

## The Botanical Writings of Maria Graham

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Botany was a popular and fashionable pursuit for both men and women during the period between 1760 and 1830, its popularity demonstrated by its appearance in magazines, novels and poems, the increasing availability of books aimed at a general readership, the publication of botanical games and playing cards, manuals of instruction in flower-drawing and the existence of substantial audiences for public lectures. Women moved into botanical culture in growing numbers at the beginning of the nineteenth century and botany became increasingly seen as suitable for female study.<sup>1</sup>

The early nineteenth-century traveller and author, Maria Graham (1785-1842) came of age during this period of growing interest in botany and it continued to be a central interest throughout her lifetime, forming a significant element within her writing and shaping her activity when travelling. Her involvement in plant collecting and her active participation in the international network of collectors organised by William Jackson Hooker, Professor of Botany at Glasgow University and later Director of Kew Gardens, shed light on the participation of women in scientific activity during the first few decades of the nineteenth century. I demonstrate for example, that Graham is important in challenging misconceptions about women's 'botanising' being confined to their local area. Whilst this is true for the majority, especially in the eighteenth century, there were exceptions, and a few British women, mostly (although not exclusively) colonial and diplomatic wives, whose particular circumstances enabled them to travel further afield, botanised as part of the imperial project in the early nineteenth century.

The ease and simplicity of use of the Linnaean system for classifying and naming plants, coupled with the publication of British translations and adaptations of Linnaeus, many of them aimed specifically at a female audience, helped to make the study of botany increasingly popular among British women. So too did the expansion of the British Empire and the growing number of travellers and explorers who returned to Britain with plant specimens and drawings. It has been argued that "natural history in general, and Linnaean botany in particular, [was] the dominant epistemological paradigm . . . of the period" in relation to travel writing (Leask 47). Johannes Fabian gives the example of Linnaeus's 1759 *Institutio Peregrinatis* (scientific instructions for travellers) as evidence of "the roots of the new science of travel in natural-historical projects of observation, collection, and classification, and description" (8); Roy Bridges asserts that "the three voyages of James Cook [between 1768 and 1779] set the pattern of government demanding scientific investigation as part of a search for precise and accurate information whether or not this pointed to economic opportunities" (55); and Mary Louise Pratt has claimed that:

[i]n the second half of the eighteenth century, whether or not an expedition was primarily scientific, or the traveller a scientist, natural history played a part in it. Specimen gathering, the building up of collections, the naming of new species, the recognition of known ones, became standard themes in travel and travel books. (27)

This claim needs to be qualified; there were many other competing discourses and Leask himself argues strongly for a parallel aesthetic and archaeological discourse in many early nineteenth-century travel accounts, suggesting that "[i]n many . . . travel narratives . . . the systematic protocols of natural history, antiquarian curiosity, and Taste (reflected in the 'indirect discourse' of the traveller's response to people and places) coexist in loose solution, reflecting the 'predisciplinary' nature of the genre itself" (48). Other travel texts of the period were further shaped by missionary discourses or those of captivity and slave narratives. Nonetheless, it is clear that for many travellers of the late eighteenth and early nineteenth centuries, regardless of the purpose of their travel, natural history, particularly botany, formed a major part of the experience and the narrative which resulted from that experience.

As I have said, the particular circumstances of colonial and diplomatic wives enabled them to travel further afield as part of the imperial project. Many of these women created herbaria and botanical gardens at the places where they were stationed and sent back to England plant specimens, both live and dried, seeds and botanical drawings. Georgiana Molloy (1805-1843), for example, who emigrated from England to Western Australia with her husband, sent back seeds to various botanical gardens. Lady Henrietta Clive (1758-1830) who arrived in India with her husband, the Governor, in 1798, established a garden and recorded the plants of the area of Mysore and the Carnatic. Annabella Telfair (d. 1832), wife of the naturalist and colonial officer Charles Telfair, collected marine plants in Mauritius; many of her drawings of botanical specimens were published by prestigious European scientific journals.<sup>2</sup>

Similarly, a particular set of family and marital circumstances enabled the author Maria Graham to travel in Europe, Asia and South America. The topic of botany runs through her travel and other writings but her interest in science began much earlier than that. When in later years she looked back over her life, the early study of botany stood out as a highlight.

There was a spot which I was very fond of visiting . . . There I became acquainted with the Rest Harrow and the Pettywhin: there grew in full luxuriance all the Trefoil race. There I first saw the streaked Eyebright, the elegant Milkwort, and, sitting upon one of the ridges, with the wild Heartsease in my hand, I first heard Shakespeare's fairy description of how it was before milk-white, now purple, with Love's wound.<sup>3</sup> ("Reminiscences" 20-21)

While it would be easy to interpret this passage simply as a schoolgirl's idyllic introduction to natural history, Graham's "Reminiscences" were dictated by her during the last years of her life. At the time she composed the "Reminiscences," she was also working on an illustrated book of Biblical plants which included Shakespearean and other literary references. Although heartsease was not one of the plants included in *A Scripture Herbal*, it is likely that Graham was, at the time, going through Shakespeare's works for botanical references, and she may well have been reminded of the *Midsummer Night's Dream* reference to heartsease during that research process. Nevertheless, Graham's memory of luxuriating in the colours and scents of the plants while being told "fairy" tales from Shakespeare provides a glimpse into the way in which young middle-class girls at the beginning of the nineteenth century were encouraged to respond emotionally as well as scientifically to the natural world.

At the same time, Graham recalled that the classification and identification of plants using William Withering's *An Arrangement of British Plants* (1796) had also formed part of this botanical education:

With Withering tucked under my arm, trudging along by the side of the governess [. . .] I have often thought myself the happiest creature in the world, while she shewed me how to compare the plants with the description in the book. ("Reminiscences" 21)

Again we see the connection in Graham's memory between her early experience of science and the emotion with which she links her memory of the botanical tasks to the context of pleasurable one-to-one time spent out of doors with her "governess."

After leaving school, Graham spent a year in Edinburgh, socialising with university science professors such as Dugald Stewart, John Playfair and John Leslie, and acquiring the nickname "metaphysics in muslin" (qtd. in Orr 97). It was during that time too that her intellectual position, described accurately by Nigel Leask as "a feminised version of Scottish enlightenment civic humanism and 'improvement'" (214) became firmly established. In her "Reminiscences," Graham claimed that it was particularly during that year that "a love for science [was] awakened", recalling the ways in which these men, particularly Playfair, had guided her reading and answered her questions (84, 79). This interest in scientific matters was to continue throughout her life. Carl Thompson argues that Graham's work is at "a level of scientific literacy and accomplishment":

Graham in her correspondence only touches on scientific issues occasionally, and usually in passing, but when she does so she typically displays quite a sophisticated level of scientific literacy and comprehension. Thus we find her in a letter of 1812 discussing recent publications on what she terms 'the philosophical part of literature', and citing as the most interesting recent development 'Leslie's discovery of the formation of ice by admitting cold thin air to play on the surface of water'. It is a discovery, she suggests, which 'bid[s] fair to furnish some very interesting results to the chemist and geologist'.

Following Thompson we should regard her as something rather more than a mere hobbyist and dilettante then.

In 1809, at the age of twenty-four, Graham began to travel and to publish travel accounts. The subject of botany formed a significant element in Graham's travel writings from the very beginning. In her first book, the *Journal of a Residence in India* (1812), for example, she incorporated botanical studies with observations of scenery, people, customs, buildings and places. This wide range of topics is, of course, characteristic of much early nineteenth-century travel writing and is generally true of both men's and women's texts. As Nigel Leask has argued:

One of the attractions of travel writing in the period is the uninhibited energy with which it ranges across modern disciplinary boundaries, as the shaping itinerary narrative is punctuated with reports on botany and zoology alongside ancient ruins and monuments, mineralogy alongside modern manners, ancient history alongside contemporary politics. (1-2)

Nevertheless, Graham's Indian travel writing is distinguished from that of many contemporary women writers in its scholarly orientalism and its detailed attention to scientific subjects.<sup>4</sup> When visiting temples and private homes, she paid particular attention to recording details of the gardens and their plants. She was careful and detailed in her observations:

I remarked . . . the *Saguerus Rumphii* [sic], a kind of palm, from which an excellent kind of sago is made. It is also valuable on account of the black fibres surrounding the trunk at the insertion of the leaves, which afford a cordage for ships, said to be stronger and more durable than that made from any other vegetable substance. (Graham, *Journal of a Residence in India* 125)

As the above also illustrates, she showed an awareness of the potential for economic exploitation. Visits to the gardens of the naval hospital in Madras and the Calcutta Botanical Gardens formed part of Graham's itinerary and at each spot she highlighted plants of particular interest, using scientific terms and including contextual information on culinary, medicinal and manufacturing uses of the plants she described. On several occasions she quoted directly and extensively from John Fleming's *A Catalogue of Indian Medicinal Plants and Drugs* (1810).<sup>5</sup>

The Calcutta Botanic Gardens, founded by the British East India Company in 1787 with the objects of identifying new plants of commercial value and growing spices in an attempt to challenge the Dutch spice monopoly, have been described as "the greatest of the imperial botanic gardens," despite the saltiness of their soil and their initial inaccessibility on the north bank of the Hooghly River (McCracken 6). The botanist and physician William Roxburgh, who served as superintendent of the garden between 1793 and 1813 increasingly concentrated on the scientific side of the garden, introducing a vast number of new plants, recording meteorological data and creating a herbarium. The gardens were a popular destination for visitors to Calcutta and Graham was no exception. She described the gardens and trees in detail, commenting particularly on the great banyan tree, already thirty-one years old, with its "monstrous warty trunk, of soft useless wood . . . crowned with a few ragged branches and palmated leaves" (*Journal of a Residence in India* 145), compared an evergreen tree with similar trees in Europe, suggesting that the differences might be attributed to variations in climate and noted that:

Carefully preserved there is a cajeput, from the leaves of one species of which (Melelucca cajeputi) the famous cajeput oil is extracted, which is used by the inhabitants of Malacca and the eastern isles, of which the tree is a native, as a sovereign remedy for rheumatisms, swellings and bruises. (*Journal of a Residence in India* 145)

As before, we see Graham's interest in the uses to which a plant is or could be put and its potential for economic exploitation. From the 1770s, the East India Company had closely identified botany with practical needs and commercial opportunities, and the Calcutta botanic gardens had been explicitly established for practical purposes (Arnold 162).

Graham's text spoke warmly of time spent at the gardens in the company of Dr Roxburgh and his family. It is likely, I would argue, that her ideas about the importance of practical and economic botany in a colonial setting were at least

partially shaped by her conversations with Dr. Roxburgh, a Scottish scientist of similar age and background to those who had so strongly influenced her in Edinburgh.

As part of his project to identify and publish the local flora, Roxburgh employed local artists and by 1813 had 2533 illustrations of local plants.<sup>6</sup> He allowed Graham to watch the artists at work and to examine the portfolios of drawings. She was impressed with what she saw, writing that "they are the most beautiful and correct delineations of flowers I ever saw. Indeed the Hindoos excel in all minute works of this kind" (*Journal of a Residence in India* 146).

Graham herself travelled with a sketch-book and watercolours and her drawings show the same care and precision as her plant descriptions. As was usual for young women of her class, drawing had formed part of her education and she was a competent, although not gifted, artist. Other women travelling in India also drew and painted plants and recorded botanical findings in diaries and journals. Mrs James Cookson, the wife of a military officer, for example, completed thirty botanical drawings of Indian indigenous plants which were published in 1835 as *Flowers Drawn and Painted after Nature in India*; Clementina Abbott drew plants in the Calcutta Botanic Gardens; a few decades later, Lady Charlotte Canning, the wife of the governor general of India, collected specimens, visited botanic gardens and drew and painted plants.<sup>7</sup>

Fissell and Cooter have traced the ways that, during the eighteenth century, "knowledge and practice concerning plants (which were increasingly collected under the rubric of 'botany') changed in a variety of ways," arguing that:

One kind of botany was the common property of many social groups: the knowledge of plants useful to humans. Country dwellers were familiar with cutting reeds for thatching, collecting thistle-down for stuffing pillows, and using horsetail to scour pots and pans. . . . knowledge of healing plants was extensive among laborers, artisans, and rural folk. Indeed, it was sometimes acknowledged that country people knew more about plants than their betters. As a boy, Joseph Banks (1743-1820) paid herbwomen to teach him the names of flowers. William Curtis (1746-1799), later to found the *Botanical Magazine*, became interested in flowers during conversations with an ostler who studied herbals. (151-152)

By the second half of the eighteenth century, there was a shift away from this type of folk knowledge and for both men and women of the upper and middle classes, Linnaean nomenclature gradually replaced the old vernacular names. Interestingly, however, while Maria Graham did use Linnaean terminology frequently and correctly, she consistently combined this with a respect for the knowledge base of local people. She learned languages easily and throughout her accounts of her travels we find her consulting local people about plant names, uses and methods of propagation and cultivation. This localism could be considered to be at odds with the Linnaean universal totalising project of observing, cataloguing, and systematising, a project often associated with European colonialism and imperialism and a type of European knowledge-making which could be used, along with other discursive practices such as mapping and measuring, as a means of subordinating and appropriating the non-European world.<sup>8</sup> Graham, however, did not seem to consider there to be any clash or contradiction in her use of varying approaches to the natural world; she merely presented different types of information drawn from both scientific and folk sources side by side. It may be helpful to consider this in relation to the time that Graham

spent in India and her reading of contemporary Orientalist scholarship. As David Arnold has convincingly shown, the question of indigenous botanical agency and knowledge was an area of considerable debate and controversy among Orientalist scholars and colonial botanists. William Jones, for example, "explor[ed] Sanskrit texts to discover what they might say about the 'virtues' or properties of Indian plants, and their 'several uses in medicine, diet or manufactures'" (Arnold 177), and in his *Design of a Treatise on the Plants of India* argued that the use of Sanskrit names for Indian plants was more appropriate than the use of Linnaean terminology, although he accepted that the Linnaean system of classification was "the clearest and most convenient of methods" if some alterations were made to the names of the classes (3-5). Similarly, Jones's paper "On the Spikenard of the Ancients" combines Linnaean classification and description, information provided by local informants and a discussion of the uses to which the plant could be put (13-31). Other scholars such as the surgeon-naturalist Benjamin Heyne explored vernacular categories and descriptions of landscape and vegetation; still others studied *materia medica*. According to Arnold:

After the era of Jones and high Orientalism, surgeon-botanists tended to move away from interrogating texts . . . to the questioning of Indian informants or the observation of indigenous plant practice. The "scientific auxiliaries" to whom the botanists turned included *hakims* and *vaidis* (as practitioners of indigenous medicine the source of much information about medicinal plants), but also merchants, gardeners, and others who might possess a practical knowledge of plants and their products. . . . This turning away from elite to local commercial or artisanal knowledge signaled the dwindling authority of scholarly Orientalism and the increasing emphasis upon Indians as repositories of empirical knowledge. . . . Without actually elevating it to the level of science, there could be genuine botanical appreciation for the practical know-how that Indians possessed.<sup>9</sup> (180-181)

While in India, Graham spent time with a number of noted Orientalists; her two books on India indicate that she also read widely within Orientalist scholarship, including the works of Sir William Jones. Simultaneously, some of her time in India was spent with practical colonial botanists such as Roxburgh, whose interest in economic botany and *materia medica* is discussed above. The influences of Graham's Indian experiences, I would suggest, shaped her approach to botany, leading to a belief that Linnaean classification could be combined with local information.

In 1821 Graham travelled to South America with her naval officer husband who had been sent to patrol the coasts of Brazil. The South American independence movements were reaching their peak and British economic interests in the area were growing. Thomas Graham died at sea in April 1822, while en route for Chile. Despite the efforts of the local expatriate community to persuade her to return to Britain, Maria Graham remained abroad for several years, travelling and carrying out scientific observations and experiments. While botany had certainly been a significant theme within Graham's Indian writings, in Brazil she seems to have become much more actively involved in a scientific way.

Early nineteenth-century British naturalists relied heavily on correspondents, who supplied specimens, drawings and information, often in exchange for further information or plants. While there were some plant collectors who were employed full-time, many of the others were amateur botanists. William Jackson Hooker,

Professor of Botany in the Medical School at Glasgow University and later Director of Kew Gardens, developed a web of connections which enabled him to obtain plants and seeds from a global network of correspondents. In Britain, both men and women sent him specimens. Edward Hobson, a Manchester warehouseman, for example, provided Hooker with specimens of mosses between 1815 and 1830, and Amelia Griffiths corresponded with Hooker and supplied him with seaweeds collected in Dorset, Cornwall and Devon over a period of thirty years (Secord 404-405; Shteir, "Amelia Griffiths"). As discussed above, while only a few women travelled abroad, some were enabled by virtue of their father's or husband's professions to range further. It is clear from the directors' correspondence in the archives at Kew Gardens and from articles in contemporary botanical journals that women were active in international plant collection and in the supply of specimens to the British botanical gardens. Hooker's letters to Maria Graham and to other diplomatic and colonial wives provide evidence for a web of connections between the major botanical gardens of Britain and travelling women.

Hooker drew Graham into his project of plant collection and much of her time in South America was spent in collecting, drying and drawing seeds and plant specimens for Hooker, often using a microscope to portray them in more detail. Hooker rewarded his correspondents with attention and praise and encouraged them to develop their botanical knowledge. He supplied Graham with books and equipment and she responded with carefully dried specimens.<sup>10</sup> Concerned at the fading of the colours when the plants were dried, she wrote:

Pray in case of the fading of the colours of dried specimens might it not be advisable for me to add enough col<sup>d</sup> [coloured] sketches – say, just an outline with the real colour of a petal and a leaf? – I do not habitually draw flowers but I could do that – & also any peculiar form of seed &c. – Only let me know how I can be useful & I will try to be so. (Letter to William Hooker. 11 April 1824)

She went on to draw from life the plants she was sending as dried specimens and an unpublished album of approximately 100 botanical illustrations together with notes and descriptions is held by the archives at Kew Gardens, many of the pictures showing the same plant at various stages of growth, others providing views of the individual parts of the plant. In most cases, Graham has labelled the drawing with the date, time of day and location at which the original subject was found.

In January 1825 she reported sending home "by the Ansons Frigate a parcel . . . containing twenty-two species of fern," giving specific details in the letter of where the ferns had been found growing and the nature of the soil (Letter to William Hooker. 30 April 1825). She also explained the problems she was having in drying the specimens to a satisfactory standard.

In the first place many of the plants are of a nature that will not dry they are so fleshy [sic] – & these are the most beautiful & strange – in the next place the heat & damp of the climate especially in the flowering times is very much against success. – the Mould is worse than the insects then all is so full of life that the very plants themselves under their skins often contain the seeds of destruction or degeneration . . . we will do our best.

Graham's letters are crucial in documenting women's involvement with plant collecting in the early nineteenth century. Her name often appeared in lists of plant collectors in Hooker's periodical articles. There is evidence that Hooker regarded female and male collectors as equal and neither gender nor official position seem to make a difference to the way he refers to his correspondents. For example, in 1833 he wrote:

This memoir was, in the first instance, undertaken with the view of making known to botanists the vegetable treasures brought home by Mr. Cuming . . . But as we had received many of the same plants from other sources: for instance, those of Chili from Mrs. Maria Graham (now Mrs. Callcott), from our valued friends Alexander Cruickshanks, Esq. and Dr. Gillies, Messrs. Lay and Collis, the naturalists in Captain Beechey's expedition, from Mr. Bridges and Mr. Mathews, two excellent collectors . . . we gladly embrace the opportunity thus afforded us of noticing the whole of them together. (Hooker and Arnott 129)

Later mentions in the same article again make no distinction by gender. That this was Hooker's general attitude and not particular to his relationship with Graham is clear from Hooker's references to other women collectors, which are equally gender-neutral (*Exotic Flora* 192, 203, 206; *Companion* 246). Plant collectors were frequently honoured by having plants that they had discovered named after them and Maria Graham was no exception. In 1827, Hooker named an entire genus after her because of seeds she had gathered in Chile, and later further called the *Escallonia Callcottiae* after her (Hooker and Arnott 342; Desmond 127).

References to Graham appear in the writings of other contemporary male botanists. She is consistently treated as a significant collector, although they are more likely than Hooker to preface her name with a complimentary adjective or phrase. Dr. Von Martius, for example, refers to "A highly accomplished English lady" (26), John Sims calls her an "ingenious and sensible authoress" (2644) and David Douglas writes of her "talented pencil" (86). Nevertheless, despite this foregrounding of gender, she is regarded as a serious informant by all of them and quotations from her are used to supply further information without qualification.

The two books published after Graham returned to England contained considerable detailed information on the flora and fauna of Chile and Brazil.<sup>11</sup> Appended to the Chilean book was an "Account of the useful TREES and SHRUBS of Chile" by Jude Thaddeus de Reyes (Judas Tadeo de Reyes), translated by Graham.<sup>12</sup> Angela Pérez Mejía has suggested that Graham's inclusion of the "Account" within her text could be seen "almost as an act of economic espionage." Suggesting that the "map" that Graham constructs of Chile "resembles a commercial navigation chart of the "new" country as seen by British interests", Pérez Mejía sees the list of trees and their possible productive uses as "a geographic text of political and commercial value" (91). But while Graham does have an interest in commercial matters – the appendix to her Brazilian book consists of several pages of tables of "Imports and Exports of the Province of Maranhão, from 1812 to 1821" – she is an inveterate collector of and publisher of technical and scholarly information. The placing of a botanical list within a set of appendices otherwise concerned with political (and to some extent linguistic) matters, I would argue, is to a large extent just another example of Graham's desire "not to be uninteresting or uninteresting", but it does also reflect her general interest in botanical matters. Her own botanical writing

by this stage was more technical and more extensive than had been the case in her earlier travel books, perhaps because of the correspondence with Hooker and her reading of the botanical books that Hooker supplied.

Careful observation and recording was important to Graham and she was highly critical of male travellers who did not observe as well as she did.

I had an opportunity to-day of observing how carelessly even sensible men make their observation in foreign countries, and on daily matters concerning them. A physician, at dinner, mentioned the medicinal qualities of the *culen* (*Cytisus Arboreus*<sup>13</sup>), and that it would be worth while to bring it into Chile . . . to cultivate . . . I was almost afraid to say, as I am a new-comer, that the country people had shown me a plant they called culen; but, on venturing to tell the gentleman so, he said it could not be because he never heard of it here. I went home, walked to the Quebrada, found the rocks on both sides covered with the best culen, and the inferior sort, which grows much higher, not uncommon. . . . Yet he . . . has resided some years in the country. This same culen is very agreeable as tea and is said to possess antiscorbutic and antifebrile properties, the smell of the dried leaves is pleasant, and a sweetish gum exudes from the flower-stalks. This gum is used by shoemakers instead of wax; and the fresh leaves formed into a salve with hogs'-lard, are applied with good effect to recent wounds. (Graham, *Journal of a Residence in Chile* 139)

Not only has Graham identified a plant which a professional man who has "resided some years in the country" has failed to recognise, but she also demonstrates in this passage that she has considerable knowledge of its uses and medicinal properties, and that she is able to competently draw on both scientific discourses and vernacular knowledge. As discussed earlier, Graham consistently demonstrates respect for folk botanical knowledge. She consults the local people for information about plants and frequently reports what they say. Having described a morning's plant gathering and given detailed information about the plants she has found, she writes "I soon found myself beyond my own knowledge of plants, and therefore took a large handful to a neighbour, reputed to be skilful in their properties" (134). Graham spoke Spanish fluently and, unlike the men whom she criticised, she developed relationships with her neighbours and drew on their knowledge. Her neighbour tells her of the various uses of the plants she has brought – culinary, medicinal, magical, wood good for making plough-shares and flowers that produce writing ink. Although as an upper-class British woman, clearly divided from the average Chilean woman by class and privilege, Graham's attitude is one of an interested learner: there is nothing patronising or condescending about her tone.

Graham remarried in 1827. Her new husband was Augustus Wall Callcott, well-known landscape painter and member of the Royal Academy.<sup>14</sup> For a while her botanical interests took second place – she published several books on art and art history, a history of Spain, a children's history of England and a book on Shakespeare.<sup>15</sup> She was also during this time engaged in translation and editorial work for the publisher John Murray.<sup>16</sup>

Near the end of her life she returned to the subject of botany. A children's book published in 1841 drew on the dialogue form that had been a feature of science books for children at the end of the eighteenth century to teach both vernacular and scientific botanical knowledge.<sup>17</sup> Her final book was again botanical. *A Scripture*

*Herbal*, written and illustrated over a period of several years, was published in 1842. 'Biblical Botany' had been written about since the late sixteenth century and Graham's book was one of at least a dozen books on the natural history of the Bible published between 1825 and 1845.<sup>18</sup> Each of the plants mentioned in the Bible was described, 121 in all, and each entry included the plant's common name, its Latin name, its Linnaean class, Bible references, a physical description, Shakespearean and other literary and classical references, folklore, medicinal and practical uses, and a woodcut illustration, based on a drawing by Graham. The book included copious references and footnotes. While most of the advertising for *A Scripture Herbal* appeared in general newspapers,<sup>19</sup> the publisher also specifically marketed it as a medical text and it was included in a sixteen page "Catalogue of Works in all branches of Medicine and Surgery" appended to the 1843 volume of the *Medico-Chirurgical Transactions* published by the Royal Medical and Chirurgical Society of London (5). Graham was the only female author to appear in that alphabetical list, although there were a number of other books on botany including Hooker's *British Flora*, Lindley's *Flora Medica* and Henslow's *Descriptive and Physiological Botany*, and her book is listed between a treatise on midwifery and clinical lectures on venereal disease. The book received several reasonably favourable reviews<sup>20</sup> but the fact that Longmans were still advertising it in 1852 would suggest that they still had copies they wished to sell. It was frequently referred to and cited by other reference books until at least the end of the century.<sup>21</sup>

Graham was both typical and unusual. Her interest in botany was, at least in part, a response to the popularity of the subject within early nineteenth century British culture, but her educational background, her intelligence, and her family and marital circumstances enabled her to explore that interest in ways that went beyond those open to most contemporary women, to travel, and to play a genuine part in scientific research and the network of plant collecting that characterised so much nineteenth century botanical research. Her writings, particularly her travel writings, reveal her to be a competent and careful scientist and observer, whose work and observations were accepted by the scientific botanical community as of equal value to those of similar male plant collectors; her gender does not seem to have played much part in this assessment. The extent of Graham's scientific work and writing is not yet fully known, and current research within the archives of the John Murray publishing company may well uncover further related material, particularly in relation to Graham's anonymously published pieces for Murray's various periodicals. Further research on Graham's involvement in serious geological work, including her 1834 public row with George Greenough, President of the Geological Society of London, over the accuracy, or otherwise, of observations that she had made of a major earthquake in Chile in 1822, is also underway.

## Notes

The initial research for this paper was carried out while working as Research Fellow on the "Maria Graham: The Woman Writer and the Cultures of Travel, Science and Publishing in the Early 19th Century" project at Nottingham Trent University. I wish to express particular thanks to Carl Thompson, whose willingness to share research findings and ideas about Maria Graham and science helped to shape the thinking that underpins this essay.

1. For discussion of women's participation in botany during the late eighteenth and early nineteenth centuries in Britain, see Shteir, *Cultivating Women*; George; McEwan.

2. See Hasluck; Rivière; Boulger; Raza 121-124, 255-277; Endersby chapters 3 and 4.

3. The passage from Shakespeare comes from *A Midsummer Night's Dream*. 2.1.169-175: "Yet mark'd I where the bolt of Cupid fell:/It fell upon a little western flower,/Before milk-white, now purple with love's wound,/And maidens call it love-in-idleness . . . /The juice of it on sleeping eye-lids laid/Will make or man or woman madly dote/Upon the next live creature that it sees."

4. A similar level of scholarship and interest in science, particularly botany and geology, is equally central to Graham's later travel writing. There were of course other women travel writers in India who demonstrated a knowledge of orientalist scholarship, although these were generally later than Graham. See, for example, Anne Elwood, *Narrative of a Journey Overland from England* and Marianne Postans, *Western India in 1838*.

5. For example, Graham's footnote to page 86 quotes Fleming's views on the dispute between various authorities as to whether or not the Indian Ganja plant was a separate species from the European *cannabis sativa*.

6. Dozens of local artists were used but very few of their names have been recorded (McCracken 155).

7. Cookson; Desmond 1; Shteir, *Cultivating Women* 192. For further discussion of British women's natural history collecting and flower painting in India during the late eighteenth and early nineteenth centuries, see Raza 121-124, 181-182.

8. For further discussion of the role of natural history as part of the imperial project, see Arnold, 11-31; Pratt, 1-12.

9. I would take issue with Arnold's claim that the use of local informants is a direct sign of the "dwindling authority of scholarly Orientalism." As already mentioned, there is considerable evidence within Jones's botanical writings of his own use of information gained from local people. The increased use of local informants did coincide with the decline in scholarly Orientalism, but there is not necessarily a causal relationship.

10. Before the invention of Wardian cases (tightly sealed boxes with glass roofs that allowed condensing water vapour to moisten the soil without watering being needed) in 1835, only a small proportion of live plant specimens sent from abroad reached Britain safely. Drying of specimens was often therefore necessary.

11. *Journal of a Voyage to Brazil and Residence There during Part of the Years 1821, 1822, 1823* (1824); *Journal of a Residence in Chile, during the Year 1822; and a Voyage from Chile to Brazil in 1823* (1824).

12. De Reyes had been secretary to Ambrose O'Higgins, father of the Chilean independence leader Bernard O'Higgins, and his son was a friend of Graham's. See Sepulveda 24-26. The original Spanish account has not been traced.

13. [Graham's note: Frezier gives an excellent plate and description of it. See likewise the appendix.]

14. To avoid confusion, I will continue to refer to her as Graham in this paper, other than in notes relating to publications published under the name of Callcott.

15. A full list of Graham's twenty-one books can be found at *The Maria Graham Project*, together with a preliminary list of her contributions to periodicals.

16. Graham had been involved in work for John Murray for a number of years; recent research in the John Murray archives at the National Library of Scotland is only beginning to reveal the extent of her involvement. She read manuscripts and advised on their publication, she commissioned illustrations, she saw some books through the entire process from manuscript to printed volume. There is evidence from her correspondence that she contributed articles anonymously to Murray's periodicals. In 1826 Murray employed her to edit the official account of George Anson's voyage to the Sandwich Islands, which was published as *Voyage of H.M.S. Blonde to the Sandwich Islands in the Years 1824-1825*. Part of Graham's remit as editor of the voyage account was the cross-referencing of zoological, botanical and mineralogical specimens brought back by the voyage with specimens already held in British collections.

17. Maria Callcott, *The Little Bracken-burners, A Tale; and Little Mary's Four Saturdays*.

18. For a discussion of some of Graham's predecessors and contemporaries in this field, see Rev. of *A Scripture Herbal* 113-114; and Horne 380-383.

19. *The Examiner*, *The Belfast News-letter*, *The Morning Chronicle* and the *Daily News*.

20. Including the *Eclectic Magazine*, the *Church of England Quarterly Review*, the *Gardener's Chronicle* and *The Examiner*.

21. See, for example, Smith 1772; Lindley and Moore Part 1, 98; McLintock and Strong 2:357.

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