·科学技术史·

天使之翼：三位英国女画家与殖民鸟类学

Angel Wings: Three British Women Illustrators and Colonial Ornithology

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摘　要：18、19世纪的鸟类学建立在猎杀和标本收集的基础上，被视为女性不宜的事业，充满父权制色彩的殖民扩张也似乎与女性无缘。在后殖民主义和性别视野下，殖民鸟类学网络中被边缘化的女性角色浮出水面，绘制鸟类图像是她们参与殖民鸟类学的重要方式，典型代表如英国鸟类画家萨拉·斯通、伊丽莎白·格威利姆和伊丽莎白·古尔德。她们在殖民鸟类学中扮演了如维多利亚时代“家庭天使”的理想角色：遵从男性权威，用画笔和创造力支持科学的发展，其绘画作品成为宝贵的科学材料和艺术作品，以此方式支持科学和帝国事业。女性也会购买和收藏标本、消费羽毛制品、观察和记录鸟类等，鸟类命名也不乏纪念女性的例子，无不体现出女性在殖民鸟类学的参与和贡献。

关键词：萨拉·斯通　伊丽莎白·格威利姆　伊丽莎白·古尔德　殖民科学　父权制

Abstract: In the eighteenth and nineteenth centuries, ornithology, based on shooting and skin collection, was regarded as an unsuitable pursuit for women. Simultaneously, colonial expansion was a dominantly masculine enterprise. From postcolonial and gendered perspectives, we can rediscover severely marginalized and overshadowed roles of women within the network of colonial ornithology, a particularly masculine and patriarchal branch of imperial science. This paper highlights the contributions of three skilled women artists: Sarah Stone, Elizabeth Gwillim, and Elizabeth Gould. As embodiments of the Victorian ideal of the “angel in the house”, these women also functioned as metaphorical angels within colonial ornithology. They provided unwavering support to the male-dominated scientific and imperial endeavors, which, in turn, enabled their travel to colonial territories and access to exotic avifauna. Their work holds enduring value in both scientific and artistic contexts, while simultaneously revealing women’s entanglement in and contribution to the imperial agenda. Beyond illustration, women also engaged in observation, documentation, collection, and trade of birds in colonial contexts, with some even commemorated in bird nomenclature.

Key Words: Sarah Stone; Elizabeth Gwillim; Elizabeth Gould; Colonial science; Patriarchy

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The term “angel” here refers to the idealized account of Victorian women, derived from Victorian poet Coventry Patmore’s poem “The Angel in the House”, first published in 1854. This ideal promoted a model of women as devoted, submissive, and morally pure figures

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whose primary role was to love and support their husbands. However, the gender tensions this icon embodied actually existed predate and outlast the Victorian period. In the colonial contexts, the figure of the "angel" highlights the gender tensions of ornithology, a particularly masculine branch of colonial science. In my previous work on colonial botany, I borrowed the iconic image of "angel in the house" to argue that women in this field endorsed and contributed to the imperial agenda. Their engagement with botany, in turn, was facilitated by its power. Thus, women functioned as "angels" not only within colonial botany but also more broadly within the imperial sciences and colonial expansion. [1] This paper attempts to shed light on the frequently overlooked roles of women in colonial ornithology during the eighteenth and nineteenth centuries, when ornithology depended on shooting and collecting skins, which was regarded inappropriate for women. Very few women could shoot birds and make stuffed specimens on their own. Compared with women in botany, women in ornithology were more marginalized and invisible. Consequently, women's participation was typically restricted to more "acceptable" roles, particularly illustration. The references to women as "angels" in colonial ornithology likely allude to the Victorian ideal of the "angel in the house," emphasizing their supportive and subsidiary engagement. The three women discussed here—Sarah Stone, Elizabeth Gwillim and Elizabeth Gould—exemplify the role of women as bird illustrators in the colonial contexts.

Ironically, the "angel wings" (also known as airplane wings) are deformed. Such wings twist outwards unnaturally, rendering the bird unable to fold or flap them. Birds with angel wings cannot fly. The deformity often happens to aquatic birds, such as geese and ducks, especially those fed by humans. I use "angel wings" here to illustrate the opportunities and dilemmas women confronted when they pursued ornithology. On the one hand, they could express their talents and realize their ambitions to some extent through socially sanctioned avenues, such as illustrating birds. In the colonial contexts, imperial power also facilitated their engagement in ornithology, as it provided opportunities to travel and observe birds in their natural habitats in the colonies, and gave them access to specimens, even without travelling abroad at all. On the other hand, these women had to contend with the restrictive gender ideologies, which prevented them from fully enjoying the freedom to pursue scientific inquiry and explore nature. Their talent and the colonial expansion gave them the opportunity to enjoy some freedom in this intellectual pursuit. However, this freedom was always partial. Like birds with angel wings, they cannot truly fly. Imperialism was essentially patriarchal. Women experienced similar restrictions when it came to engaging in imperial natural history and being a part of a patriarchal family.

I have chosen to focus on three women illustrators—Sarah Stone (1760-1844), Elizabeth Gwillim (1763-1807), and Elizabeth Gould (1804-1841)—for the following reasons. First, drawing birds, like botanical illustration, was an extension of polite accomplishment in art for most middle- and upper-class women, aligning with the traditional roles as wife and mother. Second, although these three women worked in different locations, they shared similar goals and methods in depicting exotic birds. Their work, however, received varying degrees of recognition. Sarah Stone was employed by British naturalists and museums, but never travelled abroad. All of her illustrations were drawn from stuffed skins, which sometimes rendered them unnatural in colour, posture and shape. In contrast, Elizabeth Gwillim drew all birds from life or freshly killed specimens during her sojourn in India, where drawing and observing birds was her favourite recreation. Elizabeth Gould's arduous travel in Australia, during which she endlessly drew from life and skins, was rooted in her traditional role as a devoted angel of her husband, the renowned ornithologist John Gould (1804-1881). Third, despite their differences, they shared a similar deference to the agenda of imperialism and male ornithological authorities, as an extension of the "angel in the house" to the "angel" within patriarchal ornithology in the colonial contexts. A study of these three figures offers a window onto

women's roles and gender issues in science and imperialism.

I have benefited from reading the previous scholarly works on these figures and from an examination of the archives on each of them. Christine E. Jackson's book *Sarah Stone: Natural Curiosities from the New Worlds* (1998) is a comprehensive investigation of Sarah Stone's paintings. Melissa Ashley explored Elizabeth Gould's world in depth and published a historical novel *Birdman's Wife*. As for Elizabeth Gwillim, the Gwillim Project collects the dispersed correspondence and artworks of her and her sister, based on which Victoria Dickenson wrote an inspiring and informative paper "Lady Gwillim and the Birds of Madras". [2] Another stimulating study is Kirsten Greer and Jeanne Key Guelke's article on gendered ornithological traditions in colonial Canada, which distinguished women's polite and domestic birding from masculine shooting, collection, science and taxidermy. They argued that women also "contributed to the consumption-driven natural history trade by purchasing souvenirs and supplying birds for their friends' curiosity cabinets" and "'collected' their birds with a pen and paper...rather than with dog and gun". [3] These valuable studies not only bring these women to light, but also encourage further exploration of them from various perspectives. Rather than telling a full and comprehensive story of each individual, I locate them in the colonial contexts and explore how they entered and thought about ornithology. I also emphasize that colonial ornithology was intrinsically patriarchal. Women were victims of patriarchy and marginalized in a masculine science on the one hand, but also took advantage of opportunities provided by colonial expansion. Some even received support from their male contemporaries. Moreover, I hope to highlight their complete deference to the imperial agenda, especially the colonial science, playing an angel-like role in the patriarchal empire. The angel metaphor will open up new ways of discussing women's role in colonial ornithology.

Theoretically, my approach is informed by Bruno Latour's Actor-network Theory (ANT), a powerful framework for understanding imperial natural history. By emphasizing the involvement of non-Europeans, women and even non-humans as actors or actants ①, a post-colonialist ANT enables an exploration of marginalized women in the network of imperial natural history. It also challenges the patriarchal and centre-periphery model of colonial science. Nancy Jacobs' research on colonial ornithology in Africa offers a perceptive example of ANT, though she paid more attention to indigenous actors than to women. [4] It is worth noting that the network of imperial natural history should be treated as multi-dimensional, including actors/institutions or agents, materials and knowledge/information, etc. All dimensions were deeply intertwined with each other. My emphasis on women actors does not imply ignorance of other dimensions, but rather aims to highlight an underrepresented aspect of the network.

I. Sarah Stone: An Employed Artist

There is not much known about Sarah Stone's personal life, particularly her early years. She was born around 1760 and probably received her training in painting at home, since her father was a fan painter. She once displayed her works at two important exhibitions, one at the Royal Academy in 1781 and the other at the London Society of Artists in 1791. These exhibitions indicated that she was an accomplished and recognized artist in London. At the age of thirty or so, she married John Smith, a navy officer a few years younger than her. Smith travelled extensively in British colonies before and after getting married. Stone did not travel with him, but he brought back birds from the colonies. She

① Secord commented, "historians of science have resisted Latour's call to give equal agency to nonhumans and humans", see James Secord, "Knowledge in Transit", *Isis*, 2004, 95(4): 654-672. However, I insist the history of natural history, unlike other branches of history of science, should welcome Latour's call, since stories of nonhumans —living animals and plants, stuffed and dry specimens, images, minerals, fossils —even matters more than those of humans. Some of them are actually central to the network, surrounded by humans and institutions, such as tea, coffee, feather, cinchona, fern, orchid, and so on.

was also lucky that her husband shared her love of painting. This couple both exhibited artworks in 1791. She signed her name as Sarah Smith after getting married.

It is unclear how she and Sir Ashton Lever (1729-1788), one of the most well-known collectors in England, knew each other, but she came to his attention and was employed by him to illustrate his huge collection when she was only seventeen. Lever had collected 28 000 items by 1783, (5, p.42) including natural specimens, antiquities, and even materials from his friend James Cook's second and third voyages. It was one of the most comprehensive collections in the eighteenth century. This museum, known as the Leverian Museum, was widely recognized and open to the public with an entrance fee of half a Guinea. Unfortunately, the collection was dispersed to various museums and private collectors after the auction in 1806, along with Sarah Stone's paintings. (fig1.) Besides painting for the Leverian museum, she also drew or hand-coloured plates for three natural history books. Working for Lever gave her a prominent reputation and brought her to the attention of naturalists. They hired her to draw plates for their books, the most significant one among which is John White's *Journal of a Voyage to New South Wales* (1790). (5, p.140) Among the 65 plates in White's book, nearly half of them are birds, all drawn by Stone from specimens deposited in the Leverian Museum. [6]

Jackson traced Stone's works preserved in public and private collections in detail, and also listed books which included Stone's illustrations and a full list of species she painted. According to the index of species in Stone's works, most of them were birds. She painted over 1000 pictures of birds, insects, shells, minerals, and artifacts. Over 900 works were painted before the auction of Lever's museum in 1806. Jackson's following comment describes how Sarah painted and the significance of her works:

> When working on a watercolour of a mounted zoological specimen in the museum, she was concerned, perhaps overconcerned, to record precisely what was in front of her, consequently reproducing all the inadequacies of eighteenth-century taxidermy. Taxidermists made their models compact... A painting of a bird with its head turned so that the bill fits neatly along its back is a sure a sign that the artist was working from a mounted model. With only a limited understanding of the anatomy of animals...the final shape frequently failed to resemble that of the living specimen. Stone's work may be an

Fig.1 Perspective [interior] View of Sir Ashton Lever's Museum [Leicester Square, London] March 30, 1785, by Sarah Stone. Wikimedia Commons, public domain

> interesting, perhaps even important, historical record of eighteenth-century taxidermic practices. (5, pp.11–12)

Jackson's statement suggests the two sides of Stone's faith in stuffed skins. On the one hand, some of her works were unavoidably stiff or even wrong, caused by defective taxidermy in the eighteenth century. On the other hand, her works serve as a record of the history of taxidermic practices of that period, which was an important part of the history of natural history. It is too harsh to blame Stone for the problems caused by defective taxidermy, since she had never travelled abroad as the other two women did.

Compared with contemporary male illustrators, Stone's limitation is more obvious. The comparison between Stone and Ferdinand Bauer (1760-1826) is quite persuasive and inspiring to understand such limitation. Bauer received formal training in natural science and even worked as professional botanical illustrator. His botanical and zoological illustrations were drawn in a highly scientific manner. Furthermore, he could also travel with collectors and observe their subjects in their native environments. In the field he sketched with an intricate coding system, with numerical symbols to represent different colours, so that he could complete his paintings based on these sketches. (7, p.37) However, Stone had never seen the animals and birds she painted in their natural habitat, but faithfully drew all of them from stuffed skins. Limited contact with living species probably resulted in mistakes or inaccuracy in shape, posture and colours, especially when she remained faithful to inferior stuffed specimens. However, such limitation should not overshadow her contribution in recording Lever's dispersed collection, or the importance of her works in history of natural history, taxidermy and collection in general. In the case of Stone and Lever's cooperation, Dickson asserts, "Natural history illustration was practiced in conjunction with the collection and display of natural history artefacts. The amalgamation of these processes in imperial natural history museums of this period was extremely influential in constructing notions of the exotic." (7, p.40) Lever's collection represented the ambition of imperial natural history and a fascination with the exotic, while Stone's drawings straightened Lever's practices and were integrated into the agenda of imperial science.

From a gender perspective, Stone deserves special attention. In a period when drawing was considered to be a polite and recreational activity for women, it was quite unusual for a woman to be employed as a paid painter. There were indeed many women illustrators in natural history, especially botanical illustrators, but they were usually providing free labour for male naturalists, especially in a domestic context. They seldom signed their names or were acknowledged in publications. Earning from drawing, signing her name on works and getting recognition from natural history authors and Lever, make Stone extraordinary at that time. To some extent, Stone was formally and professionally engaged in imperial natural history in the same way as male illustrators, collectors and naturalists. It is also worth noting that it was quite unusual for a lady to sit in front of various carcasses of animals, watch and draw them carefully, since it was not even proper for ladies to see these collections. The advertisement for the Leverian museum in *The Morning Post and Daily Advertiser* warned, "As Mr Lever has in his collection some very curious monkeys and monsters, which might disgust the Ladies, a separate room is appropriated for their exhibition, and the examination of those only who chuse it." (5, p.37)

II. Elizabeth Gwillim: Polite Ornithology in Colonial India

Sarah Stone represented women engaged in colonial ornithology without traveling abroad, while Elizabeth Gwillim (née Symonds) was a typical settler in colonies and drew birds in her leisure time. Almost all her bird drawings were made in colonial India. The Gwillim Project was initiated in 2017 by a few separate collections from museums and libraries in North America and the UK, and brings together watercolours and the correspondence of Elizabeth Gwillim and her sister

Mary Symonds. Their watercolours are preserved in the Blacker Wood Natural History Collection at McGill University, Montreal, and The South Asia Collection, Norwich, UK. Their letters are preserved in the British Library. All these materials are available on the project website. [8] Gwillim's ornithological life in colonial India reconstructed here is mainly based on materials collected by this project.

Elizabeth Symonds was born in Hereford in 1763, the third child in her family. She shared a passion for natural history and painting with her sisters, Mary (the youngest) and Hester (the fifth child). Hester maintained a regular correspondence with Elizabeth and Mary while they were living in India ① . Elizabeth probably learned drawing at home from her father, Thomas Symonds, who was a skilled draughtsman. Thomas also employed the landscape painter George Samuel to teach his daughters. The sisters became close to the Samuel family. Samuel's name often appeared in their letters. Their painting style was influenced by Samuel as well. For example, Elizabeth painted backgrounds for birds in his distinctive style. [9] In 1784, at the age of 21, Elizabeth married Henry Gwillim (c. 1759-1837) in London. Their daughter, born the following year, died in infancy. Elizabeth later mentioned that she had no children of her own, [10] a circumstance that may have afforded her greater freedom to pursue her interest in natural history, particularly birds drawing. In 1801, Henry was appointed as a puisne judge ② in Madras. Then, the couple moved to India with her unmarried sister Mary. Elizabeth died there in India in 1807, at the age of 44. Henry and Mary returned to Britain next year with all her paintings. Their family letters offer rich insights into their life in India, including extensive discussions on natural history. While in India, they took natural history as a polite science and a form of recreation, just as their country women in Britain did during that period.

The Gwillim Collection consists of 121 watercolours depicting 104 bird species, painted by Elizabeth Gwillim. There are also 31 fish watercolours by her sister Mary, and 12 paintings of plants. Gwillim observed the birds in their native haunts and drew them from living or freshly killed birds. Colonial expansion, which led to her husband's career as a colonial officer, made her ornithology in India possible. Without this, she might never have travelled abroad, not to mention explore the exotic natural world. She was passionate about birds and tried to collect new species for the British empire, no matter in the form of skins, feathers or illustrations, though she never shot birds or made stuffed skins on her own. As Dickenson notes, she was part of a local network of bird catchers and traders in India. [2] She bought birds shot or trapped by local villagers and hunters, and even collected feathers from birds that they had eaten. "I send you feathers of a fowl and cock", she wrote to her sister, "which we ate yesterday". [9] In order to draw before the birds died or the vibrant colours of their feathers faded, Gwillim had to perfect her artistic skills, so that she could draw quickly but also accurately. After finishing drawing, she asked someone to dry the bird skins, and even attempted to arrange for live birds to be transported to Britain. "Pray ask somebody to enquire if they are in any Museum stuffed for it," she wrote in the same letter. "They are rare. I should like to have some stuffed to send over or will try to send them alive". [9] Mary once recounted how Gwillim took pains to draw and collect birds as her "amusement":

> Poor Betsy is never out of trouble for if you gets dead subjects to draw from they become offensive before she can finish the work to her mind, & when the birds are brought in alive they stare, or kick, or peck, or do some vile trick or other that frightens her out of her wits, sometimes she thinks the birds look sick, that is whenever they stand quiet & then in a great fit of tenderness she lets them fly before they are finished...dryed Skins of birds in all corners of the house, but I

① All letters of the sisters can be downloaded from https://thegwillimproject.com/letters/transcriptions/ (accessed on 26 June, 2023).

② This term means an ordinary judge or a judge of lesser rank of a particular court. It is still used in the jurisdictions of England and Wales.

> suppose you will see all thier [sic] pictures in time if we have the good fortune we hope for, as I assure you that is her principal motive for taking all this pain to collect them, & I sincerely hope she will have health to go on with this kind of amusement as such an employment. [11]

Gwillim's drawing room, with its "dryed [sic] skins of birds in all corners of the house", was no different from the working places of Stone and Elizabeth Gould in Britain. Almost all contemporary bird illustrators drew from dried skins, often sourced from imperial natural history collections. While Stone illustrated bird and animal skins gathered around the world, the bird specimens in Gwillim's room were native to India, only some of which were dried and shipped to Britain. However, unlike Stone, Gwillim went beyond the role of an armchair painter. She took birding excursions with her husband and observed them in their natural habitats. Some of her meticulous observations were recorded in her letters. The baya weaver (*Ploceus philippinus*) that she described was an example:

> the Baya is the famous Hanging bird which makes it's pendant nest at the end of the branches of trees which overhang any precipice or Lake- the nest has two chambers & the Hindoos assert that the birds put fire flies in the nest to be a light—It is certain that fire flies are found in the nests but it is probable only put there as food for the birds eat insects & grain—Rice is their chief fare– rice in the husk & their dexterity in catching the grains thrown up into the air is wonderful they crack the husk & take it out the grain with surprizing [sic] quickness. [12]

Her manuscript notes, written in pencil on recto or verso of her drawings, often included information such as measurements, indications of colour and detailed descriptions of feathering, which are also telling for her meticulous observations. [2] These observations ensured that her drawings were as faithful to nature as possible, a quality that was highly valued at that time. Unlike most contemporary illustrators, such as Stone, who primarily drew from stuffed skins, she could avoid mistakes in colour, posture, shape, background and plants inhabited by birds. Among her 121 bird drawings, only 39 lack background; the others feature elaborate or simplified backgrounds. [13] These backgrounds vividly reflect Indian landscapes, vegetation, livestock and even lifestyle. Taking the Malay cock (*Gallus sp*., fig.2) for example, there

Fig.2 Malay Cock (*Gallus sp.*). Source: Rare Books and Special Collections, McGill University Library, CA RBD Gwillim-1-030 (online), Public domain.

are woods, coconut trees, mews and horses, and the local people tending to the animals. Gwillim's meticulous observations are also embodied in the details of feathers, or Pterylography, as scholars called them. Canadian ornithologist and artist Terrence Shortt once remarked that "no artist before 1800 had demonstrated the kind of intimate understanding of pterylography that is revealed in the Gwillim birds." [14, 15] Unfortunately, Gwillim did not publish any work on birds. We can only assess her ornithological knowledge from her personal notes and letters, and most importantly, her drawings.

The most astonishing feature of Gwillim's works is that almost all of her drawings are life-size. It was Gwillim—not Audubon—who was the first painter to produce such large works. Casey A. Wood, who acquired her works in 1924, once declared, "It has been the proud belief of Americans—myself included—that it was our Audubon who first produced full-length portraits of the largest birds...However, so far as originals are concerned, we must now concede the palm to Lady Gwillim, who, so far as I know, is the first artist-ornithologist to paint full-sized and exact pictures of any considerable number of birds whose length exceeds say, 35 inches". [16] For example, her painting of the Malay cock (fig.2) measures 92.7×64.8 cm, the black stork (Ciconia nigra) 92.1×67.3 cm, and the woolly-necked stork (*Ciconia episcopus*) 93.0×69.2 cm—all rendered at life size. It is worth noting that Gwillim and Mary were often challenged by shortages of painting materials, including paper, colours, brushes and pencils, all of which had to be bought in and shipped from Britain. They often requested these items in their family letters ② . Creating such large-scale works under these constraints was a formidable challenge, arguably making Gwillim's accomplishments even more impressive than Audubon's.

III. Elizabeth Gould: "Birdman's Wife"

Elizabeth Gould not only explored and drew birds in the colonies, much like Elizabeth Gwillim, but also drew from stuffed skins all day long, as Sarah Stone did. Yet, in contrast to these two women, drawing birds further reinforced Gould's traditional domestic role within a patriarchal family. Elizabeth Gould (née Coxen) exemplified the Victorian ideal of angel (though she lived in the early nineteenth century) both in the house and in the broader enterprise of imperial natural history beyond botany. A devoted wife and mother to eight children, she nonetheless devoted immense effort to illustrating birds for her husband's ambitious ornithological publications. In recent years, scholars have increasingly sought to acknowledge her artistic and scientific contributions. By situating her within the colonial and patriarchal contexts, I aim to emphasize the ways in which her subordination to her husband mirrored her broader marginalization within the male-dominated empire of science. It is in this light that I adopt the label "birdman's wife", drawn from the title of Melissa Ashley's novel. [17] However, Ashley argued that Elizabeth was the "principal artist" in the Goulds' joint publications, rather than a subordinate assistant or appendage to John, which relegated her, and also conflated them as professional collaborators with their spouse. Such an argument and the character of Elizabeth portrayed in the novel—a talented artist, even before getting married—seems to contradict Ashley's adoption of *Birdman's Wife* as the title, since the title implicitly acknowledges that Elizabeth, as a "wife", was overshadowed by her husband and represented as an appendage. Elizabeth Gould's story reflects the patriarchy inherent in both Victorian families and the scientific empire, particularly within imperial natural history.

① Sizes of all works, see "Gwillim Collection" of McGill Archival Collections Catalogue: https://archivalcollections.library.mcgill.ca/index.php/gwillim-collection, accessed on 7 July, 2023.

② A detailed discussion of their painting materials, see Hana Nikčević, " 'I shall want colours and paper for drawing': Artists' Materials", https://thegwillimproject.com/artwork-2/i-shall-want-colours-and-paper-for-drawing-what-did-the-gwillims-use-to-paint/, accessed on 11 July, 2023.

It's her husband, the well-known ornithologist, who required her artistic skills and commissioned her drawings. In contrast, Elizabeth Gwillim drew as a recreational pursuit, while Sarah Stone was paid for her work.

Little is known of Elizabeth's life before she married John Gould. She was born on July 18, 1804, into a military family in Ramsgate, England. Like most middle-and upper-class girls during the nineteenth century, she learned art and other polite accomplishments, which qualified her as a governess. She met John through her brother Charles Coxen, who had been hired to do taxidermy work for John. Elizabeth and John were married on January 5, 1829, when both were 24 years old. John Gould holds a distinguished place in the history of ornithology on a par with John Audubon. He published a number of luxury monographs on birds, renowned for their exquisite illustrations, such as the *The Birds of Europe* (1832-37), *The Birds of Australia* (1840-48), *The Birds of Asia* (1850-83) among others. However, John himself was not a painter like Audubon, but a respected ornithologist, taxidermist and publisher. John did make rough pencil sketches in the field, which provided the basis for some compositions ①, but the finished illustrations were executed by his wife, Elizabeth, and other artists employed in his studio.

Elizabeth began drawing for John's books as soon as they got married. She drew for John's publishing projects until her untimely death at the age of 37, due to puerperal fever following the birth of their eighth and final child. Even during her pregnancies, she continued to paint and transfer drawings onto stone for lithographic printing. For much of her life, Elizabeth worked hard in her husband's studio, but she also accompanied him on field expeditions to observe and record birds in their natural habitats. In the early 1830s, she travelled extensively with John in continental Europe in preparation for *The Birds of Europe*. They visited natural history museums, explored the countryside, and observed and collected birds in the wild nature.

The most remarkable chapter in their shared career was their voyage to colonial Australia, which resulted in the monumental work *The Birds of Australia*. The Gould party embarked on the expedition on May 16, 1838, and did not return to England until August 1840. They spent 19 months in Australia and 8 months on ship. Elizabeth was pregnant during the voyage to Australia and gave birth to a son there. During the first year in Australia, she usually stayed in Government House to study and sketch native birds and plants during John's collecting expeditions. She finally contributed 84 images to this book. Unfortunately, she died before this project was completed, and left behind a "plant album, a collection of 76 drawings, paintings and sketches of plants, flowers, and occasional birds, created during her stay in Australia 1838-41", for later artists to use as backgrounds. [18] Another of John's projects, *Monograph of the Trochilidae or Family of Humming-birds* (1849-1861), was created without original records of native plants and environments. It borrowed from *Curtis's Botanical Magazine*, and underscoring the significance of Elizabeth's botanical sketches. He copied or adapted Walter Hood Fitch's extraordinary botanical plates as backgrounds of birds in some 208 plates. However, the ecological relations between birds and plants are often mistaken. [19] Obviously, John realized the importance of proper plants as background in ornithological illustration. His need to "borrow" images of native plants ② diminished the originality of his publications, further highlighting Elizabeth's original contributions to his early publications. Unfortunately, the same plant species do not appear

① An illustrator Neville W. Cayley called John Gould as an illustrator because of his rough sketches. Cayley thought it was from them, Elizabeth and other artists can make beautiful finished drawings. See Cayley, "John Gould as an illustrator", *Emu: Australian Ornithology*, 38(2), 1938, 167–172.

② John Gould never saw living humming-birds or plants they depended on. He admitted himself in debt to *Curtis's Botanical Magazine* for copying plants native to South America, "which are frequented by humming-birds". See, John Gould, *Monograph of the Trochilidae or Family of Humming-birds*, Vol. 1, London: published by the author, 1861, p. vii. However, being native cannot guarantee the real ecological relations between birds and plants. That is why he often made mistakes.

in the Thochilidae book and Elizabeth's illustrations to provide a direct comparison. Ashley traced all works designed, lithographed and painted by Elizabeth, more than 650 in total①. [fig.3]

Mrs. John Gould. From a painting in the possession of her great-grandson, Dr. Alan Edelsten, England.

Fig.3 Portrait of Elizabeth Gould. National Library of Australia. Reproduction Allowed for Research Purposes.

Russell unfairly remarks that Elizabeth "was rescued by marriage from the isolation, often tedious work and indeterminate social status of being a governess". He also suggests that marriage enabled her to bring "her considerable skills and dedication", travel to Europe and Australia, and be the soul mate of a successful man. [20] Such remarks understate Elizabeth's suffering from frequent childbearing, endless and arduous work, not to mention her depression and fear of parting from her young children, all of which come from her angel-like role in a patriarchal family. For John himself, having an excellent draughtswoman for free, seemed to take for granted that she gave birth again and again while assisting him, and also ignored the danger of frequent pregnancy for most time of her married life. On the contrary, Edward Lear, a famous ornithological illustrator and one of artists employed by John, stated, "Mrs Gould...was taken with a premature labour (her 4th child in 3 years) (at 4 months,)...in so dangerous a manner as to give no hope of her life; ...she continued actually—being confined, till the day before yesterday...but she is of course though alive...still in imminent danger...②"

The Goulds' contemporaries recognized Elizabeth's contributions more than later generations. Edward Lear indignantly wrote, "(John) owed everything to his excellent wife, & to myself, without whose help in drawing he had done nothing.③" Darwin once highly praised the 50 illustrations in his *The Zoology of the Voyage of H.M.S. Beagle* (part 3) "executed on stone by Mrs. Gould, with that admirable success, which has attended all her works." [21] Nicholas Aylward Vigors, a friend of John and an Irish zoologist, named Mrs. Gould's sunbird (*Aethopyga gouldiae*) in her honor. Unfortunately, such recognition was not passed on partly because of John himself. He appreciated and praised Elizabeth's talent in art and her contributions. Bowdler Sharp wrote that "(he) never failed to tell his friends how deep was his debt of gratitude to the artistic aptitude and courageous devotion of his wife and fellow-traveller". [22] John even named the Gouldian finch (*Chloebia gouldiae*) after her. However, he thought of her as a "very efficient helpmate", "who for many years laboriously assisted me with her pencil, accompanied me to Australia, and

①Melissa Ashley also listed the number of plates in each publication. See "Elizabeth Gould", https://exhibits.lib.ku.edu/exhibits/show/gould/about/elizabeth_gould. accessed on July 31, 2023.

②Lear's letter, cited in Melissa Ashley, "Elizabeth Gould", https://exhibits.lib.ku.edu/exhibits/show/gould/about/elizabeth_gould. accessed on July 31, 2023.

③Lear's Diary, February 7, 1881, cited in Robert McCracken Peck, "The remarkable nature of Edward Lear", *Proceedings of the American Philosophical Society* 162(2), 2018: 158-190, here 175.

cheerfully interested herself in all my pursuits”①, rather than a “professional collaborator” in these publishing projects, as Ashley argued. It is worth noting that all her paintings and correspondence on art were related to John Gould’s projects. His ongoing career and fame in four decades after her death indeed eclipsed his earlier works. [23] Moreover, it is almost certain that she could not have any spare time after intensive pregnancy, endless family responsibilities and industrious work for John’s ambitious publications one after one, let alone that her name never appeared on the covers of John’s works. For most plates, signed as “Drawn from Life & on Stone by J. & E. Gould”, John’s name always appeared first just because of his rough sketches, another sign of Elizabeth’s subordination.

When examining the Goulds in the colonial contexts, we can affirm that their Australian ornithological expedition was greatly facilitated by the colonial expansion of Britain. Official support for the Gould party came from both metropolitan and colonial authorities, who provided letters of recommendation, logistical assistance, and protections, helping to establish connections with various colonial governors. [24] On a personal level, Elizabeth’s younger brother Charles Coxen contributed extensively to Gould’s Birds of Australia. A skilled taxidermist, Charles emigrated to Australia around 1833, following their elder brother Stephen Coxen. Charles collected and sent bird specimens to John Gould soon after arriving in New South Wales, which not only made *Synopsis of the Birds of Australia* possible, but also motivated him to undertake his own fieldwork in Australia. [25] The earlier settlement of Elizabeth’s brothers in colonial Australia also paved the way for this expedition, and both Charles and Stephen provided substantial support to the party throughout their stay. As for Elizabeth Gould herself, although she endured deep anxiety and sorrow at having to leave her young children behind in Britain, she expressed a genuine appreciation for the Australian landscape, its flora, and its fauna—always, however, through the lens of John’s scientific and publishing ambitions. She wrote, “many of the birds possess very curious habits, which have not been ever publicly noticed. I think the great mass of information John has obtained cannot fail to render our work highly interesting to the scientific world”. John was “persevering and indefatigable...in obtaining nests and eggs, making skeletons of the various forms of birds...getting information of their habits”. They cannot return “until the object...is accomplished” ② . During their sojourn in Australia, she found both “amusement and employment in drawing some of the plants of the colony, which will help to render the work on Birds of Australia more interesting.” Her days were filled with “various daily occupations of tending baby, instructing Henry, drawing flowers or birds”③. Her diaries often recounted how she drew all day long, from life in a natural environment or in a cage, particularly when John and his hunters returned with new specimens. John once said, “One of the finest examples I possess was captured with a hook and line, and thus afforded Mrs. Gould an opportunity of making a beautiful drawing from life”④. These “occupations” reveal the multifaceted nature of her role: as a devoted mother, a diligent assistant to her husband’s scientific enterprise, and an active participant in colonial science. In this way, Elizabeth embodied both the ideal of the “angel in the house” and a quiet presence within the empire of science. The tragedy of Elizabeth’s early death at the age of 37 was considered as the sacrifice of a martyr of ornithology. As Hindwood and Jerrold commented, “The strain of long voyages, sketching, painting and child—bearing was too great—truly she sacrificed her life to ornithology”, [26] while Chisholm referred to her as “a martyr of the science of bird-study”. [25] But more exactly, she was sacrificed to the ornithological ambitions of

①John Gould’s letter, cited in Melissa Ashley, “Elizabeth Gould”, https://exhibits.lib.ku.edu/exhibits/show/gould/about/elizabeth_gould. accessed on July 31,2023.

②Letters by Elizabeth, cited in Chisholm, A. H., “Mrs. John Gould and Her Relatives”, 1941, 348.

③Letter by Miss Williamson & Elizabeth, cited in Chisholm, A. H., “Mrs. John Gould and Her Relatives”, 1941, 349.

④Elizabeth’s diaries and John’s saying, cited in Hindwood & Jerrold, “Mrs. John Gould”, 38(2), 1938, 131-138.

her husband, which was a part of British colonial science, and more to the traditional domestic ideal of a woman in a patriarchal family.

IV. More "Angels" in the Network of Colonial Ornithology

The careers of the three women discussed here highlight the gendered culture of ornithology in the colonial contexts. First, they learned drawing as a polite accomplishment for middle- and upper-class girls, which prepared them for bird illustration. However, both Sarah Stone and Elizabeth Gould went beyond treating their work as a polite activity. Stone was even employed and paid. They drew from life or stuffed skins, but never held a gun, shot, skinned or dissected birds, which were not discouraged at all by traditional gender ideology. Elizabeth Gwillim collected bird specimens, but she always gained them from local hunters, rather than killing or stuffing them herself. Second, drawing birds did not conflict with their domestic responsibilities as mothers or wives. Elizabeth Gould exemplified the Victorian ideal of the "angel in the house", simultaneously fulfilling her responsibilities as a mother and contributing significantly as a draughtswoman to her husband's ornithological publications. Third, they were involved in seemingly masculine domains of imperialism and colonial science. Their drawing and travels were facilitated by colonial expansion. John Gould's expedition party, in which Elizabeth Gould was an unwilling but vital member, was greatly supported by colonial authorities and by Elizabeth's brothers, two settlers in colonial Australia. Elizabeth Gwillim travelled to India due to her husband's position as a colonial officer in Madras. Sarah Stone did not travel abroad, but her husband brought back specimens for her from colonies, not to mention that all specimens she drew for the Leverian Museum were collected from various expeditions abroad. Moreover, all these women deferred to the agenda of colonial ornithology, not different from male naturalists and collectors—curious and even excited about exotic species. They also tried to bring them back to Britain, whether in the form of images, texts (names, descriptions or other records), or specimens. They appreciated the nature in colonies and also natural trophies of compatriots, but rarely reflected on the consequences of bioprospecting. Fourth, they did not gain the full recognition they deserved, though they have attracted more attention in recent years. Elizabeth Gwillim was rediscovered over a century after her death by Casey A. Wood and only gained broader recognition after another century, when the Gwillim Project was initiated. Elizabeth Gould has been overshadowed by John Gould for a long time. Sarah Stone was definitely an exception, given that few women could be employed as paid painters like her.

These women illustrators constituted an important part of the multi-dimensional network of colonial ornithology and more generally, imperial natural history. The network encompassed imperial power, institutions, people, knowledge/information and materials in both colonies and Europe. Specifically, it included entities such as the Royal Navy, trade companies, museums, academies, botanical gardens, personal cabinets, local hunters and collectors, ornithological authorities and amateurs, both men and women, as well as living birds and stuffed skins, texts (such as diaries, letters, travelogues and notes) and images, feathers, and various bird-related products. Acting as agents of ornithology, women illustrators documented ornithological knowledge through visual representations, which transferred specimens into more portable materials, as another form of collecting. Besides them, the network of colonial ornithology should have included more women whose contributions remain underrecognized. It should be kept in mind that different branches of natural history were deeply interconnected, even though I discussed them by individuals and specific practice. Women naturalists and amateurs may focus on birds or plants, or both and more. Moreover, women in natural history may also have formed their own network, connecting to each other directly through social connections and correspondence, or indirectly through their works, such as the author or painter on one end, and their readers on the other end, who were inspired by them. Among the three

women here, Elizabeth Gould and Sarah Stone may have drawn same Australian birds, since Stone once drew birds in New South Wales for John White from specimens, though she never saw living ones as Elizabeth did. Elizabeth Gwillim once saw Stone's paintings, as mentioned above. Other women likewise were connected, not to mention some of them were friends in their personal lives.

Collection was another important part of the story, both in colonies and metropoles. A famous and distinctive collection of colonial paintings is the Impey Album, including 326 natural history paintings brought back to Britain by Lady Mary Impey (1749-1818), the wife of Sir Elijah Impey, Chief Justice of Bengal. She established a menagerie in Calcutta and commissioned three Indian artists to paint local fauna and flora, practising natural history in an elegant and noble way. More than half of these paintings were bird illustrations, 197 in total. Aesthetically and scientifically, these paintings integrated European painting materials and conventions of natural history illustration with Indian artistic style ①. Though not a painter herself, Lady Impey and the three women illustrators shared a similar way of collecting birds in colonies through paintings. The Impey Album even inspired Elizabeth Gwillim to paint Indian birds. [27] In Africa, Mary Elizabeth Barber (1818-1899), one of Darwin's so-called "angels", dedicated herself to various branches of natural history, including ornithology ②. She depended on the network of local hunters, settled relatives, museums and private cabinets in the Cape, to explore avifauna and collected specimens (not killing or stuffing on her own, either). She even went further, to call for gender equality through ornithology. [28] More commonly, white women in colonies probably bought specimens for themselves or friends as souvenirs or presents, or for European naturalists and museums, just as Elizabeth Gwillim did. Meanwhile, noble women in metropoles constituted a vital part of the culture of collecting exotic nature. The most notable collection of natural history was owned by Margaret Cavendish Bentinck, Duchess of Portland (1715-1785). It covered a wide range of specimens around the world, including birds. A particularly unique collection worth noting was Elizabeth Montagu's feather room. She collected various feathers at home and abroad. These feathers were sewn into fabulous paintings, which she showed to several hundred guests in 1791. The following day this feather room became a hot topic in London newspapers. [29] In contrast to these memsahibs who collected birds, there are also professional hunters of birds, though quite a few. A typical example was German hunter Amalie Dietrich (1821-1891). She was one of the ten employed collectors working for the private Museum Godeffroy in Hamburg. She shot birds and other animals and made stuffed specimens on her own. In Australia, she collected about 300 bird species for this museum③.

Just as in botanical nomenclature, some women were honoured in ornithology, reflecting their roles on the knowledge dimension of the network of colonial ornithology. Besides two species named after Elizabeth Gould, there are also a few more species named after women. For example, the Lady Amherst's Pheasant (*Chrysolophus amherstiae*) was named after Sarah Amherst (1762-1838), the wife of Governor-General of Bengal. She botanized in India and developed an herbarium of Himalayan plants. [30] She was the first person who brought two living pheasants into Britain in 1828, but they died only a few weeks later. The Long-tailed Broadbill (*Psarisomus dalhousiae*) was named after Christina Countess of Dalhousie (1786-1839), the Mrs. Hume's Pheasant (*Syrmaticus humiae*) after

① Detailed discussion on Lady Impey, see Chatterjee, A., "A memsahib's 'natural world': Lady Mary Impey's Collection of Indian Natural History Paintings", in *Women, Collecting, and Cultures Beyond Europe*, ed. Arlene Leis, Routledge, 2023, pp. 100-118.

② Different from my reference to "angel", Joy Harvey takes 'angels' from Darwin's salutation in a letter to refer his women correspondents: see "Darwin's 'angels': the women correspondents of Charles Darwin", *Intellectual History Review*, 2009, 19(2), 197-210. A comprehensive study on Barber see Tanja Hammel, *Shaping Natural History and Settler Society: Mary Elizabeth Barber and the Nineteenth-century Cape* (Springer International Publishing, Cham, 2019)

③ Dietrich collected both botanical and animal specimens, so I discussed her in my previous paper. See Jiang, 2021.

Mary A. Hume (1824-1890), wife of the British naturalist in India Allan Octavian Hume, and the Tibetan Partridge (*Perdix hodgsoniae*) after Anne Hodgson (d. 1868) by her husband Brian Hodgson, a naturalist working in India and Nepal①.

V. Epilogue

The Victorian icon "angel" has almost been forgotten. Instead, the "angel" more commonly evokes a general sense of goodness. In this sense, women have indeed been "angels" to birds. Since the late nineteenth century and into the present, numerous accounts highlight women's effort and commitment in bird protection, far more than their stories in colonial ornithology explored here. Many women dedicated themselves to bird conservation during the late nineteenth century, driven primarily by opposition to the feather trade, which claimed the lives of millions of birds. In contrast, during the eighteenth and early nineteenth centuries, calls for bird protection was still weak, not to mention protests against shooting birds in the name of science, whether at home or in colonies. It is no surprise that shooting and collecting birds, the dominant way of bird study at that time, was not questioned. Thus, "Angel wings" in this paper emphasizes women's subordination and opportunities in a patriarchal empire of ornithology on the one hand, while seeking to reevaluate their contribution, talent and intellectual engagement with imperial natural history, moving beyond the traditional portrayals of women merely as devoted wives or mothers. As active actors in colonial ornithology–illustrators, collectors, buyers of specimens, etc, women not only accepted but also admired its practices and agenda. Women, particularly those in colonies, had various accesses to information on events and conflicts between Europeans and local people. It is unlikely they were blind to these realities of colonial expansion. For instance, Elizabeth Gwillim and her sister demonstrated "their intimate knowledge of the political situation in and around Madras" in their letters. [31] Dickenson noticed that Elizabeth Gwillim showed concern for the welfare of living birds in captivity, because she tried to finish their portraits so that they could be released. [2] However, in most instances, her urgency more from practical concerns than a sense of animal welfare: captive birds rarely survived long, and freshly killed specimens quickly lost their shape or colour, especially in the intense heat of Madras. This suggests that her motivations were primarily scientific and aesthetic, rather than driven by early conservationist sensibilities. Moreover, she took birds as table fare and tried to collect them, whether as dried skins or live specimens. She definitely knew how much caged birds would suffer on the long voyage back to Britain. Yet, her concern for their welfare appears to have been limited to moments of immediate sympathy, evoked by prolonged observation, rather than rooted in a sustained ethical stance.

Given the limited recognition these women gained, they deserve deeper attention. Elizabeth Gwillim should not have been remembered merely as the wife of Sir H. Gwillim, just as Elizabeth Gould has come to be seen as more than "birdman's wife". Many other women, even more overshadowed by history, deserve similar reconsideration.

Today, women constitute a significant proportion of birders around the world and contribute a lot to the protection and research of birds. They are free (though not absolute) to watch, study and protect birds, and also to make many other choices. They are no longer trapped by the dilemma implied in "angel wings". "Angel wings" appeals to both historical and gender lens of women's roles in colonial ornithology, and also calls for a truly open sky—for women in science, and for the full recognition of their contributions.

References

1. Hong Jiang, "Angel in the House, Angel in the Scientific Empire: Women and Colonial Botany During the Eighteenth and Nineteenth Centuries", *Notes and Records*, 75, No. 3 (2021), 415–438.

①I owe thanks to Dr. Zhu Lei, who summarized bird species named after women beyond the ones mentioned here.

2. Victoria Dickenson, “Lady Gwillim and the Birds of Madras”, *Notes and Records*, 77, No. 3 (2023), 647–670.
3. Kirsten Aletta Greer and Jeanne Key Guelke, “Intrepid Naturalists and Polite Observers-Gender and Recreational Birdwatching in Southern Ontario, 1791-1886”, *Journal of Sport History*, 30, No. 3 (2003), 323–346.
4. Nancy Jacobs, *Birders of Africa: History of a Network.* New Haven & London: Yale University Press, 2016, 9.
5. Christine E. Jackson, *Sarah Stone: Natural Curiosities from the New Worlds*. London: Merrell Holberton Publishers London and The Natural History Museum, 1998.
6. John White, *Journal of a Voyage to New South Wales*, Printed for J. Debrett, 1790, “advertisement”.
7. Nicola Jan Dickson, *Wonderlust: The Influence of Natural History Illustration and Ornamentation on Perceptions of the Exotic in Australia*, PhD dissertation, The Australian National University, 2010.
8. The Gwillim Project: https://thegwillimproject.com/, accessed on 26 June 2023.
9. Elizabeth Gwillim, “Letter to Her Sister, Hester ‘Hetty’ Symonds James”, on 18 Mar., 1802, Letter-010-EG-03-1802.
10. Elizabeth Gwillim, “Letter to Her Sister, Hester ‘Hetty’ Symonds James”, on Sep./Oct., 1806, Letter-068-EG-09-1806.
11. Mary Symonds, “Letter to Her Sister, Hester ‘Hetty’ Symonds James”, on 7 Feb., 1803, Letter-065-EG-05-1806.
12. Elizabeth Gwillim, “Letter to Her Sister, Hester ‘Hetty’ Symonds James”, on 11 Feb., 1806, Letter-062-EG-02-1806.
13. Saraphina Masters, “Gwillim’s Backgrounds”, https://thegwillimproject.com/artwork-2/gwillims-backgrounds/, accessed on 26 June, 2023.
14. Terence Michael Shortt, “Gwillim as Artist and Ornithologist”, in *Elizabeth Gwillim: Artist and Naturalist 1763-1807*, ed. Walkinshaw, A. The Robert McLaughlin Gallery, Oshawa, 35–40.
15. Saraphina Masters, “Feathers”, https://thegwillimproject.com/artwork-2/feathers/, accessed on 8 July 2023.
16. Casey A. Wood, “Lady［Elizabeth］Gwillim—Artist and Ornithologist”, *Ibis*, 67, No.3 (1925), 594–599.
17. Melissa Ashley, *The Birdman’s Wife*. Melbourne: Affirm Press, 2016.
18. Melissa Ashley, “Leaves of A Diary: Searching for Elizabeth Gould in the Archives of the Mitchell Library”, *Text*, 17, No.2 (2013).
19. Maureen Lambourne, “John Gould, Curtis’s Botanical Magazine and William Jameson”, *Curtis’s Botanical Magazine*, 16, No.1 (1999), 33–45.
20. Roslyn Russell, *The Business of Nature: John Gould and Australia*. National Library Australia, 2011, 12.
21. Charles Darwin, “Advertisement”, pp. i-ii in Gould, J. Part III Birds, in Darwin, C. (Ed.) *The Zoology of the Voyage of H.M.S. Beagle, Under the Command of Capt. Fitzroy, R. N., During the Years 1832 to 1836*. Smith, Elder & Co., London, 1838.
22. Bowdler Sharpe, *An Analytical Index to the Works of the Late John Gould*. London: Sotheran, 1893, xiii.
23. Adria Castellucci , “Elizabeth Gould: Working Wife, Victorian Mother”, https://australian.museum/learn/collections/museum-archives-library/john-gould/elizabeth-gould-1804-1841/working-wife-and-mother/, accessed on Aug.1, 2023.
24. John Gould, *Birds of Australia*, vol.1, London: printed by Richard and John E. Taylor, 1848, vi.
25. A. H Chisholm, “Mrs. John Gould and Her Relatives”, *Emu: Australian Ornithology*, 40, No. 5 (1941), 337–354.
26. K. A. Hindwood & Blanchard Jerrold, “Mrs. John Gould”, *Emu-Austral Ornithology*, 38, No.2 (1938), 131–138.
27. Hana Nikčević, “‘Curious for Fish’: Mary Symonds’s Fish Watercolours” https://thegwillimproject.com/artwork-2/curious-for-fish-mary-symondss-fish-watercolours/, accessed on Aug. 8, 2023.
28. Tanja Hammel, “Thinking with Birds: Mary Elizabeth Barber’s Advocacy for Gender Equality in Ornithology”, *Kronos*, 41, No.1(2015), 85–111.
29. Ruth Scobie, “‘To dress a room for Montagu’: Pacific Cosmopolitanism and Elizabeth Montagu’s Feather Hangings”, *Lumen*, 33 (2014), 123–137.
30. Ann B. Shteir, *Cultivating Women, Cultivating Science: Flora’s Daughter and Botany in England 1760 to 1860.* Baltimore and London: John Hopkins Univ. Press, 1996, 192.
31. Anna Winterbottom, “Behind the Scenes: Colonial Violence and Resistance in the Gwillim Archive”, https://thegwillimproject.com/behind-the-scenes-colonial-violence-and-resistance-in-the-gwillim-archive/, accessed on 11 July, 2023.

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