

Introduction

Botanising Women: Transmission, Translation and European Exchange

Sam George and Alison E. Martin

The papers published in this special themed issue of the *Journal of Literature and Science* on women and botany are part of a project which developed from a panel at the 2009 British Society for Literature and Science conference. Our title, *Botanising Women: Transmission, Translation and European Exchange*, illustrates the project's overall themes: the circulation of European ideas (notably Linnaeanism and Rousseauism) by women, inside and outside the botanical text, the transmission of botanical knowledge, through an exchange of plants and specimens and through the familiar format of letters and dialogue), and the exchange of ideas around gender and natural science, both culturally and in terms of translation.

As guest editors we think botany is deserving of a special issue. The interrelation between botany and literary production has been a swiftly developing area of scholarship over the past decade. Monographs by Molly Mahood (*The Poet as Botanist*, 2008), Sam George (*Botany, Sexuality and Women's Writing, 1760-1830: From Modest Shoot to Forward Plant*, 2007) and Amy M. King (*Bloom: The Botanical Vernacular in the English Novel*, 2003) demonstrate in their various ways how under-researched the relationship between literary writing and botany in the eighteenth and nineteenth centuries has been. Botanical texts for and by women have broad cross-disciplinary appeal (the visual arts, travel writing, education, history of science etc.) and illustrate the cross-fertilisation of literature and science in women's writing particularly well, whilst opening up crucial debates around gender, sexuality and culture. The botanical texts we have chosen have largely been ignored by historians of science because of their informal literary format and overlooked by literary scholars because of their scientific content. Botanising women favoured 'familiar' genres of writing that were confessional, dialogic, conversational or epistolary in style. This continued right up to the end of the Victorian era, as is demonstrated by the work of Emily Lawless (1845-1914), whose diaries and journals combined botany with life-writing and reflection. Such textual strategies caused the female botanist to be sidelined as a mere populariser by some, but it is precisely this feminisation of botanical knowledge that exemplifies our main themes of sociability, transmission and exchange, inextricably tied, as it is in its published form, to sociability and scientific networks. The articles aim to bring these compelling, essentially hybrid texts, into prominence and assign them a proper place in the histories of science, eighteenth- and nineteenth-century literature and women's writing. Botany would never again be quite so topical or fashionable and these texts serve to remind us of this, while allowing us to consider the reasons why women's botany in particular became so prominent and so controversial.

We open with an introduction that traces the context within which British women were writing and botanising in the Enlightenment and briefly describes the Linnaean sexual system of reproduction and its attendant problems for botanically-minded women and follows the development of botany for women into the nineteenth century. The first article, by Sam George, offers a detailed analysis of two key late-

eighteenth-century botanical texts for women, which serves as the framework for interpreting representations of botany and the feminine in the articles which follow. The themes of transmission, translation and cultural exchange begin to emerge here and these are taken up and developed in articles by Alison E. Martin, Betty Hagglund, and Heidi Hansson. We interrogate in detail a small number of key related texts and tease out the connections, influences, revisions and resistances that shaped women's engagement with botany in the period from 1780 to 1900.

The Enlightenment was the period in which botany came of age. In the course of the eighteenth century, people's way of viewing and thinking about the natural world changed irrevocably. The Swedish botanist Carl Linnaeus (1707-78) revolutionised plant taxonomy from the 1730s onwards with the publication of the *Systema Naturae* (1735) and the *Species Plantarum* (1753). These works described his new organisation of plants into twenty-four classes according to the number of stamens and carpels in a flower and reduced the long descriptive labels for plants to two names only, genus and species. It was not until after mid-century that Linnaeus's ideas took off in Britain – the first English translation of Linnaeus's *Philosophia Botanica* (1751) was James Lee's *Introduction to Botany* (1760) – but by the 1770s, the Linnaean system was firmly established in British thinking about plant classification and sexual reproduction. Just ten years after Linnaeus's death, Sir James Edward Smith (translator of Linnaeus's *Dissertation on the Sexes of Plants* into English in 1786) founded and became the first President of the British Linnean Society.

Meanwhile beyond the world of institutionalised and (semi-)professional science, botany had become a 'polite' pursuit for wealthy aristocrats. Key among them were Princess Augusta, mother of George III, who orchestrated the creation of the Royal Botanic Gardens at Kew in 1759 and Queen Charlotte, hailed as George's 'Scientific Wife', who, together with her daughters, was instructed in botanical drawing by the artist Francis Bauer. The eighteenth century was also the age of exploration and scientific travel, and Captain Cook, Sir Joseph Banks and the Forsters ensured that these gardens were well-stocked with exotic plants when they returned from their South Sea voyages in the 1770s. Botanical illustration also gained in popularity both as a profession (notably in the works of Georg Dionysius Ehret) and as an amateur pursuit – exemplified by the far from dilettantish late-century flower paper mosaics by Mary Delany.¹ The Duchess of Portland, a close friend of Delany's, was not only an important figure in British women's botany but also in the activity of plant collecting and exchange (Cook 142-56). By the time that the Horticultural Society had been founded in 1804 (it gained its 'Royal' status in 1861) botany and horticulture had been put fairly and squarely on the map.

Women of rank and status were therefore ensuring that the pursuit of botany attracted an ever wider audience in late eighteenth-century Britain. But not everyone considered botany to be a science inclusive of both sexes. One of the earliest proponents of British women's botany, William Withering, attempted to "fair sex" it by omitting the sexual distinctions in the titles to the Linnaean classes and orders when he produced his *Botanical Arrangement of All Vegetables Naturally Growing in Great Britain* in 1776 (George, *Botany, Sexuality and Women's Writing* 48). In the 1790s, the reactionary poet, topographer and naturalist, the Reverend Richard Polwhele, was unable to comprehend how an examination of a plant's organs of generation could be conducive to female modesty. In his polemical poem *The Unsex'd Females* (1798), he warned that botanising girls anatomising the sexual parts of the flower were indulging in acts of wanton titillation (lines 29-34).² His text reflects the

spread of Linnaean ideas in England but also articulates the anxieties surrounding the figure of the female botanist in the last decade of the eighteenth century. While Linnaeus had described plant reproduction using relatively anodyne wedding imagery and marriage metaphors, it was these very analogies between plant and human reproduction that caused such furore. In Britain they were exacerbated by Erasmus Darwin's provocative poem *The Loves of the Plants* (1789) – its first edition published from the safe vantage-point of anonymity – which accentuated the sexual dimensions of plant reproduction, making of it a rollicking, licentious affair.

Polwhele's blistering remarks were as much a reaction against women's involvement in science, and specifically Linnaean botany, as their access to knowledge. They were also intended as a salvo levelled against Mary Wollstonecraft's *Vindication of the Rights of Woman* (1792), in which she had poured scorn upon the writer who had queried whether women might be instructed in the modern system of botany and yet retain their female modesty, and had decided that they could not (Wollstonecraft 277; Berkenhout 307). "Thus is the fair book of knowledge to be shut with an everlasting seal!", she tartly concluded (Wollstonecraft 277). Wollstonecraft, like a number of enlightened women across Europe, including Emilie du Châtelet, saw that the natural sciences – Wollstonecraft particularly singled out "botany, mechanics and astronomy" – could improve women's and children's understanding of the world around them (388). But she railed against the linguistic conventions of the time that associated women with flowers as images of purity, beauty and fragility, perpetuating a femininity that was decorative rather than practical. Society, she argued, nurtured women as if they were exotic plants: "luxuriants", barren rather than productive, bred for beauty rather than utility, and for a life of domestic tedium rather than intellectual curiosity (2).³

Despite Polwhele's rhetorical and lyrical fireworks, he was essentially fighting a rearguard action. Women had already gained a firm foothold in the study of botany, not least because they had been identified by publishers as an expanding and lucrative market for works on elementary botany. By the 1790s, a number of elementary botanical works had appeared, authored both by men and women, with a mixed (or sometimes explicitly female) audience in mind. Important among these were the Swiss philosopher and writer Jean-Jacques Rousseau's *Lettres élémentaires sur la botanique à Madame de L**** (1771-74) composed for Madeleine Delessert. These letters, which broke down a range of botanical ideas (notably flower structure, genus, species and seasonal growth) into easily digestible portions, were designed to enable Madame Delessert to introduce her daughter to the study of botany through recognition of different types of plants. Far from being a dry enumeration of different species and their characteristics, the heightened emotional response of his narrator to the natural world conflated botanical practice and the literature of sensibility (George, "Linnaeus in Letters"; King 48). Rousseau thus encouraged botany as a healthy outdoor pursuit, even if he was also resolute that women should not become involved in the more theoretical and abstract aspects of botany (George, "Linnaeus in Letters" 50). The English rendering of this text by Thomas Martyn, Professor of Botany at Cambridge, was both a translation and continuation of Rousseau's work. The *Letters on the Elements of Botany Addressed to a Lady* (1784) explicitly addressed botanising women, exhorting them to:

go forth into the garden or the fields and there become familiar with nature herself; with that beauty, order, regularity, and inexhaustible variety which is

to be found in the structure of vegetables; and that wonderful fitness to its end, which we perceive in every work of creation. (Rousseau v)

It thus made of botany an outdoor pursuit that offered women (limited) freedom to investigate the natural world.

The burgeoning market for elementary works on botany gave women valuable opportunities to enter into scientific authorship. Particularly in the last decade of the eighteenth century, a number of important publications appeared which included the Quaker writer Priscilla Wakefield's epistolary *Introduction to Botany; in a Series of Familiar Letters* (1796), Maria Jacson's *Botanical Dialogues between Hortensia and her Four Children* (1797) and Charlotte Smith's *Conversations Introducing Poetry Chiefly on the Subject of Natural History* (1804), all of which were key examples of women's increasing visibility in scientific authorship. Popular science works – earmarked for children, women and general readers – offered women greater possibilities to demonstrate and pass on their knowledge. So prolific were British women in the authoring of elementary botanical works that England outstripped its European neighbours in the domain of popular science writing (Shteir, "Finding Phebe" 154). Recent research on female engagement with botany has done much to rescue women from obscurity. Scholarship on Charlotte Smith, for example, has shown how her poem "Flora" imitated the subject matter and versification of Darwin's *Loves of the Plants* but rewrote it in a virtuous manner to make it a model of moral instruction for young people (George, *Botany, Sexuality and Women's Writing* 124). The intellectual value of botany for women has already been stressed: but more recent research has also emphasised the pulls of botany towards both sociability and solitariness, and have shown specifically how Smith's botanical writing might also have operated as a form of therapy for Smith as she fought against the debilitating effects of melancholia (Dolan 106; George, *Botany, Sexuality and Women's Writing* 96).

Women's 'familiar' botanical writing generally drew on the format of the conversation or the letter.⁴ The rhetorical proximity of intellectual discourse to the everyday was a key characteristic of conversation in the seventeenth and eighteenth centuries (Fauser 491). Conversation therefore operated as a mechanism by which knowledge of both a seemingly trivial and more 'scientific' nature was transferred. Moreover, the production and exchange of knowledge in this form belonged to a culture of sociability that was deeply rooted in Enlightenment thought. The notions of conversation and science in the eighteenth century were not without their complications, though. Conversation was strongly associated with politeness, a discourse which set a series of behavioural and moral standards and which itself delimited topical content (Klein). Both men and women were consumers of polite science, since polite society was implicitly heterosocial and considered ladies a key ingredient in ensuring that conversation was lively, sometimes flirtatious and certainly pleasant. Making science 'sociable' also demanded that it not be loaded with terminology and hence detract from the civility of the discourse: rather it should engage the mind of the listener/reader through its non-technical language (Walters 127). Epistolarity likewise reinforced the notion of intimacy and familiarity between letter writer and reader-recipient. The emergent genre of the epistolary novel in the eighteenth century not only offered women science writers a template on which to base their writing, but reinforced the link between the expressive possibilities of science writing and other forms of imaginative literature.

By the nineteenth century, botany, and ideas about women's relationship to it, was in a state of flux. If inclusive learnedness was a key characteristic of Enlightenment sociability, during the first two decades of the nineteenth century, some women's magazines began to take a different line altogether towards learning in general and botany in particular (Shteir, "Green-Stocking or Blue?"). While they continued to promote scientific endeavours, the conflicting demands of domestic life and intellectual pursuits meant that women's aspirations were increasingly put under pressure. Although introductory botanical knowledge was not withheld, such magazines also did not provide their female readers with access to more complex botanical material (Shteir, "Let Us Examine the Flower"). Linnaean botany had figured significantly in women's improvement in the Enlightenment, but as it came to be dismissed with the increasing acceptance of the "Natural System", botanists began to wonder at the exclusive reception that Linnaeus had received in Britain over the systems proposed by Jussieu, Tournefort and Ray (Shteir, "Let Us Examine the Flower" 19). Continental systematics did not mean that Linnaean botany did not continue to be popular and in the *Lady's Monthly Museum* women continued to be encouraged to register their botanical discoveries according to the Linnaean class and order (Shteir, "Let Us Examine the Flower" 22). The *British Lady's Magazine*, by contrast, certainly portrayed science as serviceable to women in contributing to their moral improvement or being relevant to women's domestic lives until the 1830s. But beyond that point, it started to shift into a more literary mode, recasting botany in terms of "floral biographies" that placed greater emphasis on the folk uses and historical customs associated with common garden flowers (Shteir, "Let Us Examine the Flower" 20-21). As such, then, magazines like this continued to promote science at a general level, but – perhaps because the systematics of the 1820s did not appear genteel enough for a female readership – failed to engage directly with advances in botanical studies.

Not all women were confined to a primarily domestic existence. Indeed as the nineteenth century progressed, British women became increasingly 'mobile', some accompanying male family members on exotic travels to the corners of the Empire (and beyond), others simply indulging in scenic tourism in the British Isles and exploring the picturesque delights of the natural landscape closer to home. Travel to Egypt was closely documented by Hester Stanhope and Lucie Duff Gordon, to Syria and Palestine by Lady Isabel Burton, to India by Anne Elwood and Fanny Parks, and to South America by Maria Graham.⁵ Many such accounts were, of course, less concerned with the flora of these foreign climes than their culture and customs, peoples and politics. However, as tourist literature on these lands began to proliferate, women increasingly deployed the aesthetics of the picturesque, particularly detailed landscape description, to differentiate their accounts from those of previous voyagers.

In investigating women's engagement with nature, we have so far primarily explored their activities as readers and writers of botanical works. However, as the circulation of scientific thought within Europe rapidly increased as the eighteenth century drew to a close, the process of translation played an essential role in knowledge circulation and construction, as Thomas Martyn's translation of Rousseau's *Lettres élémentaires* demonstrated.⁶ Botanical translation by women as a form of engagement with the science has been almost wholly overlooked. Yet it was increasingly undertaken by British women who, through this seemingly subordinate, uncreative, activity, played an essential role in the international transmission of scientific ideas. Within the genre of botanical poetry, women had been active translators since the end of the Restoration when botany received its first impulses of interest. Aphra Behn,

better known as a playwright and novelist, was the translator not just of Bernard de Fontenelle's popularising astronomical work the *Entretiens sur la pluralité des mondes* (1686) but also Abraham Cowley's *Plantarum* (1668) (*Of Plants VI*, trans. 1689). Translation by women of scientific literature on botany then appears to have lost dynamism until the very end of the eighteenth century, again reflecting the fact that botany only really received a new surge of interest some fifty or so years after Linnaeus's development of a new system of botanical classification. Examples of this second wave of translation are to be found in Albrecht von Haller's *Die Alpen*, translated by "Mrs. J. Howorth", and Maria Henrietta Montolieu's English translation of Jacques Delille's *Des Jardins* (1789/1801) (*The Garden*, trans. 1798/1805).⁷ In the nineteenth century, women became markedly more active as translators of scientific prose (not just in the area of botany), with contributions ranging from texts with a more literary bent – such as Eliza P. Reid's translation of Stéphanie de Genlis's *La botanique historique et littéraire* (1810; trans. 1826) – to more scientifically-oriented pieces such as the translation by a "lady" (presumed to be Jane Haldimand Marcet) of Charles François Brisseau de Mirbel's *Elémens de physiologie végétale et de botanique* (1815; trans. 1833) or indeed Emily M. Cox's English rendering of Johann Wolfgang von Goethe's *Die Metamorphose der Pflanzen* (trans. 1863).⁸

The four articles which make up this volume explore women's engagement with botany in the eighteenth and nineteenth centuries from a variety of different angles. Sam George's article analyses the way in which botanical texts were specifically addressed to the female sex. Focusing on two key elementary botanical works in the eighteenth century, Rousseau's *Letters on the Elements of Botany* (1785, trans. Thomas Martyn) and *An Introduction to Botany; in a Series of Familiar Letters* (1796) by Priscilla Wakefield (1751-1832), she explores how epistolarity encouraged women to engage in scientific pursuits. She investigates the way in which Wakefield and Rousseau promoted botany as a feminine pursuit by offering a close-text analysis of the narrating figure of the botanising teacher or governess, and the approach to book-learning articulated by these two authors, as well as the use of Linnaean methodology in these two texts. Sociability and self-education were, she argues, key motivations underpinning this form of writing as botanical texts for women embraced Linnaeus's universal system of classification.

Alison E. Martin continues to explore the transmission of botanical knowledge in a European context, but from a Translation Studies perspective. Likewise drawing on Wakefield's *Introduction to Botany*, she examines how this epistolary piece fared in French translation. The work of a Quaker writer who forcefully promoted women's education and the equality of learning, Wakefield's *Introduction* was translated into French by a male polytechnique-educated aristocrat, Octave Ségur, whose biography and agenda seem diametrically opposed to hers. In its analysis of the French translation of Wakefield's work, the *Flore des Jeunes Personnes* (1801), this article explores how Ségur deliberately politicised her work and rendered it less accessible to women readers through increased use of Latin nomenclature. Most importantly, though, it oriented it away from the achievements of Linnaeus (to whose system Wakefield adhered) towards the work of Ségur's compatriot, Tournefort, thus demonstrating the extent to which national (patriotic) concerns overrode scientific universalism in this period.

The third essay, by Betty Hagglund, analyses the role played by extra-European travel in the lives of botanising British women. Maria Graham (1786-1844), an avid plant collector and illustrator, is an important, neglected, figure in the web of connections between the major botanical gardens in Britain and travelling women.

Graham's time spent in South America allowed her to collect, dry and make illustrations of exotic plant specimens. Drawing on the correspondence between Graham and William Hooker, Professor of Botany at Glasgow University, Hagglund explores how letter-writing and the exchange or donation of botanical specimens involved women at first hand in the construction and development of scientific knowledge. Hagglund's examination of her books on the flora and fauna of Chile and Brazil, as well as her translation of Judas Tadeo de Reyes' *Account of the Useful Trees and Shrubs of Chile*, show how Graham located herself within mid-century networks of plant collecting and botanical women authors and translators.

Finally, Heidi Hansson explores the perception that the system-building enterprise at the heart of botanical study was a masculine undertaking by drawing on the work of the late nineteenth- and early twentieth-century Irish writer, Emily Lawless (1845-1913). Lawless presented her botanical observations in the form of popular articles, short stories, fiction and, in particular, her work *A Garden Diary* (1901). While deliberately adopting an unscholarly mode of writing and deploying feminine modesty markers, her narratives at the same time contained scientific commentaries and articulated scientific knowledge. These apparent tensions in her work reflect her dissatisfaction with system-building in general – and the Linnaean system in particular – as well as a sense that such taxonomies failed to represent adequately the plants of Ireland. In Lawless's writing, just as in Ségur's translation, nationalist concerns surfaced as she argued that Linnaean taxonomy or British units of measurement were inappropriate ways of capturing Irish flora, both culturally and scientifically.

Together these articles chart the history and progress of women's botany, and what emerges is a complex and compelling account that documents their struggle to make public their botanical knowledge. Wakefield, Graham, and Lawless were unfairly treated by their contemporaries in one way or another as a result of their botanising and they were subject to anxieties around publishing and systemising. They often display a fraught relationship to the scientific because of this in their writing. Wakefield promoted botany as a female pursuit but she was anxious about publishing her *Introduction to Botany* and apologised in the preface for "obtruding" her work "upon the public" despite its educational intent (iii). Martin shows how her venture into print attracted the attention of Octave Ségur, who appropriated her text for his own ends, republishing it in French under the title *Flore des Jeunes Personnes* in 1801 without, it seems, making contact with her. Maria Graham is often referred to as merely a highly accomplished Englishwoman rather than as a botanist in her own right. She was valued as a correspondent and plant collector by Hooker who celebrated her achievements in his own botanical writings but her position as a colonial wife has allowed her to be dismissed as a mere hobbyist and dilettante by some, as Hagglund demonstrates in her article. Emily Lawless sadly had no concept of herself as a "women of science", giving authority to the observations of the gentlemanly "man of science" in her *Garden Diary* of 1901. Hansson describes below how she was subsequently patronised by a male "expert" on natural history who apologised for responding to the claims she had made in the periodical *Nature* because he did not wish to be discouraging to "a lady observer".

The reception of the work of these women botanists is addressed in all four articles, as are the tensions between women's botanical writing and the scientific, both inside and outside the text. This manifests itself in interesting ways when it comes to the promotion of Linnaean botany for women. Wakefield, for example, reverts to using the common names of plants confining their Linnaean Latin names to footnotes,

despite her knowledge of Linnaean systematic. She was mindful perhaps of those accusations of pedantry and precocity that sometimes accompanied women who used Latin or scientific names of plants in public and was protective towards her young women botanists.⁹ Her preference for commonplace native plants and adoption of the anglicised non-threatening terms of Withering to describe the sexual parts of the flower is indicative of her patriotism, but it also points to a number of concerns around the representation of Linnaean botany for young women. Wakefield favoured indigenous botany; she embraced a universal system of naming plants but confined her study to the local flora of the nearby field or hedgerow, choosing examples from familiar British species to illustrate the Linnaean classes and orders in the tables. There are tensions here between the local and the universal, and the influence of Withering's anglicised version of Linnaeus is easily detected. As noted, Linnaeus is sidelined in Ségur's translation of Wakefield's text which promoted the French system of Tournefort. The anglicising and feminisation of botany that had begun with Withering is at an end here as Ségur also attempts to realign the text towards a male readership, as Alison E. Martin will show. Maria Graham was a disciple of Withering, one of the first to feminise Linnaean botany and present it "in an English dress" (George, *Botany, Sexuality and Women's Writing* 87), but she seemed not to be committed to any one system or nation in her own botanical activities. Graham broke out of the confines of the local, venturing beyond the hedgerow, collecting plants in Chile, India and Brazil in the nineteenth century and building a reputation as a plant collector and correspondent. She apparently saw no contradiction in using Linnaeus to catalogue native plants on her travels while employing the cultural concepts of her local informants. Elsewhere, she appears to turn her back on scientific botany, drawing on folklore, herbalism and superstition in *A Scripture Herbal* of 1842. These are areas which Linnaeus outlawed and Rousseau banished from botany, and it suggests perhaps that Graham is not a true Linnaean in the way that Wakefield was, despite the self-censorship the latter performed.¹⁰ By the time Lawless was writing in the late nineteenth century, Linnaeus had fallen out of favour with female botanists; her work is crucial in demonstrating a more questioning relationship between women botanists and male systematisers. She expresses her dissatisfaction at the application of imported taxonomical models in Ireland and appeals to "botanic Celts" to develop an entirely new system of botany, one that is in sympathy with her own sense of Irishness. Hansson argues that Lawless reverts to Linnaeus because she recognises the need for a common language, and in this Lawless is not that far removed from Wakefield, who embraced Linnaeus to produce what is arguably the first work of scientific botany for women, as distinct from the herbals which were women's accustomed domain.

As well as revealing the contradictions and ambiguities that arise in these readings, this special issue of the *Journal of Literature and Science* on women and botany aims to give the works of these female botanists an emancipatory reading. Lawless, for example, was bold enough to challenge the conventions that saw flowers as feminine, re-fashioning them as masculine in 1899 just over a hundred years after Wakefield's familiar letters introduced young women to the study of botany. It is the radical and liberationist aspects of these texts, facilitated by the circulation of ideas through the processes of (international) transmission and exchange, that the following articles reveal in ways which, we hope, will encourage further scholarship in this field of enquiry.

Notes

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1. For an excellent study on Mary Delany's work in its social, aesthetic and scientific context, see Laird and Weisberg-Roberts.

2. For a closer discussion of these sexuality debates, see George, *Botany, Sexuality and Women's Writing*.

3. For a detailed discussion of Wollstonecraft and the notion of "luxuriants", see George, "The Cultivation of the Female Mind."

4. For the familiar format and women's botanical writing, see Shteir, *Cultivating Women*; George, *Botany, Sexuality and Women's Writing*, particularly chapters 1 and 2. Michèle Cohen has examined the familiar format in educational writing more broadly in "A Proper Exercise for the Mind."

5. On women as foreign travellers, see Bohls and Ghose.

6. On translation and the circulation of (scientific) knowledge, see Secord.

7. For a detailed analysis of Howorth's translation of *Die Alpen*, see Martin, "Natural Effusions".

8. For an overview of women's contribution to botany through translation, and a close analysis of the Reid and Marcet translations, see Martin, "The Voice of Nature".

9. A bold display of botanical Latin which had enabled Linnaeus to universalise his science (which he could not have done in his native Swedish) was still considered to be at odds with femininity. Sam George discusses this in relation to botanical texts by Maria Jacson and Charlotte Smith (*Botany, Sexuality and Women's Writing* 89).

10. Sam George argues that Rousseau lionises Linnaeus for supplying the Ariadne thread in botany, a universal system which led botanists out of the labyrinth of local knowledge and instigated botany's departure from herbalism and superstition (*Botany, Sexuality and Women's Writing* 54-55).

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