women, Somerville Hall, Oxford, was founded in 1879 and named after her (Jim Secord 2011).
 125. RES, Trimen Correspondence, Box 18, Letter 105, Kimberley, 11 April 1878.
 126. (Neeley 2001, 58).

127. (Jim Secord 2011).
128. Quoted in (Bonyhady 2000, 133), italics in the original.
129. Barber, "A Plea for Insectivorous Birds", HM, SM 5501 (46), 13.
130. Barber, *The Graham's Town Journal*, 20 July 1886.
131. Barber, "A Plea for Insectivorous Birds", HM, SM 5501 (46), 12.
132. Barber to J. D. Hooker, KLAA, Directors' Correspondence, Vol. 189, Letter 114, Highlands, 9 May 1867.
133. (Merchant 2010, 11). In the US, men such as the clergyman Henry Ward Beecher were convinced that 'only women could halt the trade by halting the demand for feathers', while G. E. Gordon, president of the American Humane Society, demanded that women 'be educated in the crime perpetrated by their feather-wearing sin'. Quoted in (Merchant 2010, 11–12).
134. (Merchant 1996, 115, 128, 136); (Gates 1998, 114–124).
135. (Kofalk 1989, 150).
136. (Kofalk 1989, 51).
137. See (Fourie 1995); (Hicks 1900).
138. She seems not to have been aware that a group of Voortrekker women in Natal had demanded political rights in as early as 1843.
139. (Walker 1990, 317–318, 321–322).
140. From 1869, colleges for women such as Girton College and Newnham College, Cambridge, and the London School of Medicine for Women were opened, but in many of these, women could not read for the same degrees as men. Newham, for instance, did not allow women to obtain the same degrees as men until 1949 (Christensen Nelson 2004, xxii). South African Maria Wilman (1867–1957) entered Newham College Cambridge in 1885 and completed a natural science tripos in geology, mineralogy and chemistry in 1888 and an MA in botany in 1895. But, as women also did not receive formal degrees until the 1930s, she only received her diploma in November 1933. (2012), *The African Rock Art Digital Archive*. http://www.sarada.co.za/people_and_institutions/researchers/maria_wilman/, date accessed 30 June 2016.
141. (Christensen Nelson 2004, xii). See for example (L. Becker 1867).
142. (Phillips 2003, 134).
143. The English women's movement had in turn mainly been influenced by developments in the US. See for example: (Taylor and Mill 1851).
144. (Walker 1990, 313, 322–324).
145. They thereby promoted the argument that William Thompson had already made in 1825 in his 'Appeal of One Half of the Human Race, Women, Against the Pretensions of the Other Half, Men, to Retain Them in Political, and Thence in Civil and Domestic Slavery'.
146. (Phillips 2003, 5).

147. ‘The issue of the same and the different in relation to equality’, the so-called equality versus difference paradox, still divides the feminist movement into diverse strands today (Stepan 2000, 62).
148. (Schwarz 2011).
149. (Schwarz 2011).
150. Woolf (1920), reprinted in (Woolf 1978, 337–338); (Black 2004, 103).
151. Barber, *Wanderings*, Vol. 2, MS 10560 (b), 77.
152. (Barber 1880, 203–204).
153. Fourie, 87 quoted in (Letcher 1999, 3).
154. Ward, 84 quoted in (Letcher 1993, 314).
155. (Cock 1990, 83).
156. (Cock 1990, 85–94).
157. The Irish military surgeon James Miranda Stuart Barry (c. 1789 to 1799–1865, born Margaret Ann Bulkley), who served in Cape Town for the British Army, preceded Waterston in this regard, but it only became known after his death that Barry was in fact a woman.
158. (Cock 1990, 90–91, 93–94). See also (Bean and van Heyningen 1983); (van Heyningen 1996).
159. See (Ware 2015, “Part Three: Britannia’s Other Daughters: Feminism in the Age of Imperialism”).
160. This is a tendency that can also be observed among European feminists in the twentieth century, such as the French philosopher Simone de Beauvoir (1908–1986) or the Swiss lawyer and author Iris von Roten (1917–1990) who both had Western, white, middle-class heterosexual women in mind in their writings. See for example (Gines 2014); (Maihofer 2009).
161. Similarly, studies on nature conservationists such as John Muir in the US or Louisa Anne Meredith in Tasmania have shown how, due to racist attitudes, they silenced the respective influence of Native Americans and Tasmanians on their philosophies of human–nature interplay. See for example (Merchant 2003); (Standish and Grimshaw 2007).
162. (McClintock 2001, 26, 27).
163. This was only followed by a single volume of poems—(Barber 1898)—and a posthumous publication—(Barber 1903).
164. (Walker 1990, 329).
165. (Walker 1990, 337, 338, 340).
166. (Walker 1990, 341–342).
167. (Walker 1990, 343).
168. (Walker 1990, 344). Also see (Strobel 1991, xi).
169. Merle Patchett, Murderous Millinery, *Fashioning Feathers* (2011), <https://fashioningfeathers.info/murderous-millinery> date accessed 4 October 2016.

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Colonial Legacies in Post-Colonial Collections

Mary Elizabeth Barber's death on 4 September 1899 went almost unnoticed. While Grahamstown learned that 'the venerable lady passed away quietly' at her daughter's house in Pietermaritzburg from the local newspaper,¹ no scientific journal at the Cape, in Britain or in Europe printed an obituary.² She had not published a scientific article for over a decade and spent her last years lapsed into scientific silence in different locations—at Malvern near Durban, in Johannesburg and Pietermaritzburg, and at various places in Albany and elsewhere in the eastern part of the Cape Colony. This was a politically turbulent time in the region, with her death occurring only a few weeks before the South African Republic declared war on Britain and launched what became known as the Second South African War. Relations between Europeans and Africans were equally strained, as they would continue to be for much of the following century. Barber's legacy has been scattered over different archives, museums and collections, and hardly any attention has been paid to them.³

Over time, Barber's legacy has been archived in various collections, herbaria, museums and archives. Some objects have been on display in museums. Other sources have been digitised. Yet, rather than preventing Barber—and other historical actors (particularly women and non-Europeans)—from falling into oblivion, these practices increased her marginalisation. Digital platforms, in particular, privilege, silence and filter information and thereby reinforce the hierarchies in archives of written documents.⁴ Tracking down the privileging of metropolitan men's

knowledge requires close readings of museum displays, analogous archival sources and archival as well as commemorative practices.

‘SCREEN MEMORIES’ AND ‘ANACHRONISTIC SPACE’ IN MUSEUM DISPLAYS

Since the opening of the 1820 Settlers Memorial Museum (today known as the History Museum) in Grahamstown in 1965 next to the Albany Museum (now the Natural Science Museum), the Bowkers and Barber have been commemorated locally for their scientific achievements, to promote an Anglophone South African nationalism. The promoted nationalism started with the building’s architecture, which is reminiscent of a Greek temple with its Doric columns at the entrance with a wall with painted engravings of the English St. George’s Cross blazon, the Lion Rampant of Scotland, the Welsh Red Dragon, the Irish Saint Patrick’s Saltire and one of the ships that brought the British settlers to the Cape. The museum was built to celebrate settler history during a period of concern that the Afrikaner nationalist government would neglect it, and was one of a series of institutions honouring the history of British settlers opened in Grahamstown within a decade of each other, such as the National English Literary Museum (1971) and the 1820 Settlers National Monument (1974).⁵ After the 1820 Settlers Memorial Museum’s inauguration, the permanent exhibition remained unaltered for more than three decades.

In 1996, the only recently elected post-apartheid government’s White Paper on Arts, Culture and Heritage policy requested museums to transform their displays.⁶ As a provincial museum funded by the new Eastern Cape Department of Sport, Recreation, Arts and Culture, the 1820 Settlers Memorial Museum was consequently required to introduce displays which would reflect these new policies. However, as the curators had shown little interest in Xhosa history and culture before the end of apartheid, the museum held no corresponding collection of objects. In addition, the museum also had to satisfy the demands of the 1820 Settlers’ Association, a non-profit organisation with 1200 members who have a keen interest in the museum and finance the genealogist’s position there. Combined with scarce funding, this may further explain why it would take ten years for the museum to implement any transformative measures.⁷

In 2007, the institution was renamed ‘History Museum’. The permanent ‘Settler Gallery’ exhibition was retitled the ‘Nineteenth-Century

Lifestyles Gallery'. It was announced that it would be 'renovated to reflect the interaction and changing lifestyles of various groups on the Eastern Cape frontier' at the time.⁸ The gallery walls were repainted in a vivid dark clay- or salmon-coloured earthy backdrop. The glass cases devoted to settler parties and their achievements were rearranged by topic, such as the development of the press in Grahamstown and agricultural industry in Albany. Settler photographs on the pillars were removed in order to create space for new displays that were added on the south side. The museum became part of the Albany Museum Complex that includes five museums in Grahamstown.

At the History Museum, the Bowker Case which includes objects belonging to the 1820 Settler family of Miles and Anna Maria Bowker (née Mitford)—Barber's parents—has ever since the museum's inception been prominently placed in the gallery.⁹ It is unclear whether the artefacts were part of the family estate before being given to the museum. If so, their journey may have led them to a coffee plantation in Kenya with Thomas Holden Bowker's daughter Mary Layard, to her son Raymond Mitford-Barberton in Australia or Gareth Mitford-Barberton in England and then back to Grahamstown.¹⁰ The grandson of Barber's brother William Monkhouse Bowker, genealogist, big game hunter and farmer Frank Bowker (1871–1942) of Thorn Kloof, and his son Francis donated the Bowker Case to the museum, presumably long before the museum was opened.¹¹

Near the Bowker Case, new displays provide information on the history of the amaXhosa living in the area, while immediately next to the Bowker Case are seven black-and-white photographs taken by an anthropologist at the end of the twentieth century.¹² This display is a classic example of the post-apartheid add-on mode of representation, an 'extend-rather-than-revise' approach to redress 'the imbalance of the apartheid-era symbolic landscape'.¹³ Instead of transforming the entire exhibition, the curators attempted to insert the local African population into the settler narrative. The overall effect of the exhibition was to historicise settlers, while traditionalising the amaXhosa. With the settler past contained in cases and the African present displayed on clay-coloured walls, this reinvigorated ethnic separation created the impression the two peoples shared no common past. The gallery's name, perhaps unconsciously, implies that twentieth-century amaXhosa lived in exactly the same way as their ancestors had done in the nineteenth century, thereby depriving them of their historical context and denying them their social evolution.

A static view is thus presented which is reminiscent of earlier ‘noble savage’ representations and of ‘anachronistic space’, a space in which people are presented as contiguous with modernity yet are figured as temporarily out of place. The colonial social hierarchy based on race, which the settlers believed themselves to head and which the museum’s curator had been used to portraying throughout apartheid, was projected on the axis of time and thereby naturalised in this display.¹⁴ The photographs of the Xhosa individuals—that come to represent the amaXhosa—give the impression of predating the objects in the Bowker Case. Their lifestyle in the twentieth century is depicted as that of the past predating that of the 1820 Settlers even though the photographs were taken a century later.¹⁵

The display therefore does not inform about Xhosa history, but instead is informative on the ways in which history has been produced in this curatorial setting. Visitors gain little insight into hitherto hidden histories through the old and barely modified narratives presented in the museum. Historians have shown that such displays embody the ‘history frictions’, tensions, debates and conflicts between different communities, each with their own range of interests, perspectives and aims, in places such as Grahamstown.¹⁶ The curatorial practices were not intended to display these frictions but to leave them concealed from the majority of the visitors’ untrained eyes. They are nevertheless visible in the displays, and as such serve as another example of visible concealment.

The display is what Sigmund Freud called ‘screen memories’,¹⁷ namely inaccurate reconstructions that obscure what really happened or depict compromises between ‘an unconscious recognition of the importance of an experience and an equally unconscious desire not to recognize the experience at all’.¹⁸ It highlights the importance of colonisation, while at the same time suppressing the destruction of the indigenous population. The complete neglect of histories which preceded the arrival of the ‘first settlers’ is a feature of the politics of memory generally observed in settler colonial contexts, and evidence of settlers’ own ‘mnemonic myopia’.¹⁹

While the permanent exhibition at the History Museum has remained unaltered over the period of my research, a number of temporary exhibitions have attempted to provide additional insights. In 2012, when the town celebrated the bicentenary of its founding, an exhibition with the title ‘Assimilate! Resist! Make a Home! Grahamstown’s Tumultuous First Fifty Years’ was hosted on the museum’s second floor. In the exhibition, Rhodes University students of public history told the story of the development of the town from a place of war to one of learning and culture or, as

their supervisor, the history professor in charge, Julia C. Wells put it, ‘from bullets to books’.²⁰ ‘Our approach is celebrating what we have achieved over two hundred years’, commented Wells.²¹ The nineteenth-century scientific community was presented as providing the foundations for the establishment of the renowned Rhodes University in 1904, the fifth university to be founded in South Africa²² and the institution under which the museum now falls. From July 2016 to 2018, the social history educator Lindinxiwa Mahlasela was curator.²³ The opening of two exhibitions ‘The amaXhosa Kingdom’ and ‘The Landscapes of the Eastern Cape’ at the History Museum on 9 November 2016, which King Zwelonke Mpendulo C ‘Aaah Zwelonke’ Sigcawu and many amaXhosa attended, suggested that the museum was transforming.²⁴ According to a local newspaper article, ‘The amaXhosa Kingdom’ ‘forms part of a series of Transformation Agenda Exhibitions of the museum’.²⁵ The History Museum has decided to ‘confront the past’.²⁶ The fine artist Gcobisa Zomelele succeeded Mahlasela.²⁷ It remains to be seen how this new appointment in Makhanda will bring about further change in the history exhibitions. Digitisation has certainly brought change to archival and research practices.

DIGITAL PLANT COLLECTIONS AND PRIVATISATION OF KNOWLEDGE

According to William Henry Harvey’s *Incoming Plant’s* book at the Trinity College Dublin Herbarium, the first parcel with dried plants specimens from Mary Elizabeth Barber arrived in October 1859. Until November 1865, when Harvey stopped recording incoming plants due to his deteriorating health, Barber and her brother James Henry Bowker had sent 893 specimens. Today more than 1000 specimens can be traced at Trinity College Dublin Herbarium (TCD). The herbarium sheets are of special importance as they include letter passages, illustrations, which provide insights into their working practices and professional aesthetics. The problem however is that the collection consists of Harvey’s selection of letter passages, illustrations and specimens. He glued the most important letter passages and fixed illustrations with a pin on herbarium sheets.

Barber sent much more to Harvey than we find at TCD today. He forwarded bulbs and seeds to the national botanic gardens, Glasnevin, Dublin, and to the Royal Botanic Gardens Kew, London. He traded and exchanged duplicates with the herbarium at the Swedish Museum of Natural History in Stockholm and sent interesting specimens to the co-author of three volumes *Flora Capensis* 1859–1865 botanist and

apothecary Otto Wilhelm Sonder in Hamburg. In 1883, Sonder's 300,000 specimens were bought as the nucleus of the Sonder Herbarium at the Royal Botanic Gardens Melbourne, where Barber's specimens are today.

The collection's biography reveals botanists' sense making of their professional selves, their practices and the herbarium. The TCD herbarium was founded in 1840 based on the personal collection of Thomas Coulter. From 1844 to his death in 1866, Harvey was the curator of the herbarium. The next generations of curators have stressed Harvey's hard work mirrored by his accumulation of 100,000 of today's approximately 300,000 specimens. Since 1992, they have heroised Harvey even more, as he achieved this suffering from acute depression. The herbarium then experienced the lack of a curator from Harvey's death in 1866–1869, the move and mixing up of the herbarium bundles in 1882 and again in 1910 to the newly built annex to the School of Botany, where Barber's specimens still are today. These events as well as the fire in the laboratory above the herbarium in 2011 during which the fire brigade flooded parts of the herbarium, certainly led to the loss of specimens, to a slightly confused order and the damage of some parts. These events are all prominent parts of institutional history, in which the herbarium's importance as one of only three university herbaria in Britain and Ireland is stressed.

South African specimens have not been a focus of TCD since Harvey's death, which is why these specimens have not been consulted for decades. As there are many type specimens among them, they are however of vital importance for botanists. This as well as the wish to raise the herbarium's international importance encouraged John Parnell, the herbarium's current curator, to take part in an African Plants scanning project of type specimens in 2006. The material in the herbarium was sought to be made more easily accessible and usable for people worldwide and in partial fulfilment of the Herbarium's commitment to data repatriation under the Convention on Biological Diversity.²⁸ Imaging has allowed easy access to certain materials such as Harvey's Travelling Sets of Algae, which had never been loaned to herbaria as the bound volumes contain historically valuable material of many species and could only be seen by botanists who travelled to Dublin. During nine months, 17,123 type specimens, 70 of which were Barber's, were scanned for *The African Plant Initiative*, a project launched at a meeting of the Association for the Taxonomic Study of the Flora of Tropical Africa in Addis Ababa in September 2003. These 70 out of Barber's 1000 specimens were selected for their botanical importance. Letters and illustrations that were not on the herbarium sheets were

not included, as were the specimens glued on newspapers. Thus, much information on botanical practices and on local knowledge and its importance for botany was silenced.

The project was initially funded by the Andrew W. Mellon Foundation. The American private foundation based in New York City has four core areas of interest: (1) humanities, libraries and information technology, (2) museums and art conservation, (3) performing arts, (4) nature conservation. Andrew Mellon (1855–1937) was an American banker, industrialist, art collector and ambassador from the wealthy Pennsylvanian Mellon family. Herbaria worldwide were requested to scan holotype specimens of African plants in order to make them accessible in the digital library Aluka. The holotype (or name-bearing type) is a single specimen after which a species is named. This process of digitisation peaked between 2003 and 2009.

Aluka derives its name from the isiZulu verb *ukuluka*, meaning ‘to weave’, and was chosen to reflect the library’s ‘overarching mission – of joining together in a single place resources from around the world’. Yet for the Oshivambo-speaking Ovambo people in northern Namibia, the word carries the meaning of to ‘return’ or ‘repatriate’.²⁹ These two different meanings epitomise the various actors’ disparate expectations from the project and the challenges faced in the process. Aluka’s mission was to build a space where sources could be accessed openly and easily. The platform consisted of four sections—*African Plants*, *Cultural Heritage*, *African Cultural Heritage Sites and Landscapes*, as well as *Struggles for Freedom*—which made relevant visual and textual sources available in English, French and Portuguese. *African Plants* consisted of type specimen images in high resolution, botanical illustrations and art, photographs, notes by European explorers, references and publications on taxonomy.³⁰ In 2005, more than forty herbaria and botanical gardens in Africa, Europe and the US were participating in the project, with researchers enthusiastic about the prospect of no longer having to travel long distances to study specimens.³¹

In 2005, a group of historians and archivists in South Africa who had been involved in the project knew that Mellon-funded JSTOR’s long-term goal was for the new digital archives on Aluka to become financially sustainable through licence fees from international institutions and independent researchers to finance ongoing projects. However, African universities and other institutions, they believed, would be granted free access, perhaps to assuage those who were suspicious that the initiative would be

‘yet another North American project designed to appropriate Africa’s patrimony and subvert intellectual property rights and national heritage’.³² These archivists and historians were eager to make sure that the platform did not result in a research tool for the exclusive benefit of Western scholars and students. They hoped that through digitisation, South Africans would get access to a post-colonial, post-apartheid archive that included the voices which had hitherto been silenced and were now crucial for the emergence of the new nation. Institutions, on the other hand, were concerned that they might lose their international renown if researchers no longer needed to personally visit their repositories. Several institutions even demanded a percentage of the assumed profits as compensation.³³

In South Africa, there has been a heated debate about ‘digitisation as neo-imperialism’.³⁴ Scholars involved in Digital Innovation South Africa (DISA)—a non-profit collaborative initiative, which has been funded by the Mellon Foundation since its establishment in 1999 and has had a strong affiliation with Aluka’s *Struggles for Freedom* project—criticised Aluka. They sent a letter to the Council of Higher Education South Africa, an independent statutory body established in 1998, to advise the minister of higher education and training on developing, monitoring and reporting on higher education.³⁵ In the letter, they warned universities of the risks of international collaboration and the dangers they faced of losing collections of exceptional value, such as those concerned with indigenous knowledge systems, without receiving fair compensation or reciprocity.³⁶ The presidents of the Mellon Foundation and ITHAKA, the umbrella organisation for projects such as JSTOR, ARTSTOR and PORTICO, which provide digitised content to higher education institutions, were shown the letter and felt deeply insulted and alienated.³⁷

In 2008, Aluka became part of JSTOR.³⁸ The data available under *African Plants* was thus integrated into JSTOR Plant Science and could henceforth only be accessed by people at institutions with a JSTOR licence. However, herbaria which had already scanned their specimens were granted free access. Photographs on digitisation projects in Nigeria and Senegal were used by JSTOR Plant Science to illustrate their success story and advertise for further digitisation projects in Africa.³⁹ In May 2013, JSTOR Plant Science was renamed JSTOR Global Plants. JSTOR clients could now only access miniatures of the high-resolution photographs, and anyone who attempted to view larger versions of the images was faced with an ‘access denied to JSTOR Global Plants’ message.⁴⁰

In October 2013, the programme's 308 partner institutions from 75 countries which had scanned their specimens since 2003 were informed that their licences would expire within 8 days unless they paid a new annual licence fee of up to 3800 US dollars.⁴¹ Bearing in mind the considerable financial difficulties which even large and state-subsidised institutions such as The Royal Botanic Gardens Kew experienced,⁴² this change in policy saw smaller herbaria with limited financial resources lose their access. Curators at Australian and South African herbaria find this privatisation of knowledge challenging for their daily work as they can no longer refer to the platform. With only a limited number of people now having access to the database, the divide between professional and lay botanists has been reaffirmed. The reason for this change seems to have been the Mellon Foundation's termination of funding for its Conservation and the Environment program (C&E, 1969–2013).⁴³ The subsequent restricted or closed access thereby achieved exactly the opposite of the open resource which the foundation had initially promoted. In contrast, Mellon measures its success in terms of its global collaborations and the 2.5 million images and 450,000 articles which the *Global Plants Initiative* had brought together.⁴⁴

Aluka's project of digitising letters had started with the Director's Correspondence from the Royal Botanic Gardens Kew.⁴⁵ The metropolitan colonial archive was thus prioritised and reproduced before historical sources from other parts of the world were made accessible.⁴⁶ In the process, sources from men botanists from the North were inevitably also favoured, while the institutions such as the Royal Botanic Gardens Kew, in which these historical actors' information was stored, were in turn further mythologised.

Moreover, the accompanying JSTOR Plants Blog only had two articles in which African countries were mentioned in 2012: one in connection with Livingstone's Zambezi expedition, and one on *griots*, the string instruments made from calabash, a type of gourd. In the latter blog post, the custom to being buried in baobab trees in West Africa was also mentioned.⁴⁷ Africans allegedly used plants for cultural purposes, while Western naturalists were said to describe them according to botanical standards, thus strengthening the dichotomy between informal and formalised, traditional/cultural and scientific knowledge.

JSTOR Global Plants is one of a number of similar digital archives in the US, including the New York Botanical Garden's Index Herbariorum,

the San Francisco-based archive.org and the Biodiversity Heritage Library run by the Smithsonian Institution Washington and the Missouri Botanical Garden. Open-access databases, which include the latter two, do not control information flow to the extent which JSTOR does. JSTOR privatises knowledge and, economically driven, reproduces colonial archives and thought patterns.⁴⁸

In reaction to JSTOR Global Plants becoming ‘a walled garden’,⁴⁹ botanists continue to rely on already-established national or regional digital archives which are openly accessible, such as the Australia’s Virtual Herbarium (AVH), which was developed in the late 1990s.⁵⁰ Barber’s specimens in Australia form part of the Hamburg-based pharmacist and botanist Otto Wilhelm Sonder’s⁵¹ South African plant collection, which originated in his collaboration with Harvey.⁵² As Sonder grew older, he pondered where to deposit his legacy and decided to find an institution outside of Hamburg, a city which had a reputation for being unscientific. Hamburg’s low reputation came from the fact that its scientific institutions received most of their collections from trading companies, such as Joh. Ces. Godeffroy & Sohn.⁵³ In 1870, Sonder offered three cases of specimens to his long-time friend Ferdinand Mueller, Victoria’s first government botanist at the National Herbarium of Victoria in Melbourne (MEL).⁵⁴ Mueller immediately started petitioning the Victorian government to finance the purchase of Sonder’s collection, an acquisition which duly followed in 1883. In the meantime, Sonder had sold much of his South African material to the Swedish Museum of Natural History in Stockholm in 1857 and some of his Australian specimens to the French botanist Jean Michel Gandoger. It has been suggested that those which he sold to the latter, were duplicates of the specimens which Sonder had set aside for Mueller.⁵⁵ Barber’s specimens were among these 250,000–330,000 loose dried specimens from all over the world with loose labels in bundles and were housed in the new annex to Melbourne’s Botanical Museum, which had been purposefully built for this collection. More than half of today’s foreign collection at MEL, which totals 400,000 specimens out of the herbarium’s overall tally of 1.4 million specimens, came from Sonder. They include specimens from all major plant groups and from every part of the world.⁵⁶ After Mueller’s death in 1896, the herbarium suffered from financial difficulties, and turned its focus to agriculturally relevant plants, putting little emphasis on growing its collection.⁵⁷ Sonder’s specimens were thus not mounted, and less than 15% of his collection has been databased. The rest are unknown loose

specimens of unknown origin with loose labels. These herbarium sheets slumber in their original folders with an intricate system. In contrast, Australian specimens from the Sonder collection have been mounted on archive cards, databased and barcoded with an identifying accession number,⁵⁸ and illustrated by high-resolution images which are accessible on AVH.

Particularly problematic here is that botanists who create digital archives of plants, such as the two examples discussed here, barely collaborate with historians, as they share few common aims and perspectives in their work. However, it is exactly this sort of interdisciplinary collaboration which is needed, especially in the increasingly important context of the digitisation of archives. Recent research on herbarium sheets in the National Herbarium of Victoria in Melbourne has shown how parcels to Ferdinand von Mueller were packed by part-Aboriginal Australians.⁵⁹

If information on non-European or women botanists is not part of type specimens' herbarium sheets, it is not digitised. Given that in the second half of the nineteenth century high-acid paper, which gradually changes colour to yellow-brown and decays, was used for herbarium sheets, the information which they contain is likely to be lost even further over time. If these sheets were to be stored in acid-free archival boxes, this process might be slowed down, but only de-acidification, an expensive and cumbersome procedure, can cease the decay. Digitisation thus offers an alternative solution to present botanical research in colonial situations not exclusively as the endeavour of European men.

Barber's vast plant collection at MEL is subsumed behind the memory of two men: Sonder and von Mueller—both Germans. Without any colonial aspirations in Australia and South Africa, German scientists could conduct research across empires. This stands as an example for scientists who could exchange information outside the constraints of their empires, and for an early internationalisation of science, busting the borders of Empire. The Melbourne purchase is an instance of South-South knowledge exchange from one settler nation to another, via Hamburg, which has, however, been made invisible in the digitising of Australia-only herbarium specimens. Striking is the number of German botanists that occurred in leading positions across the British Empire: Otto Sonder in Hamburg, Ferdinand von Mueller in Melbourne, Hermann Becker and Selmar Schoenland in Grahamstown, Hans Schinz in Zurich and South West-Africa. Their network and impact on nineteenth-century botany deserves more attention.

Yet, most of the digitised sources discussed in this chapter provide a one-sided picture, and digitisation projects need to find a new approach to sources rather than simply reproducing the colonial archive. A ‘transformation’ of the currently alarming archival practices is thus urgently required.⁶⁰ It is equally essential for historians to engage in critical reflections of the sources and collections which are used.

Fine artists have also critically engaged with the problem of colonial legacies in public spaces or in museums and have most likely been more successful in addressing a wider audience with their concerns than historians. Two examples from Grahamstown from 2012—the year the town celebrated the bicentenary of its foundation—are representative of these endeavours.

The Mauritian-born, South African-based artist Doung Anwar Jahangeer uses art as a platform to raise people’s curiosity. During the 2012 Grahamstown National Arts Festival, he staged a public symbolic protest.⁶¹ In his *Making Way Performance – The Other Side With the Matebese Family* (2012), he, on the one hand, intervened into the 1820-Settler memorial cult by painting the hands and faces of the *Settler Family* (1969), a statue created by Barber’s grandson Ivan Mitford-Barberton. By colouring the settlers with *ibomvu*—a red clay/soil paste used by Xhosa and Zulu women and men in traditional ceremonies—Jahangeer wished to welcome history into the present in a ritualistically peaceful manner.⁶² Rather than angrily taking down monuments that remind of an oppressive past, he puts a contemporary mask on the settlers—a ritual that helps to negotiate identity, to Africanise them and symbolically bring them closer to the South African ground, where the soil comes from. On the other hand, his performance was also an intervention into the discourse on post-coloniality, a concept that, according to Jahangeer, does not allow South Africans to move in a continuous way, but constantly forces them ‘to negate where they are coming from’. It was thus a ‘ritual to welcome the settler family home’ and to start conversation about ‘issues of identity and post-coloniality’ and how South Africans ‘got stuck into discourse’. He wished that South Africans acknowledged difference embedded in recognition and dialogue, without anger or hatred. He described his intervention as an ‘act of re-humanising’, an ‘act that asks for re-humanisation to be entered in what we do’.⁶³ With his performance, he called for alternative ways of dealing with the settlers’ legacy than silencing through removing artefacts from museum displays and public spaces.

Also in Grahamstown in 2012, the Cape Town-bred, Johannesburg-based photographer Mikhael Subotzky opened the Standard Bank Young Artist Exhibition by showing his first film *Moses and Griffiths* (2012) that he made for the occasion—a portrait of two Xhosa guides who give their official tours, as they have done for twenty years and then they make a second tour for the camera where they have decided what part of the history of Grahamstown and their own live stories should be shown. Moses Lamani (1956–2015) worked at the Observatory Museum which is part of the Albany Museum Complex that consists of seven buildings also including: the Natural Sciences Museum, the History Museum, Fort Selwyn, the Old Provost military prison, Drostdy Arch and the Old Priest’s House which is leased to the National English Literary Museum. On the rooftop of the Observatory Museum, there is a more than 200-year-old camera obscura which can be steered from within, and the images that resemble photographs can be seen on a round table-like construction. Lamani worked there since 1984. In the tour for tourists, he explains the architecture of the town and its history. In his person tour, he for instance stops at the roundabout and explains: ‘If you want to go to the coloured area, you go that way; if you want to go up High Street, you go this way.’⁶⁴ Later Lamani shows Makana’s Kop, a hill in the townships of Grahamstown where Xhosa leader Makhanda started his attack in 1819. While Makhanda is said to have been a courageous freedom fighter, Moses critically says: ‘He was the one who betrayed the Xhosa people [...] he misled a lot of black people during the time of wars.’⁶⁵

Lamani’s counterpart at the 1820 Settlers Monument is Griffiths Sokuyeka. He is convinced that Grahamstown has become a better place and that much has improved since the end of apartheid. Yet, he is disappointed in how he and his black colleagues have been treated. For instance, when mice nibbled cables and caused a fire in 1994 and destroyed the Settler Monument’s auditorium due to a lack of a sprinkler system, the black employees were blamed. Griffiths was so angry at the time that he did no longer want to work there, yet he loved his work and the building and remained. Being blamed hurt in his heart. ‘They owe us an apology, what they’ve done, because treatment was not so good’.⁶⁶

The four different tours are projected on four split screens which demonstrate how these institutional and personal histories conflict and contrast one another. The voices and images result in a complex interwoven narrative.⁶⁷ Doing so, Subotzky succeeds in providing the viewer a sense

of the two men's past, how they grapple with their experiences under apartheid, how these are representative of Grahamstown's history and how the amaXhosa's experiences over more than the last 200 years are silenced in these heritage institutions that solely celebrate the achievements of British settlers. Through the simultaneous screening of private and public tours, there is an exchange; the histories overlap and there is a new composition of how the history of Grahamstown can be told. *Moses and Griffiths* (2012) has subsequently been exhibited at Palais de Tokyo in Paris in 2013, at Yale Art Gallery in New Haven in 2014 and Art Unlimited in Basel in 2014. And was eventually acquired by the Tate Modern.

Subotzky is very sensitive to commemorative practices in South Africa and raises awareness for South Africa's haunted pasts in a series of artworks which have attracted attention worldwide.⁶⁸ Subotzky sees himself as an indirect political activist with limited power through his art and photography. He sees himself as a South African artist as his work has a strong social responsibility which every South African has due to the country's history. A responsibility to break fixed social structures. With his images, he wishes to create a window through which viewers can see through these structures, to illuminate what often remains in the dark. For Subotzky, photographing goes into two directions: forward and backwards. An image also allows the viewer to understand the photographer's attitude as well as the perspective of who has been photographed. Subotzky describes this process with the words of Tom Waits' song *Eyeball Kid*: 'How does he dream, how does he think, when he can't even speak and he can't even blink, we are all lost in the wilderness we're as blind as can be he came down to teach us how to really see.' The viewer changes perspectives, asks questions, sees and better understands the subject in the photograph or film. Subotzky sheds light on memorial practices in South Africa and allows people to tell their stories who have long been silenced and have not become part of historiography. He thereby contributes to transformation and to a younger generation's awareness of past and current social structures as well as the possibilities for change.

Subotzky revealed the marginalisation of Lamani and Sokuyeka's lifetimes and history in commemorative practices and heritage institutions in Grahamstown. Similarly, this chapter raised awareness for the complexities of Barber's marginalisation through digitisation and exhibiting of her legacy. Meticulous research in Europe, South Africa and Australia presented puzzle pieces that allowed insights into Barber's life and work and provide

the statue for the mask—to use Doung Anwar Jahangeer’s metaphor—that this book has eventually become. The discursive approach adopted in this study is another alternative of how to deal with the colonial past and to engage with ‘ghosts’ that have been haunting Makhanda (Grahamstown), South Africa, the history of science and women, as will be discussed in the Conclusion.

NOTES

1. “Personal Brevities”, *Grocott’s Daily Mail*, 5 September 1899.
2. Unlike (Trimen 1901, 41); (Bethune-Baker 1916, 231–236).
3. Every collection, as Hamilton shows, has a ‘biography’, while every individual source comes with a ‘backstory’ (Hamilton 2011).
4. Since at least 2002, scholars in and on South Africa have been critically examining archives and historical sources to gauge the impact of archival practices on the politics of historiography in the country. See for example: (Hamilton et al. 2002); (Stoler 2002); (Crais 2004); (Lalu 2007).
5. After a fire devastated the 1820 Settlers National Monument in 1994, the South African president Nelson Mandela reinaugurated it in May 1996, reminding those present that it should be a national resource for all the diverse peoples living in South Africa and that it should contribute to national unity and reconciliation. Speech by President Nelson Mandela at the rededication of the 1820 Settlers’ Monument Grahamstown, 16 May 1996: <http://www.sahistory.org.za/archive/speech-president-nelson-mandela-re-dedication-1820-settlers-monument-grahamstown-16-may-1996> date accessed 15 September 2016.
6. Department of Arts, Culture, Science and Technology (DACST), *White Paper on Arts, Culture and Heritage: All our Legacies, our Common Future*, (Pretoria 1996): <https://www.dac.gov.za/content/white-paper-arts-culture-and-heritage-0>, date accessed 13 March 2015.
7. A trope that is used to explain the delay in transformation is the lack of financial means. In the annual report 2009–2010, the Albany Museum manager warned that ‘until somebody begins to listen to [their] plights [the] museum will continue to go the way of the dodo bird’. The state subsidy for 2010–2011 (R798 500) would ‘go straight into the payment of municipal services leaving nothing for programs let alone transformation’. The manager further claimed that to ‘function properly a museum the size of the Albany Museum needs an operational budget of at least R 10 million a year’. Albany Museum 2009–2010: http://www.ru.ac.za/media/rhodesuniversity/content/albanymuseum/documents/AM_ARsml.pdf date accessed 2 February 2015, p. 9.

8. Figure 5: Exhibition of settler frontier, Albany Museum, Grahamstown. Photo by Premesh Lalu, in: (Witz 2010): 17. According to curator emeritus Fleur Way-Jones, these displays were changed by herself and her assistants, Zene Schwaiba and Vovo Mabutya, in 2009. Way-Jones to Hammel, 2 August 2014.
9. (Mitford-Barberton 1970, 267).
10. For more on the archeological collection displayed see (Hammel 2018).
11. Cornelius Plug, “Bowker, Mr. Francis William Monkhouse (Frank), (mam-mal collection)”, http://www.s2a3.org.za/bio/Biograph_final.php?serial=320, date accessed 29 December 2016.
12. See Figure 10.2 in (Hammel 2018, 195).
13. (Marschall 2009): 159. Other examples of the same method have been criticised: See for example (Witz et al. 2001; Rassool 2000).
14. (McClintock 2001, 19–20).
15. These exhibits also contain an ethnographic collection consisting of traditional clothes and a case which displays Xhosa beadwork. In 1999, a similar display was curated as part of an exhibition entitled ‘*Ubuntu*, Arts and Cultures of South Africa’ by the Musée des Arts d’Afrique et d’Océanie in Paris. This exhibition was also offered to the Tropenmuseum in Amsterdam, but its curator, Paul Farber, found that emphasising the quality of beadwork would be ‘very devoid of [the] life, reality and society’ out of which they arose. (Faber et al. 2007, 75).
16. (Karp et al. 2006, 2).
17. See for example (Freud 1899; Freud 1953).
18. (Veracini 2010, 90).
19. (Veracini 2010, 90, 93). The displays are thus revealing in terms of what they conceal and, similarly to other marked sites of initial exploration such as monuments, are typical of the attitude which the Australian historian Inga Clendinnen identifies as what she terms the “‘smoke rising from slab huts’ narratives”—namely feel-good stories which settlers told their descendants and have subsequently been passed down from generation to generation (Veracini 2010, 90, 93); (Clendinnen 2006, 3–4).
20. (Wells 2014, 72).
21. (Mavundza 2012).
22. Rhodes University was founded after the University of Cape Town (1829), Stellenbosch University (1866), the University of Witwatersrand (1896) and the University of the Free State (1904).
23. Way-Jones is still in her position as genealogist and curator emeritus.
24. See for example: (Maclennan 2016).
25. (Staff Reporter 2016).
26. (Subramaniam 2014, 23).
27. (Cleary 2018).

28. <https://www.cbd.int>, date accessed 12 December 2018.
29. (Isaacman et al. 2005, 58).
30. (Masinde and Rajan 2010, 88).
31. (Isaacman et al. 2005): 58. For an example of one of Barber's type specimens from TCD, see: http://plants.jstor.org/stable/10.5555/al.ap.specimen.tcd0001004?searchUri=filter%3Dname%26so%3Dps_group_by_genus_species%2Basc%26Query%3Dtype%2Bof%2Bbrachystelma%2Bbarberiae, date accessed 30 December 2016.
32. (Isaacman et al. 2005, 59).
33. (Isaacman et al. 2005, 59).
34. (Breckenridge 2014, 509). Most prominently, Pickover and Lalu criticised the process of digitisation. (Pickover 2005); (Pickover 2007), in: (Breckenridge 2014, 509–510). Also see: Pickover 2009, <http://wired-space.wits.ac.za/bitstream/handle/10539/8929/14%20Pickover.pdf?sequence=1>, date accessed 30 December 2016; (Lalu 2007, 34). In 2014, archivist Michele Pickover described Aluka as having 'an intellectual architecture which is declining into an awkward one-dimensional repression/resistance narrative mainly aimed at an undergraduate studies audience in the USA'. She criticised the project for contributing to the existing dissatisfaction among South African archivists, historians, intellectuals and activists with the 'South-North flow of information' and the portrayal of Africans as consumers rather than producers of knowledge. Also problematic for her is that digitisation demands funding, and that the selection of sources is therefore 'rooted in neo-colonial and patriarchal arrangements, thereby excluding marginal voices and contestations of a colonial, popular or superficial past' (Pickover 2014, 10, 15). In response, the historian Keith Breckenridge from Wits Institute for Social and Economic Research, University of the Witwatersrand, has argued that the Aluka-DISA debate, which he characterises as 'unhelpful', brought digitisation projects in South Africa to a halt between 2009 and 2014 (Breckenridge 2014, 502). He celebrates digitisation as a significant achievement towards overcoming the archive's typical role as an 'instantiation of the state's interest in history'. According to his argumentation, digitisation projects on a transnational scale can help to defeat the near monopoly on knowledge accumulation held by state-funded and/or ex-colonial archives, while any obstacles along the way arise due to technological difficulties, such as high costs involved in producing high-resolution master images, which require vast disk space. Breckenridge also sees the policing of ownership, authenticity and reputability for provenance as technological challenges (Breckenridge 2014, 514, 518–519). While I clearly see the benefits of digital archives and hope new projects are going to fulfil Lalu and Pickover's

- criteria, I do not agree with Breckenridge that the problems that have hitherto been faced were of a mere technological nature. I see Breckenridge's article as an attempt at mediating between his critical colleagues and potential project funders in the North.
35. See for example: http://www.che.ac.za/about/overview_and_mandate/mandate, date accessed 30 December 2016.
 36. Heather Edwards and Dale Peters, 'Brief to HESA', 30 June 2006, DISA Collection, Historical Papers, Wits University, quoted in: (Breckenridge 2014, 509).
 37. (Breckenridge 2014, 509).
 38. <http://www.aluka.org/page/about/historyMission.jsp>, date accessed 6 June 2014; no longer accessible.
 39. See for example JSTOR workshop with exclusively male participants at Bayero University, Nigeria. Wise Initiative, The WISE Awards, JSTOR Plant Science and the Global Plants Initiative: <http://www.wise-qatar.org/jstor-plant-science-and-global-plants-initiative-united-states-of-america>, last accessed 30 November 2016. © JSTOR Plant Science. And Global Plants Initiative training session at I.F.A.N., Institute Fondamental d'Afrique Noire or African Institute of Basic research, in Dakar, Senegal. <http://www.wise-qatar.org/jstor-plant-science-and-global-plants-initiative-united-states-of-america>, last accessed 30 November 2016. © JSTOR Plant Science.
 40. See for example http://plants.jstor.org/stable/10.5555/al.ap.specimen.tcd0001004?searchUri=filter%3Dname%26so%3Dps_group_by_genus-species%26Basc%26Query%3Dtype%26of%2Bbrachystelma%2Bbarberiae, date accessed 30 December 2016.
 41. A botanist and curator of a herbarium in South Africa to Hammel, and the email the partner institutions received from JSTOR Global Plants, 5 November 2013: <http://about.jstor.org/content/global-plants-formerly-jstor-plant-science>, date accessed 7 June 2014; no longer accessible.
 42. See for example: "Kew Gardens jobs to be axed in £5 m shortfall", *BBC News*: <http://www.bbc.com/news/uk-england-london-26821046>, 31 March 2014, © BBC, date accessed 8 June 2014; Ian Sample, Alice Bell, "Budget cuts threaten Kew Gardens' world-class status", *The Guardian*, 24 April 2014, <http://www.theguardian.com/lifeandstyle/2014/apr/24/budget-cuts-threaten-kew-gardens-world-class-status>, date accessed 8 June 2014.
 43. See for example: William Robertson, IV, "2013 Annual Report: Conservation and the Environment: A Brief Retrospective", <https://mellon.org/about/annual-reports/2013-conservation-and-environment-briefretrospect/>, June 2014, date accessed 30 December 2016.

44. http://www.mellon.org/grant_programs/programs/conservation © 2013 The Andrew W. Mellon Foundation, date accessed 7 November 2013, no longer accessible for people without login. Tanja Hammel, “The Power of Selection in Archiving Processes”, 5th African History Day: Archives: Methods and Sources, Basler Afrika Bibliographien, 9 November 2013; Hammel 2013.
45. See for example (Svensson 2015).
46. Kat Harrington, “Celebrating the Launch of JSTOR Global Plants”, 23 May 2013, <http://www.kew.org/discover/blogs/celebrating-launch-jstor-global-plants>, date accessed 7 November 2013.
47. <http://jstorplants.org/page/4/>, date accessed 7 November 2013; no longer available; <http://jstorplants.org/2012/04/15/griots-and-bao-babs-an-intersection-of-plant-science-and-cultural-heritage/>, date accessed 7 November 2013; no longer available.
48. There is little information available on this issue apart from articles by JSTOR employees, such as: (Masinde and Rajan 2010).
49. (Breckenridge 2014, 511).
50. Government of South Australia, Department of Environment, Water and Natural Resources, “Australia’s Virtual Herbarium”, https://www.environment.sa.gov.au/Science/Science_research/State_Herbarium/Resources/Australias_Virtual_Herbarium, date accessed 30 December 2016.
51. (Sadebeck 1882).
52. See for example (William H. Harvey and Sonder 1859; William Henry Harvey and Sonder 1861; William Henry Harvey and Sonder 1864).
53. See for example (Hücking and Launer 1986); (Kranz 2016).
54. (Short 1990, 8).
55. (Nordenstam 1980).
56. “Otto Sonder Herbarium”: <http://www.rbg.vic.gov.au/science/herbarium-and-resources/national-herbarium-of-victoria/otto-sonder-herbarium>, date accessed 10 August 2014.
57. (Gallagher 2007, 275).
58. Communication with Catharine Gallagher, coordinator, curation National Herbarium of Victoria, Melbourne, June 2014.
59. These include Lucy and Thomas Webb, Lucy Eades and women who collected the plants for which the German-born, Australian-based botanist Ferdinand Mueller achieved scientific fame (Maroske 2014, 74–75, 85); also see: (Vaughan and Maroske 2014); (Olsen 2013).
60. (de Certeau 1988, 75). More projects which raise awareness for racial inequalities in the humanities as well as in the archival process are needed,

- similar to Londa Schiebinger's project *Gendered Innovations in Science, Health and Medicine, Engineering, and Environment* does for gender inequalities: <http://genderedinnovations.stanford.edu/what-is-gendered-innovations.html>, date accessed 31 December 2016.
61. See for example: http://www.dala.org.za/dala_doung.html, date accessed 17 December 2016.
 62. Excerpt from 'Walking The Other Side: Doung Anwar Jahangeer' by Ruth Simbao in *Third Text* 27:3, <https://www.ru.ac.za/ruthsimbao/exhibitionsperformances/theothersidewiththematebesefamily/>, date accessed 15 September 2016.
 63. Ruth Simbao, Doung Anwar Jahangeer: The Other Side with the Matebese Family for Making Way, <https://vimeo.com/52453783>, date accessed 2 March 2019.
 64. (Subotzky 2012, 110, also see 87).
 65. (Subotzky 2012, 109).
 66. (Subotzky 2012, 160).
 67. Subotzky, *Moses and Griffiths*, see: <http://www.subotzkystudio.com/works/moses-and-griffiths/>, date accessed 26 March 2015; For a blog post by two of my students in the course 'Productions of Histories in South Africa', Spring Term 2016, University of Basel, see: Julia Streicher, Fiona Hefti: Michael Subotzkys Kunst als Mittel der Geschichtserzählung, <http://sahistoriebasel.ch/uncategorized/mikhael-subotzkys-kunst-als-mittel-der-geschichtserzaehlung/date> accessed 21 September 2016; (Subotzky 2012).
 68. Mikhael Subotzky, Sticky-tape Transfer 01, Haunted Memories, 2014, Pigment inks, dirt and J-Lar tape on cotton paper, 290 × 240 cm: https://www.artbasel.com/catalog/artwork/12566?blLocaleCode=zh_CN, date accessed 27 March 2015. Another artwork is *WYE* (2016), an intersecting and mesmerising three channel, immersive video presentation. *WYE*—the phonetically spelt Old English for the letter y whose shape was used, for instance, in railroad construction—is an imaginary cartographic and temporal triangle which spans three temporalities (nineteenth-century colonial history, an ambivalent and traumatic present day, and an imagined dystopic future) and three disparate colonial experiences: English, Australian and South African. The first film focuses on Feio, an Australian psycho-anthropologist from the future who has travelled to the east coast of South Africa to study Craig Hare, a metal detectorist from our present day. The second film revolves around Craig Hare who seeks to connect with the remote, incomprehensible landscape, but also experiences a latent colonial desire to exert control over it. The third film focuses on James T. Lethbridge, the 1820 settler transplanted from England to South Africa. Subotzky thereby problematises the shortcomings of anthropology as study and dis-

course, its contexts of domination and privilege, through his characters' misunderstandings and misrepresentations. See <http://www.subotzkystudio.com/works/wye-text/>; <http://sherman-scaf.org.au/video/mikhael-subotzky/> date accessed 6 March 2019.

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‘The fragments that are left behind’

Barber was a self-assertive woman whose work expresses a combination of feminist visions, Cape Colonial nationalism, an appreciation for Africans’ knowledge, but a strong conviction in white and particularly 1820 Settler supremacy. This critical investigation has contributed to new understandings of Victorian natural history by examining the various forms of knowledge creation and the multiple, at times competing, at times intersecting moralities undergirding them. Barber is a particularly interesting example of a woman academic due to her varying positions among and in-between Africans, Afrikaners, 1820 Settlers, Europeans and Australians; women and men, as well as lay and professional scientists, the metropole and the periphery, wealth and poverty. Her space was complex; she had several roles and determinants which overlapped and even contradicted each other from time to time. As such, Barber was what is called a ‘threshold creature’ in literature and culture studies: she was liminal, a person of boundaries and margins.¹

The most popular types of non-fiction in South Africa are biographies and autobiographies, particularly what Andrew Bank and Nancy Jacobs call ‘political biographies of the individual-as-leader; social history biographies of the individual-as-exemplar; literary biographies of the individual-as-vessel-of-self; and critical studies biographies of the individual-as-fragmented-subject’.² This book is neither a social history biography nor a literary biography of a polymath—an ornithologist, botanist, entomologist, archaeologist, writer, painter and poet. It is by no means a simple

celebration of a hitherto marginalised historical actor and, thus, best fits the last category. It is not a biography in the normal sense of the term as Barber's life story—and her essential self—is not presented in a chronological, linear, unified narrative. Yet, it is not a poststructuralist anti-biography as David Nye has offered with his series of different figures of Thomas Edison.³ In 1983, Nye argued that his anti-biography 'asks new questions of the materials conventionally used to tell a life-story, and in doing so, it does far more than merely show how bogus such a biography must necessarily be. For the new questions respect the documents themselves as social constructions of reality. The anti-biography thereby moves into a new area of investigation'.⁴ Similarly to Hlonipha Mokoena's discursive study *Magama Fuze: The Making of a Kholwa Intellectual* (2011), I do not redeem Barber's story from what exists and am disinclined to shape her life into a conventional narrative form.⁵ The thematic structure of both *The Making of Kholwa Intellectual* and *Shaping Natural History and Settler Society* work on the themes that developed most prominently over the course of Fuze's and Barber's long lives. In Barber's case these are scientific practices, emerging new research fields and theories as well as the discourses on women's and Africans' place in science and (settler) society evolving around them. My 'relational approach' has a significant bearing on my narrative, which travels swiftly across different spaces such as centres of calculation and the field in European metropolises and colonies and among various actors such as women and men experts of manifold origins working in several scientific disciplines. Mokoena presents an intellectual history of Magema Fuze, known as the author of the first Zulu history *Abantu Abamnyama Lapa Bavela Ngakona*.⁶ His life is used to understand how the first generation of Zulu converts in Natal negotiated their identities in the late nineteenth and early twentieth centuries. Similarly, Barber's life allows us to understand the history of ideas around scientific debates and practices and how women academics in the nineteenth century—particularly in settler colonial contexts—negotiated their identities. Barber's scientific work is presented as part of the settler colonial project, of building a specific white identity and laying claims to the land. My aim was to reflect on the conditions of science in a settler colonial context but at the same time to bring Barber back to life. I was interested in the interface between her intellectual influences and her readerships, and how her work allowed me to shed light on women's experiences, the construction of canons, the illiberal face of science and what her legacy teaches me methodologically about how to write history by finding ways of reading across archives.

In the following, I will summarise some of the main themes of this book with an eye on their potential to open up further debate on the role of women in colonialism and science, and on South–North engagement in the making of knowledge. This study has challenged the perception that scientific theories and practices originated in the global North and were spread to the South. Africans and Europeans in Africa made extensive contributions to scientific practices and theories as the case of ornithology exemplified. Indigenous peoples and arriving settlers in their working collaborations developed scientific practices and insights which were distinct from Northern knowledge production. These were at times taken up in the North. In other cases, they remained marginalised and are awaiting a historical reevaluation in their potential to challenge Northern hegemony. As more research on the history of science in Southern Africa is conducted, more evidence of scientific practices that originated in the region will become apparent.^{7,8} Scholars in Science and Technology Studies working on Africa have challenged this assumption in the last few years and will continue to produce thought-provoking studies on innovations and theories which have originated on the continent.

Barber carefully constructed 'imagined communities'. Afrikaners, Australians, different African and European ethnic groups were important in distinction from the values and characteristics she ascribed to 1820 Settlers. European explorers and naturalists have often been subsumed in one category, but Barber creates the awareness that they should carefully be distinguished. Living at the Cape all her life, she was convinced to be more accustomed to the land and to see nature differently from European travellers whose point of reference and comparison was of European nature.

This study has also shown Barber's affiliation to trans-imperial networks. Her case has clarified the connections between the Cape and Britain, as well as other parts of Europe and the British Empire. I have emphasised Barber's trans-imperial connections with scholars such as Emil Holub, Hermann Becker and Otto Sonder, and the impact these contacts had on her career. Future research on German botanists' connections across empires, in South Africa and other settler colonial settings would certainly enrich our understanding of scientific practices during colonialism. Here again the relational approach was crucial as much light could be shed on Barber's scientific practices by following individual actors' trans-imperial networks which were not directly link to her. Mauch and others for instance helped us understand Barber's archaeological theories and Hans Schinz her collecting practices.

The professionalisation of science had a deep impact on the opportunities (or increasing lack thereof) for women academics. Some women, such as Mary Glanville and Lucy Lloyd, succeeded in gaining paid positions in scientific institutions at the Cape. Others, such as Barber, became members of scientific societies and managed to publish their research in scientific journals at the Cape and in Britain. In the accelerated development of professional positions and distinct disciplines, eroding the space for ‘amateur scientists’, some institutions, societies and journals remained or even became semi-permeable—porous and accessible for women who had relatives, who acted as patrons and found themselves in situations where they needed to earn their own living. Many leading men scientists at the time perceived disparities among zoological species and human varieties as gradual but gender differences as categorical and absolute and were eager to establish or maintain their privileges. They only occasionally allowed ‘one exceptional woman’ into their midst, as shown with regard to Barber and Treat’s research on insectivorous plants. Yet, neither were the women victims of patriarchy, nor did they straightforwardly resist it. Their legacies call for a careful (re-)examination of individual women’s scope of action.

Darwin’s stance with regard to women’s rights has always been controversial. Some scholars have emphasised the misogynist passages in his work,⁹ others how he furthered women interested in science.¹⁰ I have shown that his theory of sexual selection was multivalent and allowed both conservatives and feminists to find passages that assisted their concerns. A number of women scientists grasped the potential of Darwin’s theories to argue for increasing women’s rights and developed a feminist Darwinism. Darwinism was thus enmeshed in heated political debates at the Cape, and the British Empire at large, and this study has discussed them in relation to the complexities of gender and racial hierarchies.

The comparative analysis of Barber’s and Gould’s ornithological illustrations has been enlightening in terms of how they conceptualised gender relations through birds. What impact these and other cases of scientific feminism and sexism had and how ideas from the South shaped gender relations in other parts of the world deserves further research. In fact, scientific illustrations deserve much more attention and reevaluation for their potential social implications.

The women’s rights movement had been transnational and interrelated with networks of protest such as the anti-plumage movement in Britain and the US. These overlapping networks of protest—of ornithologists, scientific feminists, bird conservationists and women’s rights activists—require further meticulous studies.

Archaeology at the Cape served to justify land dispossession and indigenous displacement that was integral to settler nation-building. A sequel to pioneer narratives in other settler colonies such as Australia and Zimbabwe, the study of archaeological practices from the 1850s to current curatorial and archival practices has drawn out some of the Eurocentric and colonialist implications inherent. The theory of an original white population in Southern Africa shaped Anglophone South African nationalism, legitimised the British, as well as the Cape Colonial annexation of land, and the requirement of large numbers of African labourers in the mining industries, agriculture and the other sectors in which 1820 Settlers hoped to be economically successful. Barber and her relatives rendered Africans the working class in order to constitute themselves as belonging to the middle or upper-middle classes which was particularly important to them in times of financial difficulties, such as during unsuccessful periods of farming or diamond digging.

The Cape Colony was expanding, and many colonisers had already been born in the Cape, which in turn had a deep impact on their thoughts and actions. As the South African colonial Empire has progressively been dismantled, its genesis and persistent legacies have become an important area of study. Yet South African Empire Studies have hitherto not taken these early colonial actions into account. I have provided a brief cross-generational overview of Barber and her relatives, and their engagement in expanding the Empire through their research. Meticulous research in this regard seems particularly promising to contribute to a better understanding of the wider Southern African region in the post-apartheid era.

The periods when Barber developed her own insights, and endeavoured to build a career and a reputation as a naturalist were of particular concern. It is therefore pertinent to enquire after the legacy of her work. The question how archives, museums and digital collections have been dealing with Mary Elizabeth Barber opens up a history of waxing and waning relevance of her work that differs depending on institution and location. The networks she was connected to in life afforded her an uneven reception. Yet digitisation projects led to a posthumous marginalisation of Mary Elizabeth Barber and her work, a matter I refer to as her 'hibernation'. This cannot be undone by one monograph alone. There are, however, contemporary interests at work that might direct further attentiveness to her. Women scientists have recently attracted more attention in popular culture.¹¹ Popular culture with all its interest in women academics assists in bringing key figures back into present consciousness. However, this

phenomenon has the danger of reinscribing the trope of the ‘exceptional woma/en’. My relational approach allowed me to present Barber together with many, women academics’ endeavours, failures and achievements and to write all of them into a wider history of science. Rather than stressing exceptionalism and aberrations, I hope future studies will take women scientists seriously as women and scientists and will not treat them as separately from men scientists as this would limit our understanding of the past.¹²

Thanks to Barber, Harvey and their contemporaries, South African women botanists were ‘in advance of their sisters in other professions by a generation or more’ and particularly call for our attention.¹³ To invite further research, I list a number of them here: Reino Pott-Leendertz (1869–1965) founded and became the first curator of the herbarium of the Transvaal Museum, Pretoria, in 1892. In 1910, Harriet Margaret Louisa Bolus (née Kensit) (1877–1970) became honorary curator of the Bolus Herbarium for life. Alice Pegler (1861–1929) was accepted as one of the first women members of the Linnean Society in 1912. In the Western Cape, Louise Guthrie (1879–1966), working on *Ericaceae*, Augusta Vera Duthie, focusing on the Stellenbosch flora, and Edith Layard Stephens (1884–1966) at the University of Cape Town, all advanced botany. Stephens became the leading expert on algae, fungi, and in later years on edible and poisonous mushrooms.¹⁴ Margaret Rutherford Bryan Levyns (née Mitchell, 1890–1975) was an inspiring lecturer and researcher at the University of Cape Town from 1917 to 1946. After retiring, she continued working as an honorary reader in taxonomy with research facilities at the Bolus Herbarium. She was the first woman president of the Royal Society of South Africa (1962–1963).¹⁵ Helena Madelain Lamond Forbes (1900–1959) worked at the Natal Herbarium in Durban and wrote several taxonomic papers. Maria Wilman (1867–1957), a botanist and geologist, was director of the Kimberley Museum. Margaretha G. Mes (1905–1959) was a renowned plant physiologist and the first woman botanist to become professor in 1944.¹⁶ As environmental history and the history of science are flourishing in South Africa and more and more attention is paid to women academics, I am convinced that we will soon be able to read interesting studies on all of them and not just in isolation but in relation to many more women academics in other parts of the world.

In comparison to these twentieth-century women, Barber had no universities to attend, could not rely on the institutional structures and did not benefit from the new opportunities women in the twentieth century

experienced. Barber was much more marginal and all she had were her letters and drawings and a tenuous sense of connection to some men of science to work with.

This study has also traced the changes in displays at the Albany Museum in Makhanda (Grahamstown). South African museums have experienced a considerable transformation in recent years and will continue to do so and thereby provoke museum curators and scholars in museum studies to ask new questions and find new curatorial practices.¹⁷ A number of historians have stressed how museums were colonial institutions that desperately required Africanisation, such as the founding of new community museums and other forms of curating people's past.¹⁸ The past matters and should not be silenced. The 'ghosts' of the past and the stories around them need to be voiced, written and articulated in one form or another in public spaces. The Xhosa poet and historian Samuel Edward Krune Mqhayi (1875–1945) once warned that: 'A person who knows nothing of the historical events [...] lives his life with blunt teeth, he can't really get his teeth into anything he does. [*Indoda engalaziyo ibali lezinto zakowayo ibhleli imaziny' abutuntu, ibhezinga kwinto yonke eyenzayo.*].'¹⁹ People in the Makana municipality constantly expand their historical knowledge which allows them to question continuity and discontinuity in their daily lives. Learning about one's past, the eGazini Outreach Project artist Vusi Khumalo once said in an interview, is like burying one's grandmother. 'It is not to forget her, but to put her life behind you so that you can carry on. You can't just keep on dwelling on the past. You need to know where you come from to know where you are going.'²⁰

In this regard, Barber's life and legacy can help us discuss the complexities of settler colonialism. While historians and authors have been interested in excavating South African women's histories and women academics' stories, the ambivalences discussed in Barber's case did not find a place for discussion.²¹ I hope that this book is opening new pathways to others and that—like in Barber's description of the honey guide—readers 'may [...] pick up the fragments that are left behind'.²²

NOTES

1. (McClintock 2001, 13).
2. (Bank and Jacobs 2019). Thanks to Andrew Bank for sharing two manuscripts with me before publication.
3. (Nye 1983). Nye had already written his doctoral dissertation as a series of different figures of car manufacturer Henry Ford.

4. (Nye 1983, 12).
5. (Mokoena 2011).
6. (Fuze 1922).
7. Clapperton Chakanetsa Mavhunga (ed.), *What Do Science, Technology and Innovation Mean from Africa* (Cambridge Mass., MIT Press, 2017).
8. Clapperton Chakanetsa Mavhunga, *The Mobile Workshop: The Tsetse Fly and African Knowledge Production* (Cambridge Mass., MIT Press, 2018).
9. See for example: (Murphy 1998); (Hamlin 2014).
10. See for example: (Harvey 2009); (Willmann 2009).
11. See for example: *Queen of the Desert* (2015) and the BBC-documentary *Kew's Forgotten Queen* (2016), on English writer, political officer, administrator, spy and archaeologist Gertrude Margaret Lowthian Bell (1868–1926) and botanist Marianne North respectively. Similarly, in literature, the life story of an American botanist has attracted attention: Gilbert (2013). While they succeeded in excavating women scientists' achievements, they also make the gendered spheres stronger than they actually were and thereby re-inscribe gender binaries.
12. Hammel wishes to address a broader audience. Her *Kronos* article informed the American director and playwright Wendy Dann, Associate Professor, Ithaca College Theatre Arts, while conducting research for a play on a fictional ornithologist. *Birds of East Africa* was staged at the Kitchen Theatre Company, in Ithaca, NY, in February 2017. Also see (Cohen, Hammel, Rindlisbacher forthcoming): <https://baslerafrika.ch/product/mary-elizabeth-barber-growing-wild-the-correspondence-of-a-pioneering-woman-scientist-from-the-cape/>
13. R. A. Dyer, "Botanical Research in South Africa in the Twentieth Century", in (Brown 1977, 248–249).
14. See for example: (du Plessis 1968).
15. See (Bennett 2015).
16. See for example (Saubert and Tager 1960).
17. For examples of transformation, see: (Witz 2010).
18. Prime examples that have widely been discussed in Heritage and Museum Studies are the District Six Museum in and the Lwandle Migrant Labour Museum near Cape Town. See for example: (Rassool and Prosalendis 2001); (Rassool 2006, 2007); (Mgijima and Buthelezi 2006); (Faber et al. 2007); (Murray and Witz 2014). According to Rassool: 'The museum is not only an institution of modernity and ordered citizenship, but is the primary institutional form of empire. It was made and is being remade and adapted through both sides of empire's history: by a rapacious and violent empire of plunder and pacification, and by empire as "benevolent colonization", humanitarianism and trusteeship over people and things.' (Rassool 2015, 658).

19. (Opland 2009, 28).
20. From an interview by Julia C. Wells in 2000, quoted in (Wells 2003, 93).
21. See for example (Bank 2016); or in popular culture, see for example (Beukes 2005).
22. (Barber 1880, 202).

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Correction to: Shaping Natural History and Settler Society

Tanja Hammel

CORRECTION TO:

T. Hammel, *Shaping Natural History and Settler Society*,
Cambridge Imperial and Post-Colonial Studies Series,
<https://doi.org/10.1007/978-3-030-22639-8>

The book was inadvertently published with errors. The below listed changes have been made in this book.

1. Copyright holder was updated from “The Editor(s) (if applicable) and The Author(s), under exclusive licence to Springer Nature Limited” to “The Editor(s) (if applicable) and The Author(s)”.
2. The below sentence is included in the Acknowledgement section: “This book was made available open access through funding by the Swiss National Science Foundation grant: 10BP-2_186623.”
3. Incorrect image was placed for Figure 2.2 in Chapter 2 which has now been included correctly as follows:

The updated version of the book can be found at
<https://doi.org/10.1007/978-3-030-22639-8>
https://doi.org/10.1007/978-3-030-22639-8_2

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Cambridge Imperial and Post-Colonial Studies Series,
https://doi.org/10.1007/978-3-030-22639-8_11

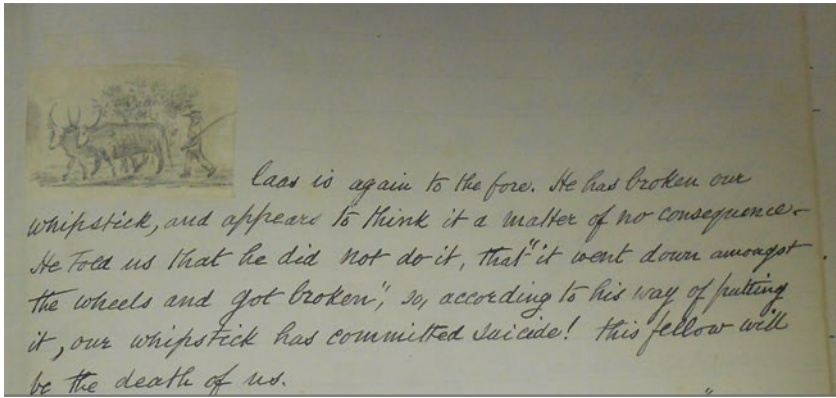


Fig. 2.2 Barber's pencil sketch of Klaas. Initial of Chapter 4 for 'K', MS 10560. (© Cory Library. All rights reserved)

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HISTORY MUSEUM, ALBANY MUSEUM COMPLEX, GRAHAMSTOWN (HM)

AM 3816 William Guybone Atherstone's Photo-Album.

Case 15 Bowker Case, Nineteenth-Century Lifestyle Gallery, Permanent Exhibition, personal belongings.

SM & SMD Bowker Family Letters, Notebooks, Watercolours, Photographs.

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UNIVERSITY OF CAPE TOWN (UCT), SPECIAL COLLECTIONS, MANUSCRIPTS
AND ARCHIVES

BC 234 Bolus Papers.

- Arabella Roupell's ninety Paintings: BOT A Series A, A1–A49, BOT B, B1–B42.
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KWAZULU-NATAL MUSEUM, ARCHIVE AND LIBRARY, PIETERMARITZBURG

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UNITED KINGDOM

KEW LIBRARY, ARTS AND ARCHIVES (KLAA), ROYAL BOTANIC GARDENS, KEW, LONDON

Vol. 189 Director's Correspondence, Letters 101–208, 1865 to 1878.

Vol. 59 Director's Correspondence, Letter 7, 1849.

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Correspondence of Roland Trimen:

Boxes 17–18 M. E. Barber, Highlands & various other places (South Africa), including drawings, 1863–1882.

Boxes 19–21 James Henry Bowker, Butterworth, Fort Bowker, Tsomo, Maseru, Estcourt, Durban and others, 1861–1894.

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- Archive.org
- Biodiversity Heritage Library (BHL): www.biodiversitylibrary.org
- JSTOR Global Plants: <http://jstorplants.org/>
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