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Crossing boundaries into a world of scientific discoveries: Maria Graham in nineteenth-century Brazil

Michelle Medeiros*

In this article I analyse the British traveller Maria Graham (1785–1842) and her lesser-known travels to Brazil in the early nineteenth century. I argue that Graham attempted to cross boundaries into the masculine world of natural history with the help of a social network composed of several important figures in Brazilian society, including the Empress Maria Leopoldina, who shared her interest in the natural sciences. Graham constructed that network by taking advantage of the fact that in South America her British citizenship allowed her to overcome many of the limitations imposed on her in Europe because of her gender. Graham then created a feminised form of scientific discourse that allowed her to pursue her scientific endeavours without fearing retaliation from the then exclusively male scientific community. This hybrid narrative reveals that Graham’s relationships in the Brazilian contact zone took on different levels of complexity as she tried to gain acceptance from the scientists around her.

Keywords: Maria Graham; travel writing; contact zone; scientific discourse; natural history

‘We walked down to the foot of the hill, and… most of us carried home something. Fruit and flowers attracted some; Langford got a number of diamond beetles, and a magnificent butterfly, and I a most inadequate sketch of the scene.’1 This passage transports the reader to the beginning of the nineteenth century and to the exciting world of scientific expeditions. One might imagine that this account could be found in the diary of a celebrated traveller and naturalist such as Alexander von Humboldt, who spent several years in South America and whose writings became famous all over the world.2 However, the use of the word ‘inadequate’ to describe the narrator’s sketched rendition would hardly be found in one of Humboldt’s accounts. This quotation instead comes from the diary of Maria Graham (1785–1842), the daughter of a British naval officer who had the chance to travel abroad well before other better-known women voyagers, such as Mary Kingsley, were even born. Adjectives such as ‘inadequate’ are very common in Graham’s narratives whenever she referred to her own work. As I intend to show in this essay, Graham’s choice of words was not innocent, but instead constituted one of the many strategies she deployed to construct her authority as a writer and a traveller. Thus, this passage illustrates very well the discourse Graham deliberately utilised in her travel accounts. A woman traveller who explored the New World, she endeavoured to bring home more than simple travel accounts; as I will demonstrate in this essay, her ultimate goal was to share the knowledge she acquired with the rest of the world. Hampered in these scholarly efforts by her gender, Graham had to forge the means to be able to accomplish this goal.

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In the early nineteenth century only the findings of those authorised to produce knowledge were recognised as valid. Many male travellers journeyed throughout the world with the purpose of bringing new knowledge back to Europe. Women travellers, on the other hand, were not permitted to contribute to the production of scientific knowledge. As Tim Fulford, Debbie Lee and Peter J. Kitson contend, ‘the way in which men of science represented their experiments and theories, the alliances they made with patrons, press and public all affected the way their activity was seen. So did their gender: the few women who had the opportunity to practise science were mostly presented as assistants to their male relatives or explicators of the original research of men.’ Thanks to recent studies in gender history, however, the findings of women travellers are being uncovered and we are rediscovering the history of science from this new perspective. For example, Londa Schiebinger has demonstrated how natural history can be categorised as a gendered discourse by analysing the history of science from a post-structuralist feminist approach. Taking as its point of departure recent scholarship on the ways gender has impacted on the history of science, this article examines the situation of women travellers, especially Maria Graham, who desired to participate in the established circuits of knowledge production at the beginning of the nineteenth century, but were largely prevented from doing so due to the exclusively male world that was constructed among scientists. By analysing the diaries and some unpublished manuscripts of Maria Graham, I will show that one of her greatest aims was to cross the boundary and enter the masculine world of natural history. To accomplish this objective, she used a number of strategies that allowed her to produce knowledge and move beyond the pre-established role reserved for her as a woman in society. For example, while travelling in South America, she took advantage of her status as a British citizen, since there her citizenship carried more authority than the fragility of her sex, to build an influential network that would later enable her explorations. Then, by feminising a so-called masculine discourse, Graham created a space that allowed her to contribute to natural history, although her contributions were not always acknowledged. Making use of literary genres considered appropriate for women as well as for men, such as letters, diaries, travel narratives, and biographies, she created a space within which she could demonstrate her knowledge, challenge male expertise and create her own authority. My analysis of Graham’s writings offers a new perspective on her contributions to travel literature and science. In addition to showing how she made use of her status as a British woman to produce an imperialist discourse, I will also demonstrate that she strategically exploited her imperialist identity with the intention of producing a ‘feminine’ form of scientific discourse. Hence, this paper looks into Graham’s narratives with the purpose of presenting the feminine perspective on the discourse of natural history. By discussing the way she used this discourse and the strategies she employed to produce it, it is possible to further understand the role of women in science during the early nineteenth century.

A brief biography of Maria Dundas Graham

Maria Graham was born Maria Dundas in England in 1785, and starting at a young age she accompanied her father on travels throughout the world. The daughter of a British naval officer, Maria Dundas received an education similar to many middle-class girls of her time. She was sent to school in Richmond and used to spend the holidays with her uncle, Sir David Dundas. She recollected that these holidays were very agreeable and that his house was a centre for scientists, literary men, and French émigrés. This environment
actively inspired her to learn more about the world: ‘At Richmond too… I read many books of history, and now and then some portions of natural history, of which I was extremely fond, and books of travels into all parts of the world.’ In 1808 she travelled to India accompanying her father, Rear Admiral Dundas: ‘On the thirtieth of December, 1808, I embarked with my father, my sister, and my youngest brother, on board His Majesty’s ship Cornelia, rated two and thirty gun frigate, for Bombay, where my father was appointed Commissioner of the Navy.’ Her travel to India was recorded in a diary that she later published. While en route, she met the British Lieutenant Thomas Graham whom she married in 1809. Years later, in 1821, Thomas Graham was assigned to travel to Brazil and Chile, and the couple embarked on an enterprise that changed Maria Graham’s life forever.

During her travels, Graham wrote diaries that provide new perspectives on the society and politics of Brazil in the nineteenth century. She visited Brazil three times: the first time, between 1821 and 1822, accompanied by her husband; the second time, between 1822 and 1823, after her husband’s death and a stay of seven months on her own in Chile; her third and final visit to Brazil took place in 1824 following a short stay in England. On the third trip Graham returned to Brazil specifically to tutor the daughter of the Brazilian Emperor Dom Pedro I, Princess Maria da Gloria, later crowned the queen of Portugal. She described the first two visits in her diary, published under the title *Journal of a Voyage to Brazil and Residence there, During Part of the Years 1821, 1822, 1823*. The third voyage was documented by Graham and titled ‘Life of D. Pedro’. The manuscript was published in Portuguese under the name *Correspondência entre Maria Graham e a Imperatriz Dona Leopoldina e Cartas Anexas*. The original manuscript was written in 1835 and now is part of the collections of the National Library of Rio de Janeiro, Brazil (Figure 1). In 1825 Graham sailed back to England and two years later she married the painter Sir Augustus Wall Callcott. Less than 10 years later, in 1836, she fell ill and so was

Figure 1. ‘Life of D. Pedro’ (1835). (Picture taken in the National Library of Rio de Janeiro archives.)
Archives of the National Library Foundation, Brazil. Reproduced with permission.
unable to leave her house in Kensington during the last years of her life. She died as Lady Callcott in Kensington on 21 November 1842 surrounded by what she most loved in her life: her books, paintings, sculptures, and curiosities of natural history.10

**Travelling to Brazil**

It is now a commonplace to observe that contact with the other is a very important aspect of travel writing. Mary Louise Pratt suggested the term contact zone ‘to refer to the space of colonial encounters, the space in which people geographically and historically separated come into contact with each other and establish ongoing relations’.11 Hence Pratt coined the term ‘contact zone’ to refer to the relation between the traveller, local people, and the place of encounter.12 In this article I examine Pratt’s notion of the contact zone to analyse how Maria Graham carefully constructed a social network of influential figures in Brazilian society. The members of this network shared her interest in natural history and authorised her travels to the countryside, where she made most of her relevant findings. Using her influence as a British woman, she was able to visit as many interesting and exotic places as her male counterparts.13 The results of those explorations were not confined to her remarkable diaries; they also included the discovery of new specimens of plants. The strategies used by Graham to explore, publish, and therefore produce scientific knowledge inevitably intersected with questions related to the colonial context and the contact zone. Moreover, the contact zone seems to have made feasible the publication of her work. Although women had more freedom before the Victorian era in many aspects of their lives, as critics such as Ann B. Shteir have observed, their role was still largely determined by society. In the late Enlightenment period, science was part of the education and recreation of young ladies, but women’s scientific work was shaped and limited by the influences upon them, often of their fathers or husbands. With rare exceptions, their work remained outside of the public records.14

Given the constraints Graham would encounter as a woman of her time, the colonial environment provided an unexpected space for her to take advantage of her European status, as Mills writes: ‘women align themselves with colonial forces and thus potentially with a predominantly male and masculine force’.15 By aligning themselves with male forces, women travellers in colonial spaces were able to use imperialist power to their advantage and achieve more than they could in their own nations. From this perspective, given that the scientific space was not feminine and the practice of science was considered ‘an unwomanly act’,16 the contact zone provided a space where it was more appropriate for women to join the world of natural history in a smooth and natural way. However, even though they were allowed to travel as long as they were accompanied by their male protectors, women were not supposed to explicitly attempt to make scientific contributions. Hence, simply aligning themselves with the masculine imperialist power, as Mills claims, was not enough for women to enter the world of science, and they had to find alternative ways to achieve this goal. The contact zone thus became a place where women travellers such as Maria Graham could take advantage of their status as European citizens and produce knowledge, albeit not without employing subtle strategies.

Indeed, Graham used her imperialist identity and employed an imperialist discourse to present herself as a prominent person.17 Ángela Pérez-Mejía observed, in the case of Flora Tristán and Maria Graham, that ‘if these women suffered discrimination in their travels for the fact of being women, however, their European origins and their white skin
allowed them to assume a position of superiority as narrators with respect toward any other race.\textsuperscript{18} Graham often made such superiority explicit in her narrative:

I have met with two or three well-informed men of the world, and some lively conversable women; but none of either sex that at all reminded me of the well-educated men and women of Europe. Here the state of general education is so low, that more than common talent and desire of knowledge is requisite to attain any; therefore the clever men are acute, and sometimes a little vain, feeling themselves so much above their fellow-citizens, and the portion of book-learning is small.\textsuperscript{19}

As this passage indicates, in their voyages to America, travellers (especially women) could construct a new identity which was subject to social structures and relations that differed to some extent from those of Europe.\textsuperscript{20} In other words, Brazil offered Graham the ideal opportunity for the traveller to construct herself as somebody authorised to produce knowledge, as a writer, explorer, and scientist.

In this contact zone, Brazil of the nineteenth century, in which Graham was not only a wife but also an explorer, she created a complex social and intellectual network that, among other things, enabled and legitimated her explorations. When she first went to Brazil in 1821, to the city of Recife, Graham began to form the contacts that would eventually enable her to enter the royal residence in Rio de Janeiro three years later. Arriving in the middle of a revolution, since the country was at the peak of the conflicts that would culminate in its independence in 1822, Graham witnessed and narrated important historic events of these pre- and post-independence years. In this unstable environment, she became friends with Madame do Rego, wife of Luís do Rego, the Portuguese officer who was the governor and Capitan of Pernambuco, a Brazilian province in the north-eastern part of the country. His objective, although ultimately unsuccessful, was to avoid the revolution. Madame do Rego was the daughter of the Viscountess of Rio Seco, an Irishwoman with important connections in Rio de Janeiro. As a result, when Graham arrived in Rio de Janeiro on 15 December 1821, she began to make use of the network of acquaintances and friends she had formed in Pernambuco. Due to these connections, she soon became friends with the Viscountess of Rio Seco, who was responsible for the royal treasury. Intimate friends with the royal family, the couple would be the perfect bridge between Graham and the Princess Maria Leopoldina a few months later. The turbulent environment of revolution prevented Graham from getting closer to the royal family at that moment. However, her friendship with the Viscountess introduced her to the upper classes in Brazilian society:

I went ashore last night to the opera, as it was again a gala night, and hoped to have witnessed the reception of the Prince and Princess. The Viscondessa do Rio Seco kindly invited me to her box, which was close to theirs; but, after waiting some time, notice arrived that the Prince was so busy writing to Lisbon, that he could not come.\textsuperscript{21}

Indeed, the revolutionary environment offered Graham the perfect opportunity to enhance her ties to the Rio Seco family. As noted, the Viscount of Rio Seco was an important man in the Portuguese Court. Because of the instability provoked by the movements for independence, the people who worked for the Portuguese Crown naturally felt threatened. Graham took advantage of the situation and offered protection to her influential friends:

I went ashore with an officer as early as I could...determined to call on the Viscountess of Rio Seco in my way, to offer her refuge in the frigate. We found her in a Brazilian dishabille and looking harassed and anxious...we promised her, that on her making a signal from her house, or sending a message, she should have protection.\textsuperscript{22}
As Graham indicated here, the unstable environment in the colony allowed her to offer help to very important people in Brazil. We clearly see how Graham used the imperial forces, represented here by the frigate, to present herself as someone in a position of superiority, who had the power to grant protection. The use of the pronoun ‘we’ served to align herself with the British forces because ultimately it was their protection that was being promised. She noticeably used her influence to get close to the Viscountess and to win her trust and friendship. In fact, this event marked a turning point for Graham. From then on, she attended balls, receptions, and meetings of high society in Rio de Janeiro, and consequently, further expanded her network of friends and contacts.23

When Graham returned to Brazil after spending almost a year alone in Chile, she resumed the friendships she had made during her first visit. Now a widow, since her husband had died on their way to Chile, she was well aware of the importance of having protection in order to be able to move freely throughout the country and continue her scientific explorations. Given the calmer post-independence atmosphere of this second voyage to Brazil, Graham finally was able to meet and become close with the now Empress Maria Leopoldina. This precious contact came about thanks to her relationship with the Viscountess of Rio Seco who was a good friend of José Bonifácio, a minister and adviser of D. Pedro I, and a scientist himself:

Soon after I arrived here, in March … I felt that, as a stranger here, and situated as I am, I was peculiarly unprotected, and therefore I spoke to the minister Jose Bonifacio, telling him my feelings; and saying, that from the amiable character of the Empress, I should wish to be allowed to wait on her, and to consider her as protecting me while I remain in the empire.24

After meeting José Bonifácio, on 19 May 1823, Graham was in fact introduced to the Empress Dona Leopoldina, whose friendship would last until the latter’s death in 1826, only a year after Graham took leave of Brazil for the last time. Importantly, however, the friendship with the Empress turned out to be not just for protection. Maria Leopoldina had a great interest in science and Graham knew she could count on the Empress’s help to achieve her objective of becoming a scientific explorer in Brazil.

Like Graham, the Empress had a longstanding interest in science and natural history. Indeed, the creation of the Imperial Museum is attributed to her influence upon D. João VI: ‘one of the reasons often indicated for the creation of the Imperial Museum of Rio de Janeiro in 1818 was the interest in the natural sciences by the future empress – D. Leopoldina – especially regarding her support for the naturalists that arrived here [in Brazil] in 1817, with the [then] archduchess’.25 Leopoldina, then archduchess of Austria, sister of the second wife of Napoleon, arrived in Brazil in 1817 accompanied by the first naturalist mission officially authorised to enter Brazilian lands. The expedition was formed by scientists from different parts of Europe and was influenced by the expeditions of Alexander von Humboldt. Among the naturalists were the prominent Johann Baptist von Spix and Karl Friedrich Philipp von Martius, both from Bavaria. Six months after the arrival of Leopoldina in Brazil the first Brazilian Natural History Museum was officially founded.26

The Empress Leopoldina was the greatest friend Graham made in Brazil, and the interest of both women in natural history sealed their camaraderie. They exchanged several letters that clearly document their many common interests: ‘The catalogue of shells which I sent you will enable you when in London to procure me the kinds and species which are wanting in my collection. I shall be glad to send you in return whatever may be curious or precious to illustrate the natural history of Brazil.’27 Graham and Leopoldina, therefore, not only exchanged objects, but they also collaborated in the task of attempting to acquire
objects and books in a field that did not welcome women’s participation. In spite of this wider context of the male-dominated field of inquiry, it is still surprising to note that the Empress of Brazil, supposedly the most important woman in the country, had to depend on Graham to be able to obtain such objects.

Considering Graham’s wide-ranging social circle, it is evident that she also aspired to be what Pratt calls a ‘social explorer’, a woman traveller who was interested primarily in the social and political aspects of the places she visited. However, the documentary evidence indicates that she went far beyond that role. For example, in 1823, she departed on an expedition to Santa Cruz, in the countryside outside Rio de Janeiro, and it is clear that her position as a socialite facilitated her enterprise. Although preferring to go on the trip alone, Graham accepted the company of the brother of a friend, and admitted that she was very pleased to have a ‘fellow traveller’, especially when travelling on horseback. Her social network ultimately facilitated her explorations as a professional traveller, and Graham makes it very clear that this adventure was only possible because of her situation as a British traveller with important connections in Rio de Janeiro: ‘The Visconde do Rio Seco had kindly furnished us with a letter, and mentioned that the object of the journey was mere curiosity, so that the Capitão told us that he would next day do all he could to satisfy us.’

Her visit to the sugar cane plantation, Engenho dos Affonsos, was also only possible because of her network: ‘This morning looked at least as threatening as yesterday, but we determined to go as far as the Engenho dos Affonsos, for whose owner, Senhor Joam Marcus Vieira, we had letters from a friend in town.’ During this trip, Graham used her status, either as a socialite or as a British citizen to have doors opened to her literally: ‘A mulatto serving-man came round cautiously to reconnoitre from the back of the house, when having ascertained that we really were English travellers benighted and wet, the front door was opened.’ In the manuscript ‘Life of D. Pedro’ she describes in much detail her expedition to a farm called Macacu where she made several botanical observations and collected many specimens, which she later sent to London. The expedition was only possible because the farm belonged to the prominent Lisboa family, which had strong connections with the imperial court and to which Graham became acquainted through her relationship with the Empress Maria Leopoldina. This same family offered her a cottage where she lived after leaving the palace in 1825. While living in this cottage she collected yet more plants and seeds. This is very well documented in her unpublished correspondence with Sir William Hooker, the celebrated botanist who became the director of Kew Gardens years later. As these and other incidents indicated, Graham used her social relations to form a network of influential contacts that made possible and legitimised her explorations. Ultimately, with the help of such powerful friends, as we have seen, she was able to write her diaries and collect botanical specimens for her herbarium.

Before exploring Graham’s scientific work, however, it is worthwhile analysing her network of connections because it shows that she was exposed to many different contact zones in Brazil. Furthermore, she had to employ different strategies to take full advantage of the opportunities that each one provided. In general, her approach consisted first of establishing a superficial contact and then transforming this superficial contact into a strong friendship. Moreover, Graham clearly used a different strategy to establish each bond of friendship, depending on the person she wanted to approach. For example, it is apparent that Graham’s aim was to become close to the Empress Maria Leopoldina, not only because she could protect Graham as a lonely, vulnerable widow, but also because she could offer her protection as a woman trying to break into the scientific world, which notably was a subject of interest to the Empress. With this goal in mind, she first
approached the Rio Seco family using the contact she had made with the daughter of the Viscountess in Pernambuco. To be able to make such contacts she evidently used her British identity as we have seen. Then, to seal the ties of friendship with the Viscountess, she offered her protection during the revolution. However, she was aware that it would be presumptuous to make a similar offer to the Empress; thus she wisely changed her strategy and presented herself as a vulnerable and defenceless woman who herself now needed to be protected. To seal this bond of friendship with the Empress, she appealed to the common knowledge and interests they shared and, as a result, obtained a job that required her to make use of this knowledge by tutoring the daughter of the Empress.\(^{37}\) Here too Graham’s network was instrumental, as shown in the letter of recommendation for the position, which was written by the Baron of Mareschal, a man of great influence over the Brazilian court, and which mentions her connections with the Viscountess of Rio Seco: ‘This lady, an Englishwoman..., Captain Graham’s widow, was recommended to your majesty by the Viscountess of Rio Seco... One cannot deny that this lady is very educated and intelligent... and possesses all the qualities this important task requires.’\(^{38}\) Eventually, by cultivating her intricate network in the contact zone she was able to have her work published and recognised in her own country, although, in order to do that, she had to employ a different set of strategies that will be analysed below.

The masculine world of sciences

In this section I will examine how Graham’s work related to those of her male counterparts who were travelling and producing knowledge in the specific areas of science which also interested her and to which she was desirous of contributing. One way that Graham established her authority as writer-scientist was to engage with the accounts of contemporary male scientists. For example, in her writings she explicitly mentioned, and sometimes even criticised, the findings of prominent scientific explorers of her time such as Alexander von Humboldt, Jean Baptiste Aublet, and Aubert du Petit-Thouars. Although scientific works almost always present references to works of other scientists, Graham as a woman was not considered a scientist, and therefore her intellectual conversation with her male predecessors presented peculiar characteristics. It is of significance to understand to what extent these features were a consequence of her status as a woman, and how she attempted to overcome the obstacles of such status.

Londa Schiebinger has discussed the many ways in which science can be seen as gendered: ‘Feminists have enjoyed great success in revealing gender inequalities in the humanities, social sciences, and life sciences, where subject matters are sexed or easily imagined to have sex and gender.’\(^{39}\) The gendered character of scientific discourse has often portrayed women as incapable of intellectual production and as naturally suitable only for reproduction and motherhood. Some women, however, did not fit this model, and instead they participated actively in fields that were almost exclusively male-dominated. Women travellers found themselves in an advantageous position to engage topics beyond their domestic life and children. They could discuss issues related to their travels, a logical outcome of which was to use the discourse of natural history to frame their observations. However, because it was considered inappropriate for women to write about scientific matters, they could not engage with the discourse in the same ways as their male counterparts.\(^{40}\) Through the use of travel narratives, women could describe the world beyond Europe and, by emphasising their ability to observe, place themselves in a
position of authority almost impossible to achieve for a woman who remained at home at that time.41

Men, on the other hand, were fully engaged in travel and science in the eighteenth and nineteenth centuries.42 Alexander von Humboldt, for example, was the most important name of the eighteenth century, becoming a hero after his expeditions through America.43 His narrative style and his sketches were imitated over and over again following the publication of his *Personal Narrative*;44 ‘He was as celebrated in Euroamerica as in Europe, and his writings were the source of new founding visions of America on both sides of the Atlantic.’45 Peter Hulme and Tim Youngs also recognise that Humboldt’s travels ‘marked a turning point in travel writing’, serving as a model followed by many after him.46 In fact, Humboldt’s authority was never contested either in America or in Europe. He wrote many books and sketched several landscapes during his trips. Pratt observes that, besides landscape sketching, he used many other visual innovations in his travel accounts, setting ‘new standards for the use of charts, graphs, and tables’.47 Humboldt, then, was a reference in travel writing whose authority was not questioned.

In Graham’s diaries there are many sketches of the landscapes of Brazil that can be seen as a form of scientific discourse, since they depict the nature of places unknown and exotic to Europeans. These drawings also manifest a clear intertextuality with travel accounts written by men in the nineteenth century, especially Humboldt since he is the one who popularised the use of sketches in travel narratives. Figure 2 shows one of the drawings by Maria Graham, the dragon tree in Tenerife, where Graham stopped on her first voyage to South America:

After a pleasant but hot ride, we arrived at the villa about noon, and went to the house of Señor Don Antonio de Monteverde, who accompanied us to M. Franqui’s garden, to see one of the wonders of the island, the famous Dragon Tree. Humboldt has celebrated this tree in its vigour, it is now a noble ruin. In July, 1819, one half of its enormous crown fell: the

Figure 2. Dragon tree by Maria Graham.
wound is plastered up, the date of the misfortune marked on it, and as much care is taken of the venerable vegetable as will ensure it for at least another century... The Dragon Tree is the slowest of growth among vegetables; it seems to be slowest to decay.48

Graham narrated her perspective of the dragon tree referencing the name of Humboldt. In his accounts, Humboldt had noted the growth rate and age of the same tree: ‘As this plant... grows extremely slow, it is probable, that the dragon-tree of Orotava is older than the greater part of the monuments of which we have given a description in this work.’49 When Graham mentioned Humboldt in her descriptions of the dragon tree, she not only attempted to prove she was a knowledgeable woman who had read his accounts, but she also emphasised the fact that she had visited the same places as he had. Her diary included a drawing of the same image Humboldt himself included in his accounts, as illustrated in Figure 3. Through the use of the descriptive sketch she clearly updated his record since the tree did not maintain the same aspect. With the drawing and the written account, Graham represented herself as a traveller that could offer a revised (and as we will also see later a more accurate) version of the facts witnessed by Humboldt. Through her diary she created scientific authority for herself that enabled her to engage in dialogue with her...
male counterparts. Moreover, this authority provided the means for engaging in scientific debates and offering new perspectives and accurate facts.  

In her analysis of the writings of Maria Graham, Pratt argues that she constructs herself as an ‘interactive seeker of knowledge’ who uses non-technical language and adopts an ‘infantile rather than patriarchal position’. For Pratt, scientific discourse was replaced in Graham’s writing by explanatory language. Although this is often true, Pratt seems to overgeneralise here since it is possible to find in Graham’s work many passages where she adopted a very authoritative tone. For example, again during her visit to Tenerife, she once more mentioned Humboldt, but this time to openly criticise his conclusions about the sepulchres of the Guanches:

Mr. Humboldt, whose imagination was naturally full of South America, has conjectured that they might have been used for the same purpose as the Peruvian quipos, but they are inconveniently large for that use... The Oriental custom of dropping a bead for every prayer having been adopted by the Christians of the west, and still continuing in Roman Catholic countries, appears, on that account, too common to deserve the notice of a philosophical traveller; and therefore the Guanche shepherds, or goatherd kings, are rather supposed, like the polished Peruvians, to have recorded the annals of their reigns with clay beads, than allowed to tell them with their orisons, like the Bramins of the Ganges, the shepherds of Mesopotamia, or the anchorets of Palestine and Egypt, because the modern monk does the same.

In Humboldt’s account, *Travels to the Equinoctial Regions of America*, to which Graham refers in this passage, he explicitly compared the Guanches with tombs he saw in Ataruipe: ‘The Atures have almost entirely disappeared; they are no longer known, except by the tombs in the cavern of Ataruipe, which recall to mind the sepulchres of the Guanches at Teneriffe.’ Graham provided a corrective to his ‘conjectures’ and offered him a lesson about the differences between them. Once more, she referred to famous works by male travellers to claim authority for her own observations. Regarding this very same passage, Regina Akel similarly observed that Graham dismissed Humboldt’s expertise. Akel argued that ‘by setting aside Humboldt’s authority... she opened a space for her own narrative persona’. The passage indeed shows that Graham gave accurate details about the tombs and contextualised the description, offering a much more complete account of what she was seeing. From this perspective, her language, rather than ‘infantile’, could be seen as authoritative and ‘patriarchal’, to use Pratt’s words.

In the field of botany Graham also challenged some of her male counterparts, especially in the case of what she considered to be inaccurate or incomplete descriptions of plants or seeds. For example, in her unpublished ‘Life of D. Pedro’ she commented that she found three species of trees (of the genus *Lecythis*) and some nuts they produce that she had never seen before. She referenced Aubert du Petit-Thouars, noting that in his *Mélanges de botanique et de voyages* he described some species of the same family, but according to her, ‘he was unfortunate in not visiting South America in a time of year or under circumstances permitting him to ascribe to each the proper fruit, flower or leaf’. She not-so-subtly demonstrated with this commentary that she had visited the place in the right season and, for this reason, was able to provide a much more complete account than Petit-Thouars, a celebrated French botanist.

Jennifer Hayward has also observed that Graham frequently criticised her male counterparts in order to create her own authority, but she also notes that Graham had to use ‘strategies to defuse the threat of a female writer’. I argue that one of the strategies Graham utilised was to deftly and strategically manoeuvre a double image of herself that allowed her to keep a low profile when challenging her male counterparts. If, on the
one hand, she criticised and updated the work of her male predecessors, on the other
hand, she constantly used expressions that diminished her own work. However, almost
immediately afterwards, she presented indications that she in fact knew well what she was
doing. Referring back to the passage which opened this essay, for example, her use of the
adjective ‘inadequate’ to describe the sketch she made is in clear contrast with the quality
and accuracy of the sketches she presented throughout her work. Therefore, Graham’s
writings similarly illustrate strategies common to those found by Sandra Gilbert and Susan
Gubar in the work of nineteenth-century women writers: ‘these authors managed the
difficult task of achieving true female authority by simultaneously conforming to and
subverting patriarchal literary standards’.59 As the next section will show, Graham’s
narrative strategies did not end here; she employed other methods to participate
in scientific debates including the choice of specific literary genres that would allow her to
cross gender boundaries more easily.

Revisiting Graham’s work

Many works have shown the numerous strategies women used to try to compete in the
field of science. For example, Mary Orr has analysed the work of the nineteenth-century
scientist Sarah Bowdich. According to Orr, ‘Bowdich employed the vehicle of biography
to overcome the obstacles that discouraged women from entering scientific
disciplines…Through these publications, Bowdich succeeded in disseminating her own
scientific contributions in field-based research.’60 Like Bowdich, other women were able to
contribute to the fields of science, but they were aware that they had to be cautious in
order to avoid retaliation from the scientific community. In the case of Bowdich, she had a
husband who helped her, and lent her his name to publish her work. Women who lacked
male protection, on the other hand, were seen as transgressing their limits, mental as well
as physical, being therefore classified as non-women.61 Maria Graham, unlike Bowdich,
did not have a male protector who could endorse her work, not only because her husband
died while they were travelling, but also because he had not been a man of science and,
therefore, was not able to help Graham accomplish her goals. Her strategies to achieve
recognition without being considered unfeminine consequently had to be more subtle.

As explained in the previous section, Maria Graham did explicitly engage in dialogue
with her male counterparts and indirectly became part of what one might call a scientific
discussion. As Fulford, Lee and Kitson observe, before the professionalisation of science,
which occurred only in the later nineteenth century, establishing a ‘scientific’ dialogue
required a rhetorical and political ability because ‘the definition of the properly scientific
was, in part, a political and social construct’. They add that gender was also an important
obstacle, since women were simply not allowed to take part in such discussions, unless they
were just participants in the discoveries of their male protectors.62 Hence, as the example
presented below will clarify, taking part in such scientific discussions was something that
could not be done by a woman using what were considered to be the standard approaches.
Therefore, she had to negotiate her participation at the risk of having her observations
considered mere ‘traveller tales’.63 In 1822, while Graham was in Chile, there was a large
earthquake that destroyed the coast of Valparaiso. She took careful notes on the event
including the time and frequency of the tremors in her Journal of a Residence in Chile
during the Year 1822, and a Voyage from Chile to Brazil in 1823:

Friday, November 22nd. – Three severe shocks at a quarter past four, at half past seven, and
at nine o’clock. After that there were three loud explosions, with slight trembling between;
then a severe shock at eleven; two or three very slight before one o’clock; and then we had a respite until seven p.m., when there was a slight shock.\textsuperscript{64}

Graham also wrote a short report entitled ‘An Account of some Effects of the Late Earthquakes in Chili [sic]’ solicited by Henry Warburton of the London Geological Society. Her report was published in the 1824 volume of the \textit{Transactions of the Geological Society} becoming the first female-authored piece to be published in that journal.\textsuperscript{65} Among the details of the event, Graham’s report also described an apparent elevation in the continent:

It appeared on the morning of the 20th that the whole line of coast from north to south, to the distance of above 100 miles, had been raised above its former level. I perceived from a small hill near Quintero, that an old wreck of a ship which before could not be approached, was now accessible from the land, although its place on the shore had not been shifted.\textsuperscript{66}

Carl Thompson and Betty Hagglund note in their Maria Graham project\textsuperscript{67} that in 1830 Charles Lyell cited Graham’s report in his influential \textit{Principles of Geology},\textsuperscript{68} using it to support his theory that earthquakes could cause the elevation of landmasses. This theory was, however, opposed by George Greenough, then President of the Geological Society, and it gave rise to a great controversy. As Martina Kölbl-Ebert observes, ‘George B. Greenough . . . publicly accused Mrs. Graham (Greenough, 1834) of wilful falsehood, thus starting a dispute which, among male opponents, might easily have ended with a choice of pistols on the field of honour.’\textsuperscript{69} Kölbl-Ebert adds that Graham’s theory of the elevation of the land was very reasonable even at that time and concludes that she was criticised solely because she was a woman. This helps to explain why Graham’s efforts to contribute to science through the geological field were eminently condemned and never accepted as valid during her time.\textsuperscript{70} In other words, Graham’s only attempt to directly address natural history subjects using the standard scientific venues was frustrated. Thus, she needed to resort to more subtle means in order to achieve her goals and participate in scientific debates.

Dea Birkett observes that women were only allowed to participate in non-scientific and amateur pursuits and adds that if an area of study became established as a science, women’s participation would automatically be restricted.\textsuperscript{71} In spite of such a hostile context, women travellers sought to have their work accepted: ‘They were faced with the dilemma of how to give authority to their work when they lacked the broad academic background of male contributors.’\textsuperscript{72} For these very reasons, therefore, in her attempts to enter the world of natural history, where only men were fully allowed to take part, Graham had to produce a complex narrative that essentially consisted in a feminisation of the discourse of natural history. In similar fashion to Sarah Bowdich, Graham also used the biography as one venue to disseminate her findings. Her unpublished manuscript, ‘Life of D. Pedro’, subverted the biographical genre to create a space for her own scientific voice. Thus, Graham dedicated several pages to describing plants and vegetation, geography, zoology, and to providing ethnographic observations. In one instance, she mentioned her visit to a sugar cane plantation, describing in detail not only the several plants she saw (presenting their scientific names), but also the usage of the land and the habits of its residents. In other words, she feminised the discourse of natural history and contributed to different scientific fields. As a result, she managed to have her work published under her own name, and although it was not formally recognised as valid by the scientific community, she contributed to the construction of knowledge in several areas, especially botany. Since botany was one of the few fields in which, to some extent, women were able to participate, it functioned as a bridge for them into the masculine...
world of science. Maria Graham collected and sketched plants and seeds and took advantage of her travels to extend her knowledge on botany.

Later, in 1835, she published her Scripture Herbal, a book in which she highly feminised botany through the use of religious discourse, another acceptable form of writing for women. In the preface, she defined her book as a description of the 'natural history of the bible' or 'the unwritten book of God'. Bringing together science and religion seems to have been the only way she could find to have her botanical findings and expertise finally published under her name. Reading the work closely, it is possible to see how she clearly contributed to the discourse of natural history. In the introduction, Graham made it obvious that her work, rather than an amateur job, was the result of years of research and travels. She also demonstrated her expertise by commenting on many of the works she had read. Again she challenged her male counterparts, and as a consequence, claimed authority to herself: ‘Dr. Harris’s Dictionary of the Natural History of the Bible is most carefully and conscientiously compiled, and is an admirable book for the table of every reader though it is not, as the ingenious writer imagines, so perfect as to supersede the necessity of any other.’ She also made it clear that she was able to make good use of both her knowledge of botany and of her network of social contacts and friends in the preparation of the book: ‘But were I to name every friend to whom I owe plants or prints to copy, and every book I have consulted, this notice would become unreasonably long.’

The feminisation of botany becomes even more apparent if we consider not only the concept of the book itself, but also how she aligned science and love: ‘The collecting the figures and drawing them on the wood-blocks, as it was a work of labour, so it was a labour of love.’ The expression ‘labour of love’ certainly sounds very domestic and inoffensive, appropriate for the introduction of a cookbook. The strategic use of this kind of language guaranteed that her work would not offer any threat to her male counterparts. In the book, which was organised in alphabetical order, Graham described the plants, their origins, and the Bible chapters where they were mentioned. She also referenced authors and botanical books which referred to a particular plant. Almost unnoticeably, she inserted her own comments demonstrating her expertise and many times shedding new light on previous knowledge about the plant:

Dr. Clarke, the accomplished traveller, finding the Cactus Ficus Indicus common in Syria and Palestine, imagined that it was indigenous there… But the truth is, that the cactus never was known until after the discovery of America, when the Spanish, Portuguese, and Dutch traders… introduced the thorny Cactus Ficus Indicus… the cactus soon took possession of the soil, and now passes for indigenous.

In various entries of the book Graham referred to her travels, when she was able to see the plant she described. She used her own experience to support many of her claims, hence constructing her authority as a botanist and traveller. For example, in the chapter about the bramble (Figure 4), a kind of blackberry, she mentioned how it was found wild in most countries of the known world. As evidence of her claim, she cited the Swedish traveller and naturalist Fredric Hasselquist, and followed the reference with a note about her own observations: ‘Hasselquist found the Bramble among the ruins of Scanderette… and I have met with it wild on the top of a high mountain in Brazil.’

By mentioning her experiences as a traveller, Graham put herself at the same level as her male counterparts who wrote about the same subjects. Moreover, when she stated that she found the plant ‘on the top of a high mountain’ she implied that she too was capable of exploring a very high (and by extension, dangerous) mountain, which granted even
more credibility to her discoveries. This self-claimed authority was not common for a woman who was writing an innocent book about the Bible. These comments involving her expertise and travels came embedded in a text that was supposed to be merely a ‘labour of love’. Graham’s effort to compare herself with Hasselquist, who studied with Linné himself, did not stop there. She described him as a young man devoted to travels in Palestine who ‘did much for Scripture botany’, noting that he overcame difficulties to be able to reach Syria and Egypt and died as ‘a martyr to science’. Nevertheless, she made the pointed observation that he was never able to recover from the heat and fatigue of his journeys to Palestine. Thus, while she evidently recognised the achievements of Hasselquist, she nevertheless presented him as a fragile man. This subtle association inevitably brings to mind a comparison with Graham herself, someone who was not frightened and was capable of climbing high mountains. What is implicit in her discourse is that, unlike Hasselquist, Graham was able to withstand the hardship of her travels and return home safely.

In a sense, Graham’s journeys and explorations were not unique. Instead, they were part of a larger, but not necessarily manifest, project which took advantage of the interest many women who travelled as companions to their husbands had in botany to assign them the task of collecting new specimens of plants to send home. In fact, in 1790, botany was one of the subjects middle-class girls learned and practised. Shteir contends that many aristocratic women and military wives travelling to accompany their husbands took advantage of their journeying around the world, and sent home botanical reports, created herbariums, and so on: ‘Colonial wives were enlisted in projects for imperial botany. William Hooker honoured his correspondents by his attentions, gave them status, and validated their interests in supplying specimens for world floras.’ Shteir recognises that although these women botanised ‘within the gender economies they brought with them
from home’, colonial encounters allowed them ‘to step outside conventional gender boundaries’. Therefore, although botany was considered appropriate for women, their participation was restricted and in the seventeenth and eighteenth centuries Europeans who described nature were almost exclusively male. Even though upper-class women could work as botanists, they were only allowed to collect plants, but never catalogue them because that was an exclusively male activity. Naming plants was also dominated by male botanists and the Royal and Linnaean Societies never admitted women as members at that time. The few women who studied plants were hardly recognised by the botanic associations in Europe: ‘Women were encouraged to dabble in botany, certainly, but not to excel in it.’

Notwithstanding this context, at least two plants and one entire genus catalogued in renowned botanical works were named after Maria Graham. As previously mentioned, Graham corresponded with William Hooker, and used to send him reports about her botanical investigations and findings in her travels. The correspondence with Hooker, as Dea Birkett observes, further motivated Graham to draw the plants she found in Brazil: ‘In case of the fading of the colours of the specimens might it not be advisable for me to add rough 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 and also any peculiar form of seed. Only let me know how I can be useful and I will try to be so.’ As a result, she produced a Book of Botanical Illustrations which can be found at the archives of the Kew Gardens. Hooker catalogued and published in Botanical Miscellany, in 1841, the plants found by Graham and mentioned her name as one of the sources who sent him material for the chapter ‘Contributions towards a flora of South America and the islands of the pacific.’ The work includes a plant labelled Escallonia Callcottiae, derived from Callcott, Graham’s name following her second marriage in 1827 to the painter A. W. Callcott (Figure 5). It was designated and catalogued by Sir William Hooker in recognition of Graham’s botanical work. However, his acknowledgment is inadequate considering all the
information she sent him and her dedication to finding materials to send home: ‘I am ... supposing that you will not dislike to correspond with me occasionally in Brazil and that from time to time you will let me know how the Botanical world goes on and what is most wanted at home.’90 Graham was also one of the collectors represented in Martius’ *Flora Brasiliensis*,91 which includes a list of botanical works and the itinerary of her botanising in Brazil: in 1821 to Pernambuco, Bahia and Rio de Janeiro, and in 1823 to Rio de Janeiro, and Santa Cruz.92 In fact, she was one of the two women, among the
65 authors and 135 collectors, who contributed to the project *Flora Brasiliensis*. In 1995, Thomas G. Lammers, from the Department of Botany of the Field Museum of Natural History in Chicago, published a detailed study of the flora of the Juan Fernandez Islands, which belong to Chile. According to him, Maria Graham was the first amateur naturalist to collect specimens in the archipelago, in 1823. He indicates that she prepared a small collection and sent it to Hooker in 1824. He also mentions that the *Wahlenbergia Grahamae* was named after her, and recognises the specimen she collected as the lectotype (Figure 6). These achievements, of course, provide ample proof that Graham’s work was worthy of recognition in the field of botany during her time and that she deserves to be remembered as someone who helped to shape scientific knowledge about the New World in the nineteenth century.

Londa Schiebinger suggests that new tools are necessary to make gender analysis more efficient. She recalls that even the classification of what is considered science or a contribution to science can be seen as gendered. As this article shows, Maria Graham carefully developed a network in the contact zone that clearly facilitated her participation in the production of scientific knowledge. Perhaps Graham did use her imperialist identity to write scientific discourse. Perhaps, as others indicate, science was imperialist at that time, and so Graham also participated in imperialism to engage in science. As Youngs observes, ‘the question of whether women travelled as subjects or agents of imperial power, or as both, is one that involves an often difficult dialogue between feminist and postcolonial theories’. In spite of this issue, and even though it may be difficult to measure precisely to what extent Graham effectively contributed to science, it is safe to affirm, based on the legacy left by her, that the recognition she received is frequently insufficient. We know for sure that, while travelling, she was not merely a ‘social explorer’: she collected botanical species, found new specimens of plants, produced her herbarium, created drawn sketches, and so on. Nevertheless, she is often presented as a traveller, a writer, an illustrator, but she is almost never referred to as a scientist or a naturalist.

Most importantly, this essay has tried to show some of the reasons behind the fact observed by Lila Marz Harper that female travellers could engage in scientific enterprises and how the contact zone made that possible. In other words, the contact zone allowed women to explore and hence carry out their scientific investigations. The analysis of the feminine perspective of natural history discourse in Graham’s work proves that she deliberately blurred the line between gender and genre. In other words, she used genres that were considered acceptable for female writers, such as biographies and letters, to produce narratives that effectively disclosed her scientific interests and contributions, thus crossing boundaries into genres that had strong gender restrictions. This strategy allowed her explicitly, but also cautiously, to dialogue with her male counterparts and engage in scientific debates in order to endorse her own authority as a scientist. It is hoped that this work may inspire researchers to study more thoroughly the scientific contributions of women travellers and accomplish what Joan W. Scott suggested many years ago when she called on historians and others to ‘make women visible as active participants, and create analytic distance between the seemingly fixed language of the past and our own terminology’.

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Notes

1. This passage describes Maria Graham’s visit to the Brazilian Botanical Garden. On this occasion, she was accompanied by Colonel Cunningham, acting British consul-general, and his wife; Mr Hayne, one of the members of the slave trade commission, and his sister Miss Hayne; and by her midshipman, John Langford, who accompanied her on several of her journeys and expeditions. Maria Graham, *Journal of a Voyage to Brazil and Residence There During Part of the Years 1821, 1822, 1823* (New York: Praeger, 1969), 160.

2. For more on Alexander von Humboldt, see the special issue on Alexander von Humboldt and America of *Studies in Travel Writing* 15, no. 1 (2011).

3. Many critics agree that the construction of knowledge propelled by the sciences and travel in the nineteenth century was intimately linked to imperialism and power relations. Mary Louise Pratt argues that science motivated travels to the interior of continents, and at the same time, such travels also led to the development of sciences such as botany, anthropology, and sociology. For Nancy Leys Stepan, what she calls a ‘Passion for the tropics’ came about mainly from the political opportunity of extending European domination; the knowledge produced was more a reflection of what the travellers wanted to see than of what they actually found. The role played by natural history in this context was decisive, as it was a way to impose European authority and knowledge over the ‘ignorance’ of the native people. Therefore, natural history was used as both a pretext and an incentive by travellers at the beginning of the nineteenth century. Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London: Routledge, 1992), 15–52; Nancy Leys Stepan, *Picturing Tropical Nature* (Ithaca, NY: Cornell University Press, 2001), 33–4.


6. As Betty Hagglund observes, in the beginning of the nineteenth century, letters and diaries were not considered ‘low-status’ or ‘private’ genres and were widely used not only by women but also by men. Betty Hagglund, *Tourists and Travellers: Women’s Non-fictional Writing about Scotland, 1770–1830* (Bristol: Channel View Publications, 2010), 5–6.


9. In fact, the material was never published by Graham. However, part of her writings and letters was acquired by the National Library of Rio de Janeiro in 1938. The material was compiled and translated by Américo Jacobina and published in 1940. The volume is entitled *Correspondência entre Maria Graham e a Imperatriz Dona Leopoldina e Cartas Anexas* and presents the correspondence between Graham and the Brazilian Empress Maria Leopoldina, some additional letters, and also a short biography of Dom Pedro written by Graham. In 2011 Jennifer Hayward and Maria Soledad Caballero published a new edition of Maria Graham’s journal in which they included the entire manuscript ‘Life of D. Pedro’ among other archival findings. Jennifer Hayward and Maria Soledad Caballero, *Maria Graham’s Journal of a Voyage to Brazil* (Anderson: Parlor Press, 2011).


13. Humboldt himself never made an expedition to Brazil.


15. Although Mills writes about women travellers at the end of the century in a more general sense, I believe her model is useful, when employed with caution, to discuss Graham’s strategies in elaborating her own ‘discourse of difference’. Sara Mills, *Discourses of Difference: An Analysis of Women’s Travel Writing and Colonialism* (London: Routledge, 1991), 44.

17. Although Graham’s nationality was her main tool to overcome her gender limitations, Jennifer Hayward observes that she essentially tried to portray herself as a person who was beyond gender using many techniques. In addition to her nationality, Graham also used her class or age for that purpose, although she never explicitly spoke of herself as masculine (as Mary Kingsley did). Jennifer Hayward, ‘No Unity of Design: Competing Discourses in Graham’s Journal of a Residence in Chile’, in Journal of a Residence in Chile During the Year 1822, and a Voyage to Brazil en 1823, by Maria Graham (Charlottesville: University of Virginia Press, 2003), 301.


19. Graham, Brazil, 147.
20. Pratt, Imperial Eyes, 169.
21. Graham, Brazil, 181. Prince and Princess refer to D. Pedro I and D. Maria Leopoldina before the independence of Brazil.
22. Graham, Brazil, 184.

23. Evidently, Graham established a very strong network in Brazil. This network that she carefully built and maintained in the contact zone was fundamental for her to achieve the status of a professional traveller. Waldemar Valente observes that the social networks established by Graham in the Portuguese court in Rio de Janeiro were made up of important people. Among others, he lists: the Empress Maria Leopoldina, the Andrada brothers (José Bonifácio, Martin Francisco, and Antônio Carlos). Among the distinguished families cited by Valente are: the family of Viscount of Rio Seco, the family of Madam Lisboa, wife of the counsellor José Antônio Lisboa, and the family of the Viscount of Cachoeira. Among the English families is the family of the British consul Henry Chamberlain. Additionally, Graham maintained a strong friendship with the Baron of Mareschal, Rear Admiral Grivel (chief of the French station in Brazil), and with the consul of the United States. Waldemar Valente, Antecipação De Pernambuco No Movimento Da Independência (Recife: MEC, 1974), 103.

24. Graham, Brazil, 248.
26. Lopes, Museus, 41.
27. Maria Leopoldina to Graham, October 10, 1824, in ‘Life of D. Pedro’ (Manuscript), 111, Archives of the National Library of Rio de Janeiro.
28. Pratt uses the term ‘social exploratresses’ (exploratrices sociales), coined by Hoock-Demarle, to refer to women travellers who were interested mostly in the social and political aspects of the places they visited. Pratt, Imperial Eyes, 160.

29. For another approach which also challenges Pratt’s perspective of Graham as a social explorer, see Adriana Méndez Rodenas, ‘Mapping the Unknown: European Women Travelers in Humboldt’s New World’, Interdisciplinary Conference, ‘Alexander von Humboldt: From the Americas to the Cosmos’, CUNY Graduate Center, New York, 2004, 175.
30. Graham, Brazil, 274.
31. Graham, Brazil, 283.

32. An engenho was a sugar cane plantation common especially in the northeast of Brazil until the nineteenth century. The mills where slave labour was used to transform sugar cane into sugar were deemed engenhos.
33. Graham, Brazil, 276.
34. Graham, Brazil, 276.
36. Although Leopoldina’s interest in natural history was amateur, her personal correspondence reveals that she collected plants, animals, and objects. In several of her letters, she mentioned the Brazilian fauna and flora, and sent specimens to her family members and the Austrian Natural History Cabinet. She also mentioned the fact that she had killed and mounted the animals herself. Graham’s friendship with Leopoldina facilitated her expeditions around the country and was instrumental for Graham to remain in Brazil alone after she left the royal palace. At that time, she collected many botanical specimens for Sir William Hooker. In a letter written on March 1, 1825, for example, the Empress mentioned that she sent Graham money from her own assets when she learned Graham was in need. D. Maria Leopoldina,
37. In the Archives of the Imperial Museum in Petropolis, Brazil, an unpublished letter from Graham addressed to the Brazilian Emperor D. Pedro I exposes her intentions about the education of the Princess. Graham to D. Pedro I, October 7, 1824, Imperial Museum of Petropolis, Rio de Janeiro.


40. Lila Marz Harper discusses the professionalisation of science and the strategies women had to employ as changes took place. She analyses the travel narratives of four women travellers from 1790 to 1890 (Mary Wollstonecraft, Harriet Martineau, Isabella Bird Bishop, and Mary Kingsley). Harper emphasises the importance of bringing travel narratives to light in order to uncover women’s scientific discoveries: ‘the travel narratives served as means by which women could gain a foothold in a traditionally masculine-dominated field, even as that field became increasingly more restrictive’. Lila Marz Harper, *Solitary Travelers: Nineteenth-Century Women’s Travel Narratives and the Scientific Vocation* (Madison, WI: Rosemont Publishing, 2001), 14.


42. Indeed, Fulford, Lee and Kitson contend that between 1768 and 1833, although science was largely an amateur practice, due to social restrictions, it was performed only by ‘men (and not women) of science’. *Bodies of Knowledge*, 5.


44. Méndez Rodenas, ‘Mapping the Unknown’, 176.

45. Pratt, *Imperial Eyes*, 111.


47. Pratt, *Imperial Eyes*, 119.


50. This is not to say that Graham’s criticism of Humboldt’s observations was gendered, but instead it emphasises the fact that she was attempting to engage in a scientific debate, even if it was not using the standard venues for that purpose.


55. Aubert du Petit-Thouars (1758–1831) was a prominent French botanist of the nineteenth century.


58. Hayward, ‘No Unity of Design’, 301.


64. Maria Graham, *Journal of a Residence in Chile During the Year 1822, and a Voyage from Chile to Brazil in 1823*, ed. Jennifer Hayward (Charlottesville: University of Virginia Press, 2003), 153.

65. As Carl Thompson, Betty Hagglund and Esme Coulbert observe in their excellent Maria Graham project at Nottingham Trent University, http://www.ntu.ac.uk/hum/centres/english/the_maria_graham_project.html (accessed June 12, 2012).


67. Thompson, Hagglund and Coulbert, Maria Graham Project.


70. The discussion continued for several years and it was only when later papers noted that Graham’s reports had been confirmed by male witnesses of the earthquake that her work was accepted as accurate. See Kölbl-Ebert for further details.


72. Birkett, *Off the Beaten Track*, 82.


78. Graham, *Scripture Herbal*, 484.

79. Graham, *Scripture Herbal*, 64.


86. Graham to Hooker, April 11, 1824, f.20, Directors’ Correspondence XLIII, f.49, f.79 & f.80, Royal Botanic Gardens, Kew. By kind permission of the Board of Trustees of the Royal Botanic Gardens, Kew.


88. William Jackson Hooker, *Botanical Miscellany: Containing Figures and Descriptions of Such Plants as Recommend Themselves by Their Novelty, Rarity, or History, or by the Uses to Which They Are Applied in the Arts, in Medicine, and in Domestic Economy; Together with Occasional Botanical Notices and Information* (London: John Murray, 1830), 129.

89. Birkett, *Off the Beaten Track*, 80.

90. Graham to Hooker, 11 April 1824, f.20, Directors’ Correspondence. By kind permission of the Board of Trustees of the Royal Botanic Gardens, Kew.

91. *Flora brasiliensis* was produced between 1840 and 1906 by the editors Riedrich Philipp von Martius, August Wilhelm Eichler and Ignatz Urban with the help of 65 experts from several countries. It contains taxonomic descriptions of 22,767 species, mostly Brazilian angiosperms, totalling 15 volumes, divided into 40 parts, in total 10,367 pages, http://florabrasiliensis.cria.org.br (accessed June 12, 2012).


that Graham’s specimen was recognised as the lectotype only in 1996 thanks to Lammer’s research.