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'I Took Every Possible Care to Have Them Well Preserved': Travelling Plants and Networks of Collection from India to England in the Letters of William Roxburgh to Sir James Edward Smith

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Abstract: The final decades of the eighteenth century saw the significant expansion of botanical propagation and collections across the globe, both as an aesthetic corollary and to provide the underpinning resources for imperialism. The focus of this article is the development of the network between botanists in India and England in the 1790s through the correspondence between William Roxburgh (1751–1815), superintendent of the Botanical Garden in Calcutta from 1793, and Sir James Edward Smith (1759–1820), who as Sarah Law notes, was 'a focus of correspondence with every serious botanist in the world' (Law, 2007, 184). Such networks were sustained by letters describing the plants and the treatment they needed, the habitat from which they had been taken, and details of how they had been collected and packed. Epistolary writing between plant hunters and British collectors can be understood, I suggest, as a form of travel writing. This is a form in which correspondence builds connections and relationships between fellow scientists and enthusiasts and the fragmentary focus on place, and the mobility of humans is replaced by close attention to the aesthetic and biological details of plants and the best ways of securing their successful transport across the globe. Using an ecocritical frame, this article explores the position of plants and biological specimens themselves as travellers and considers the ways in which their care and preservation have been articulated through sociable correspondence.

Keywords: travel; letters; plants; India; biota

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1. Introduction

The final decades of the eighteenth century saw the significant expansion of botanical propagation and collections across the globe, both as an aesthetic corollary to and providing the underpinning resources for imperialism. The focus of this article is on the development of the network between botanists in India and England in the 1790s through the correspondence between William Roxburgh (1751–1815), superintendent of the Botanical Garden in Calcutta from 1793, and Sir James Edward Smith (1759–1820), who as Sarah Law notes, was 'a focus of correspondence with every serious botanist in the world' (Law 2007, 184). In this article, I argue that this representative corpus of correspondence between Smith and Roxburgh can be understood as a form of travel writing, one with micro-attention to place through the description of native plants and which notably extends the definition of 'the traveller' to include seeds, dried specimens, and plant materials. To understand the correspondence between botanists abroad and collectors in Britain as travel writing not only

broadens the corpus of travel writing from this period but also encourages a close focus on brief accounts of mobility and place and their role in building relationships between the actors who were integral in the construction and development of empire. Furthermore, analysing this correspondence as travel writing brings our attention to mobile subjects, here biota rather than humans, and encourages us to attend to the extensive human actions on these natural specimens, which enabled them to move enormous distances and still survive and reproduce. This article begins with an introduction to relevant critical frames of the intertwined histories of colonialism and botany, travel writing studies and ecocriticism before moving on to two main strands: the development of the relationship and knowledge exchange between Roxburgh and Smith through their correspondence and the accounts of the movement of plants. These strands will be drawn together in a discussion of the implications of the transfer of knowledge and movement of biota within its colonial context.

2. Botany, Correspondence, and Colonial History

Since the early 1990s, critics have explored networks of scientific knowledge exchange which, from the early modern period, permitted the construction of empire, of which botany was one of the key subjects, and led to commercial, territorial, and technological advances (Grove 1995; Drayton 2000; Schiebinger and Swan 2005). By the time the period under consideration here had begun, shifts in Western imperial attitudes to nature and the intellectual and economic structures which investigated and systematised the natural world were well established, as Richard H. Grove has shown (Grove 1995, p. 48). The second part of the eighteenth century saw a notable expansion in the collection and recording of plant data in Britain, which relied on the movement of biota, including live and dried specimens, seeds, tubers, and bark around the globe. Such networks were sustained by letters and drawings describing the plants and the treatment they needed, the habitat from which they had been taken, and details of how they had been collected and packed.

More recently, studies in the history of science prompted by object-focused enquiry, such as those by Alan Bewell and Sarah Easterby-Smith, have drawn attention to accounts of the movement of specific plant specimens. Bewell describes the global movement of some beans, sent from James Lind, Royal Physician, to Sir Joseph Banks on 5 April 1796, which, as he narrates, had also passed from South America to Mauritius, to India, and to London (Bewell 2017, p. 22). This example for Bewell indicates the way in which nature, previously conceived as static and related inextricably to place, was, in the eighteenth century, re-imagined as mutable. Bewell pinpoints botany as the science which permitted this epistemological reframing. While, as I show, correspondents such as Smith and Roxburgh highlight the human-assisted mobility of live plant specimens in their writing, it is a mobility fraught with dangers and which necessitated many accommodations and risks. Easterby-Smith's research into the Francophone colonial context of the journey to Mauritius by French gardener Joseph Martin also focuses on the specifics of seed transfer, which she argues 'invites detailed consideration of the ways in which human relationships were formed around the manipulation and exchange of objects' (Easterby-Smith 2019, p. 222; Bewell 2017). Prompted by this perspective, it is possible to see the correspondence between Roxburgh and Smith as likewise exemplifying the formation of relationships around the exchange of specimens, relationships which were at the heart of the development of networks of knowledge exchange and empire. Elizabeth Yales's work in the context of Early Modern Britain underlines the greater significance of correspondence than printed materials in the formation of knowledge relating to natural history and antiquarian studies (Yale 2016). The first part of this article addresses the way in which the characters of Smith and Roxburgh are revealed in their writing through the discussion of plant specimens and their naming. The letters show a distinct protocol of hierarchy and politeness, demonstrated

in the analysis of other scientific correspondence of the period (Gascoigne 1994), and illustrate how the analysis of the writing of travel and place in correspondence encourages broader questions about the nature of mobility and the impact of correspondence across distance. Here, the men are not travellers; instead, their words and their chosen specimens are, and their concerns and motivations are revealed through the fragile and freighted connection of their letters.

Eighteenth-century epistolary writing between botanists and curators abroad and British collectors can be understood then, I suggest, as a potentially rich form of travel writing, one which allows insights into the formation of relationships and networks of colonial power (Gascoigne 1998). In her work on eighteenth-century 'sociable' letters as a type of travel writing, Eve Tavor Bannet notes the 'fragmentary, discontinuous and miscellaneous' nature of the form but nevertheless highlights scholarship which has focused on a range of contexts and outlines the place of the epistolary form within the remit of travel writing studies (Tavor Bannet 2020, p. 216). Amy Elizabeth Smith's work in the early 2000s outlined the ways in which manuscript epistolary travel writing could be analysed using the same techniques applied to published travelogues (A. E. Smith 2003, see also Kinsley 2019). Smith's work argues for a closer consideration of the epistolary form of travel writing, in particular, one which acknowledges form and makes a distinction between familiar and formal travel letters (A. E. Smith 1998, 2003). My focus in this article is also on manuscript letters as a form of travel writing but one which may require further sub-categorisation, falling between the formal and the familiar in terms of tone and form, and which is both functional and scientific.

3. Travel Writing and Ecocriticism

Travel writing studies have played an important role in exploring the connections between mobility, the natural world, and imperialism. Since Mary Louise Pratt's seminal *Imperial Eyes: Travel Writing and Transculturation*, scholars such as Paul Smethurst have argued for the integral role of travel writing in the production of particular constructs of nature which pervaded from the eighteenth century and which were implicated in the development of colonialism (Smethurst 2012, p. 5). Understanding travel writing as a producer of new epistemologies of nature and imperialism is key to this article, where correspondence across continents contributed incrementally to collections and knowledge, which augmented colonialists' ability to capitalise on global natural resources. Recent work bringing together travel writing studies and ecocriticism highlights the fact that the study of the history of travel and travel writing allows us privileged insight into human connection with the environment (Cronin 2022, p. 5). Drawing on this approach, the second part of this article focuses on the mobile subjects of such correspondence, that is, plants. As the focus of attention, this article explores the biological specimens as themselves travellers, considering the ways in which their journeys, appearance, names, care and preservation were articulated in textual form. Repositioning plants into a central role allows us to notice more fully their significance in the construction and propagation of empire.

4. Correspondence Between James Edward Smith and William Roxburgh and Its Colonial Context

The recipient of the corpus of letters, which is the focus of this article, was James Edward Smith (1757–1828), one of the foremost botanists of the period. In 1783, he bought the collections of Carl Linnaeus the Elder and founded the Linnaean Society, becoming its president for the remainder of his life (Kennett 2016). Smith, despite having a formidable reputation and network of correspondents and large botanical collections, did not obtain a university appointment, largely due, as Richard Drayton argues, to his Unitarian faith but

also in part due to his keen interest in horticulture as well as botany, which was seen as practical and, thus, a lesser topic for scientific attention than botany (Drayton 2000, p. 142). In 1786, Smith had set off on a continental tour, which was to include visits to many of Europe's key figures in botany and the natural sciences, and which is described in his 1793 three-volume, *A Sketch of a Tour on the Continent, in the Years 1786 and 1787*. Smith's preface to his travel account highlights, as typical of Grand Tour accounts, the sense of the journey's own belatedness and of recounting histories and descriptions given by precursor travellers. However, Smith's writing and re-reading of the continent was in terms that resemble an ecocritical lens.

> The travelling observer of nature has, as it were, the enjoyment of a new sense in addition to those common to the rest of mankind. He can find amusement and instruction where they bemoan themselves as in a wilderness [. . .] It brings those together who are connected by a most commendable, disinterested, and delightful tie, and who may consequently find themselves allied by other ties, which they would not else have discovered.' (J. E. Smith 1793, pp. xxii–iii)

In establishing the novelty of his account of a continental tour, Smith sets out two points of focus, which are to be the centre of this article: the articulation of accounts of travel and place through an interest in its flora and the concomitant establishing of networks and friendships. Smith spent the 1790s gathering drawings and material for *English Botany*, which comprised thirty-six octavo volumes, with its publication finally completed in 1814 (Walker 2004).

William Roxburgh's career had begun in medicine as a surgeon's mate on board ships owned by the East India Company. Whilst stationed in Madras between 1776 and 1778, his interest in botany was developed by his association with Johann Gerhard Koenig (1728–1785), a former pupil of Carl Linnaeus. In 1781, he moved to Samarlakota and developed plantations and gardens in which to experiment with crops of commercial status, such as pepper, coffee, and sugar cane. While serving as an official naturalist, from 1790, he began his correspondence with Sir Joseph Banks, sending drawings made by native artists with descriptions. The drawings were later included in *Plants of the Coast of Coromandel* (1795–1820) in twelve folio parts. As Noltie et al. asserts, 'His contribution to the study and documentation of the Indian flora was immense, both in Calcutta and in his earlier days on the Coromandel Coast where he had started to commission artists to draw specimens, each of which was accompanied by a written description in English.' (Noltie et al. 2021, p. 997).

The exchange of information and correspondence with James Edward Smith began during Roxburgh's tenure as superintendent of the Botanic Garden in Calcutta [now Kolkata] in 1793 (Desmond 2015). The botanic garden had been founded in 1787 by Colonel Robert Kyd (1746–93). Sited at Sibpur, the substantial collection established by Kyd was based on his horticultural interest in rare eastern plants. (Robinson 2003, p. 50). In his biography of Roxburgh, Tim Robinson describes the twenty years between 1793 and 1813, whilst Roxburgh was at Calcutta, as 'the pinnacle of his career' (Robinson 2003, p. 48) and describes how Roxburgh built the small garden up to a 'world-class institution contacting over three and a half thousand specimens and exchanging plants with others around the globe' (Robinson 2003, p. 48). Roxburgh's success was largely due to the wide network of botanists and plant collectors he worked with. Such a network was part of other larger and interconnected connections, as LaBouff notes below.

> As Britain formalized its presence in strategic colonial locations—with botanic gardens at Calcutta (1786) and St. Helena (1787), the colony at Port Jackson (1788), and the control of Cape Town (1795)—a dense network of waystations increased the flow of foreign plants to England. (LaBouff 2021, p. 231)

Scholarship by LaBouff, exploring the horticultural contribution of Lady Amelia Hume, notes Roxburgh's role in sending plants from India and nearby countries for her collection while also acting as an intermediary sending plants from other collectors to Calcutta (LaBouff 2021, p. 226; Rowe 2007, pp. 67–69). Likewise, Ian M. Turner's work notes Roxburgh's collaboration with Thomas Hardwicke (1756–1835), a natural historian and collector, who travelled with explorer and naturalist William Hunter during his journey from Fatehgarh, a military base near Farrukhabad to Srinagar, Uttarakhand (Turner 2015).

The body of letters under consideration in this article from Roxburgh to Smith were sent between October 1791, when the men were introduced by Kindersley, Smith's nephew (GB. 110/JES/COR/25/11 and Robinson 2003, p. 26) and 25 January 1806, when Roxburgh returned to London in a period which saw the beginning of the sustained ill-health which prompted his leaving of the India sub-continent in 1813. The collection, part of the James Edward Smith Collection held by the Linnean Society, consists of thirteen letters, of which several are duplicates. This small corpus of two- and three-page letters from Roxburgh give scant fragments of personal information and, as might be expected, focus on accounts of plants and their shipment. The collection is not extraordinary in that thousands of letters between botanists, plant hunters, and collectors were sent during the eighteenth and nineteenth centuries across the globe. The letters forming the focus of this article are part of an extended and expanding context of communication in the eighteenth century, in which relationships and knowledge were increasingly formed and sustained over distance. As Clare Brant argues, 'letters were also the key medium of communication in a world of extended contacts—contacts thinned out by distance through empire, business, travel and separations' (Brant 2006, p. 1).

5. Building Relationships Through Correspondence Between Collectors and Botanists

Gerrit Verhoeven's work on the Grand Tour letters of Jan Teding van Berkhout (1739–1741) illustrates how epistolary travel accounts indicate the construction of ways of understanding identity, hierarchy, and behaviour (Verhoeven 2020). Where Verhoeven focuses on the construction of elite masculinity in his study, I consider the way in which Roxburgh's letters construct a particular way of understanding his relationship with plants and with Smith through the translocation of plant specimens and accounts. Much scholarship has been conducted on the network of correspondence between botanists and collections, particularly in relation to the work of Joseph Banks (Goodman 2020; Gascoigne 1994). However, what I aim to highlight in this article is the additional value of considering the literariness of the letter as a form of travel writing beyond its role as a mode of transferring knowledge. Both Roxburgh and Smith were important figures in the history of botany and colonial collections, and the letters from Roxburgh form a case study which demonstrates how small iterations of place and accounts of the movements of biota across the globe in these letters illustrate hierarchies within the science of botany and a concretising of the understanding of plants and the natural world as part of a vast and developing colonial project.

The correspondence between Smith and Roxburgh begins in October 1791, and over the next decade, as Roxburgh moves across India, to the Cape of Good Hope, St. Helena and to London, there is a sense of their developing relationship and the shifting status of these men. On 17 October 1791, Roxburgh writes the following:

> Some time ago I received a letter from my friend Mr. Kindersly [sic] accompanied by an extract of a letter from you, which has removed some doubts I began to entertain of the value of the few specimens I had sent to you. Mr K's request to

> have the honour of corresponding with so distinguished a Botanist as Dr. Smith will give me much satisfaction. (GB. 110/JES/COR/25/11)

From the outset, Roxburgh's reference to being assured about Smith having received the specimens draws attention to distance and the unreliability of the transport of plants and seeds. His further comments highlight his care in acknowledging the hierarchy between them, a point which is supported by the remainder of the letter, where Roxburgh notes Smith's article in the *Critical Review* arguing for a new genus of Paulina Asiatica and requests copies of any books Smith has authored. Smith replied to Roxburgh on 20 February 1792, and it seems that by this point, their relationship developed significantly, and Roxburgh's own status in the world of botany had been acknowledged by Smith, who had written of his intention to name the 'Mucada' timber after Roxburgh. Roxburgh is appreciative, writing, 'thank you for the honour you intend doing me in your next fasciculus. Mucada is one of our most valuable and finest timber trees' (GB-110/JES/COR/8/102). This example highlights how the relationship between botanists is constructed through plant knowledge and exchange. The development of the relationship is also indicated in Roxburgh's penmanship. His first letter to Smith in 1791 was written in careful English Round Hand and addressed 'Sir', whereas, by March 1793, the letters were addressed 'Dear Sir' and were more relaxed in their writing style.

In addition to insights into hierarchy, these initial letters offer glimpses into Roxburgh's character and concerns. The beginning of the letter from the 4 August 1792 begins as the majority of Roxburgh's other letters, outlining when he had received Smith's letter, and the details of his latest dispatch. He writes the following:

> This instant have I received your acceptable letter of the 20 February last and have just time to write you by this conveyance the Atalanta, under the care of Mr. Farquhar the hussar, who is now in my house and goes off in two hours. (GB110/JES/COR/8/102)

Roxburgh's repeated detailing of the composition dates of the letters he has received from Smith and others and his accounts of the ship and the person to whom he has entrusted his own letter and specimens shows his care and fastidiousness; however, it also highlights the precarity of the correspondence. Given that each transit to India by sailing ship might take six months, thus indicating the substantial time taken for the exchange of letters, there was a need to indicate which letters had been received and to repeat or reprise the information given in the last correspondence. In Eve Tavor Bannet's work on epistolary travel writing, the author claims that the letter 'was still traditionally conceived as a 'silent speech', and correspondence as 'written conversation'—in other words, every letter was a speech act addressed to others in an ongoing conversation that could always change course;' this is explained in the following account:

> The letter-writer was under no obligation to continue any subject from letter to letter, and had some interest in not doing so—in print culture, because 'variety' was a selling point, and in scribal culture, because the knowledge that posted letters might never reach their destination made it foolish to write letters which depended on the reception of other letters for their intelligibility. [...] each handwritten letter was like a snapshot or a still. (Tavor Bannet 2020, p. 116)

In contrast to the more discursive letters discussed by Tavor Bannet detailing continental travel, Roxburgh's correspondence relies on preceding and successive communication. It expects a response and is enmeshed in a web of other correspondences and shipments, gaining its significance through a plethora of other interactions and exchanges, incrementally building a picture of his environment far from London, as well as his concerns and relationships.

The next correspondence, 14 January 1794, comes when Roxburgh has been made Superintendent of the Calcutta Botanical Garden. Smith sent two letters in return in the interim, 30 November 1792 and 17 April 1793. Roxburgh's move over six hundred miles north from Samarlakota proved to be hugely significant for him professionally. Of Roxburgh's letters to Smith, it is the correspondence from the Calcutta Botanical Garden which gives the only, and this very brief, reference to place. Roxburgh tells Smith how he had been invited by the then Governor-General of India for the East India Company, 'the Marquis Corwallis, on the Death [sic] of Col. Kyd to come to this place, to superintend the Botanical establishment here.' He describes how, 'I first came round by land, to see how I would like it.' Roxburgh notes that he finds the 'situation agreeable'. Having travelled overland to visit, he returned to collect his family, with whom he travelled to Calcutta by sea (GB110/JES/COR/8/104).

The botanic garden had been built a few miles from Calcutta on the banks of the River Hooghly at Sibpur (Robinson 2008, p. 41). Roxburgh's relationship with the place seems to have been largely positive. In his letters to Smith, few details are given, but there is one telling comment, when in 1803, after his extended stay in South Africa, he notes how he has not 'troubled' Smith with a letter, 'since my return to my old paradise here' (GB-110/JES/COR/25/15). Certainly, Roxburgh's house at Sibpur, built for him and his family in 1794, was, as Tim Robinson notes, 'no mean house, more a mansion with considerable social pretensions' (Robinson 2003, p. 54). Despite Roxburgh's affection for his life in Sibpur; his ill-health seems to be caused or at least exacerbated by his situation. He writes to Banks in 1796, 'my health has been so bad ever since I came here that I am just about to embark for the Coast of Coramandil and will proceed then to the Cape of Good Hope should I not derive benefit from the Coast air' (GB1 110/JES/COR/8/109); he then writes on 16 December 1796 from Calcutta and again on 27 October 1797, noting that 'I intend taking a trip to the Cape of Good Hope for the benefit of my health' (GB110-/JES/COR/8/110). Robinson describes how Roxburgh's health, 'never strong, suffered in the humid heat of Calcutta' (74). Roxburgh finally went on his visit to The Cape of Good Hope to improve his health in 1798, staying for eighteen months (Robinson, 74).

Whilst Roxburgh's accounts of the plants often highlight their beauty or fragrance, his focus from his appointment by the East India Company as Company Botanist on the Madras Coast in April 1789 is more on their economic and medicinal uses (Robinson 2008, p. 29). Roxburgh's commercial interests were typical, according to research by Ray Desmond, who describes this below:

> The commercial potentialities of plants led the Company to encourage its servants, especially surgeons who had acquired some botanical knowledge as part of their professional training, to study the native flora. (Desmond 1992, p. 49)

Roxburgh's emphasis on plants for commercial uses would have not only been in his own financial interest but would also signal in his relationship with Smith his adherence to the aims of the East India Company. Some indication of the diversity of the plants and their uses, which Roxburgh investigated, is given in an early letter to Smith from Samulcotah, 4 August 1792. Here, the plant specimens travel separately to the information supplied in the writing. Roxburgh describes how he sent Alexander Dalyrymple (1737–1808) samples of wood, which might potentially be used in mathematical instruments. To Smith, Roxburgh sends samples of a 'newly discovered fever-bark' from a 'Swietinia' and asks Smith to refer to fellow physician Dr Patrick Russell for more information (GB-110/JES/COR/8/102). After his move to Calcutta, the land and resources facilitated more ambitious projects.

> Roxburgh took up the challenge with characteristic zeal, propagating and distributing seedlings of teak, Bengal hemp, Virginia tobacco, Arabian coffee and indigo to different parts of the subcontinent for trial cultivation. (Desmond 1992, p. 62)

These interests remained with Roxburgh throughout his career with the East India Company. Aware of their priorities, he clearly wanted to support the securing of commercial interests through the propagation of economic plants. In his last letter to Smith from Calcutta, he writes of his activities since returning from the Cape of Good Hope, where he had travelled ostensibly for his health. A few months after his arrival, he writes to Smith on 23 April 1798 the following:

> I wrote you by Mr. Brown the surgeon of the Albion, which sailed in December from Bengal. I sent you some seeds, specimens and insects all of which I hope you have almost by this time received safe [. . .] My health rather suffered while on Board [sic] ship, but find myself better since I came on shore, so that I hope to derive benefit by the trip. I mean to remain here six or eight months, or till William and his sister join me. If you have any command that I can execute for you from here write me soon. (GB 110/JES/COR/25/14)

It seems that Roxburgh soon recovered and set to work. He is keen to hear of the safe arrival of the specimens and, despite ill-health, the collection remains his priority. Desmond argues that Roxburgh had an ambitious project in mind: to establish a botanic garden there and to commute between Calcutta and the Cape of Good Hope to manage both gardens, assisted by Christopher Smith, who was his lead gardener (Desmond 1992, p. 63). This would give him a greater reach across the East India Company's acquisitions and more status. However, the plan was not successful, and he returned to Calcutta to catch up on work missed there. In the letter from 6 February 1803, Roxburgh writes the following to Smith:

> Since my return, now six months, I have described and figured a great many new plants that had not [illegible] in the Garden before I left it for England but my most arduous employment has been carpology. When in London I discovered how deficient I had been in this most essential part such as are connected with the plants already published can be added on a separate table or two in any future number. (GB-110/JES/COR25/15)

Roxburgh's main task of 'carpology' refers to his work on seeds and fruit, an important part of the economic output of the Botanic Garden, even as his ill-health was making his work in Calcutta unsustainable and would soon necessitate his return to Britain. His letter gives a sense of his commitment to the commercial development of the empire and his wearied resignation to the challenge of the work and the effect it was having on his health. Even at this point, he seems keen to impress on Smith his loyalty and perseverance. Roxburgh's letters across the globe to Smith show not only the effect of place and work on the individual but also the growing relationship and the pains which Roxburgh took in his writing to sustain his role in a hierarchy of empire.

6. Plants as Travellers: Live Biota

As indicated in the discussion thus far, the letters, with their scant discussion of place or experience, are dominated by the details of plants and their movement between Roxburgh, Smith, and other collectors. In a letter from early in Roxburgh's time at the botanic gardens at Calcutta, he writes the following apologetically to Smith:

> I have been so very unsettled for some months, that I have not been able to prepare anything to send to you, except a few seeds. They accompany this under the care

> of Mr Johnson, surgeon of the Warren Hastings. You are also entitled to half of the parcel I sent to Mr Molesworth. (14 January 1794, GB-110/JES/COR/8/104)

The implicit assumption that some plant material will accompany the letter is heightened by the sense that the 'few seeds' do not match either man's expectations. It was not only plant specimens sent between the two; tubers, seeds, and bark were dispatched along with many hundreds of dried plants and drawings. As shown in Roxburgh's letter from January 1794, it was a considerable effort to prepare plants or specimens for the long journey by sea to England. In another example from later in 1794, Roxburgh describes the following:

> I have sent you 2 full grown, tho small capsules of Dillenia indica by Mr Lurgan of the Rose, Captn Gray. Also a small bag of seeds, containing 53 sorts. Dillenia will not be in flower until May or June. I will then preserve some of them in spirits, they cannot be preserved in the common way. (GB-110/JES/COR/8/107, 27 December 1794)

Roxburgh did as he had promised. Two years later, in a letter from 16 December 1796 from Calcutta, he describes how he cultivated, preserved, and dispatched the Dillenia flowers, known also as the 'Elephant Apple', which are up to twenty centimetres wide. There is a considerable range and number of specimens described in this letter, showing the complex methods of preservation and transport.

> Agreeable to your wish I sent some time ago to Sir J Banks several specimens of Dillenia Indica in flower, requesting he would divide them with you. I took every possible care to have them well preserved which the hard calyus [sic] and great size of the flowers render no easy matter. Some I have also put up in spirits and send them to the same Gentleman by the ship now under dispatch, requesting he will also divide them with you. (GB-110/JES/COR/8/109)

Once again, Roxburgh details his attention to the care of the plant and how to best render their successful transfer to England following Smith's request for them.

Roxburgh's focus on cultivation was targeted at what we might see now as more prosaic, or at least useful, plants. There is an exchange about the dispatch of potato seeds, which also took place over a lengthy period. In March 1793, Roxburgh asks Smith the following in a postscript:

> When you see Mr Molesworth, I will thank you to beg of him to send me in a letter, about an ounce of each sort of potato seeds. I have reason to believe that our potatoes in India have been propagated from sets ever since they were first planted in Asia for they yield but a poor return of small potatoes. I suspect it to be owing to this not having been renewed from seed. (GB-110/JES/COR/8/103, 20 March 1793)

Roxburgh's expertise is demonstrated here, as well as his commitment to increasing the volume and quality of potatoes, which could be grown on the Continent. Thus, there is both a minute focus on the transfer of seeds, but also an ambitious colonial impact potentially on the supply of valuable foodstuff. In a letter to Smith on 27 December 1794, Roxburgh mentions that since he sent his last letter to Smith in August 1793, 'I had also a letter from Mr Molesworth with the potatoe [sic] seeds, but not one grew' (GB-110/JES/COR/8/107). The plant specimens, here potato seeds, are logged and observed. Their care and survival are noted in detail, and their mobility is central to this process. Some sense of the scale of exchange and the task for Roxburgh and the staff of the Botanic Garden can be seen in the number of plants sent in the winter of 1793. In a letter to Colin Shakespear (Roxburgh William to Colin Shakespear 1794), 'he describes 38 chests & other packages of

growing plants sent to various parts of Bengal, the Carnatic, Circars, England, St. Helena, West Indies &ca' (Robinson 2003, p. 124).

7. Plants as Travellers: Dried Specimens

Live plants and seeds formed a fraction of the material which was dispatched to collectors in Britain. As noted earlier, many plants, like the 'Dillenia indica', would not survive the journey and required specific preservation methods. The main method of preservation, however, was pressing, drying, and fixing them to herbarium sheets. Roxburgh sent hundreds of herbarium specimens to Britain over the period, many of which were 'type' specimens and formed the basis of important collections (Robinson 2008, pp. 104–5). His last letter from India describes the large scale of the consignments of dried plants. He writes, 'When I left London I put into the hands of Mr. Brown a very extensive collection of dried specimens for the Linnaean Society and of course for you. Some more that I have dried since my return and that my son had ready I now send to the same gentleman' (GB-110/JES/COR/25/15, 6 February 1803). Whilst Roxburgh did not collate any herbarium of his own, he did dry the specimens himself in Calcutta before sending on large numbers to collectors in Asia and Europe.

While Roxburgh was resident in India, despite his visits to the Cape of Good Hope and to Britain and St. Helena, the biota he gathered, prepared, and curated were significantly more mobile than the writer himself. I suggest from the letters that specimens themselves, both preserved and live, might be understood as travellers. Their treatment and journey are detailed to Smith, and Roxburgh's care for them is evident in the accounts. For example, in his letter on 27 October 1797, he describes how he is trusting to a 'Mr. Brown, the ship's surgeon on the Albion', some specimens of the following:

> Jonesia asoca, Flemingia grandiflora and of my Thunburgia frangrans. The only species I know in India. By these you will be better able to judge of this several habits, affinities, etc that Flemingia is mainly allied to Thunburgia I have already observed. (GB110-/JES/COR/8/110)

Roxburgh's appropriation of the plants is shown by his use of the possessive 'my' and his close observation of the connections between them. By sending these specific specimens together, he hopes that a scientific picture will emerge of the relationship between the plants and their common features and habitat preferences. The plant travellers carry alongside themselves details of their native situation, information which will help support them or enable their propagation in their new environment in Britain. Later in the same letter, he writes the following:

> I enclose you a few good seeds of my Lythanaeum now Grislea tormentosa (an improper specific name). The drawing published is bad, a good one was sent several years ago. I wish it had been in time. I am glad to hear from you that the seeds from this charming plant, sent to Edinburgh, grew, particularly as I have never had a line of acknowledgement for the numerous collections of seeds, and plant sent to that Gardens since the death of Dr. Hope. (GB110-/JES/COR/8/110)

Not only does Roxburgh show affection for the plant, having a preferred name for it and noting it as 'charming', he requests news of the afterlife of his dispatched specimens, asking whether they have been successfully cultivated. Roxburgh's interest in the commercial potential of plants and their connection to the progression of his own status and career is clear throughout his correspondence with Smith, and this is demonstrated by the centrality of the plants in his writing and about the mobility of the biota. In other words, this epistolary travel writing detailing the movement of the plants and specimens is key to

the continued relationship between the men and the associated networks and hierarchies of the empire.

8. Conclusions: Botanic Correspondence in the Context of Empire

The correspondence indicates wider contextual hierarchies of the European colonial project. The naming of the plants is a further significant element of the connection and affinity between the botanist and the travelling specimen indicated in the correspondence. The ordering of plants and their naming according to the Linnaean binomial system was part of Enlightenment science's efforts to systematise the natural world and to convey patterns of global prevalence (Hodacs et al. 2018). However, as Smethurst indicates, the project was ultimately unable to account for the geographical dispersal of plants and animals, and as a result, preconceived notions about the sessility of animal and plant types were called into question (Smethurst 2012, p. 30). The significance of naming and taxonomy is clear in Roxburgh's letters. There are several examples where Roxburgh requests that notable plants be named after a person whom he regards with respect or affection. As his relationship with Banks grows, Roxburgh asserts his requests with increased confidence. In the letter from 20 August 1794, he describes a 'beautiful' plant, which he would like to be named after Sir William Jones (1746–1794), lawyer and philologist, who in addition to his interest in botany had founded the Asiatic Society in Calcutta in 1784. Roxburgh writes the following:

> Since my return to Bengal, I have found several plants unknown to me before, amongst them there will be, I think, three or four new Genera, and more new species, amongst the former is the beautiful Asjogam of the Hortus Malabaricus, vol.5, TabL 5g—which I think will make a very distinct new Genus and have called it after the late Sir William Jones, whose Botanical knowledge will entitle his memory to this mark of regard. (GB-110/JES/COR/8/105)

He refers to the plant type he has seen in the *Hortus Malabaricus*, a seventeenth-century multi-volume text documenting the plants on the Malabar Coast and adds that he has included with the letter one of Jones's drawings, which he asks Banks to include in a forthcoming publication and adds, 'may I further request of you to insert a letter panegyric on so great a character, he was a most surprising man and the complete Gentleman' (GB-110/JES/COR/8/105). The underlined text draws attention to Roxburgh's adherence to a class hierarchy, which, as Sarah Easterby-Smith has shown, was essential to constructing valuable relationships of trust among botanists and collectors during this period (Easterby-Smith 2015). Roxburgh reminds Banks of this request in his following letter on 27 December 1794.

> I wrote to you by the Massey[?] on the 20 August last and again by the Phoenix in September, soliciting your approbation of the name I had given to what I think will form a very distinct new Genus, vigt. Jonesia in memory of the late Sir William. (GB110/JES/COR/8/107)

The plant names in the letters are given a further level of interaction as they are marked in this and subsequent letters by asterisks, and some are underlined. In this letter, 'Jonesia' is underlined and has a small cross after it. It seems the letters have been used, presumably by Smith, as an aide-memoire for his work. In a subsequent letter from 27 October 1797, Roxburgh tells Smith how he has requested that Sir Joseph Banks names a recent discovery, 'my new Genera' after Dr. Hope, 'that worthy gentleman', former curator of the Botanic Garden in Edinburgh (GB110-/JES/COR/8/110).

The scale of the movement of plants and drawings indicated in these letters also points to an extensive and troubling history related to the labour of British botany in India. To facil-

itate the number of plants collected from the wild, propagated at the Botanical Gardens, and recorded in scientific drawings, a vast backdrop of workers was required (Nickelsen 2006). Roxburgh had, from the outset of his botanical investigations in Samarlakota, been reliant on cheap labour and, at some points, convicts and forced labour, such as when expanding the Botanic Garden across the floodplain of the River Hooghly. Robinson describes the provenance of the workforce as follows:

> The hundred gardeners came from all over the far east, some were Indians, others Malays and some Chinese, according to various letters written over the twenty years that Roxburgh was in Calcutta, and there is even reference to a Portuguese gardener who was paid 12 rupees per month. This use of convicts as a source of available and cheap labour was common practice to the end of the British rule in India. (Robinson 2008, p. 54)

The workforce in the gardens and plantations developed by Roxburgh and the East India Company were integral to their success and was made possible because of workers' low wages or servitude.

The tantalising gaps of information in the letters from Roxburgh to Smith and the expression of worries, despite not giving a picture of the simultaneous actions of other people in the network, offer an insight into the freighted nature of the communication between the men. Prolonged exchanges, with significant periods of silence, enable the reader to understand some of the jeopardy involved in this correspondence for the participants and their entanglement in a colonial system in which each was trying to secure a place. Writing in December 1796, Roxburgh describes how he has been productive in spite of his ill health.

> Notwithstanding bad health I have not been idle as you will no doubt see what I have done during this last 12 months when you call at Sir J. Banks's, as all my drawings etc go to him from the India House. (GB-110/JES/COR/8/109)

Roxburgh's assurances to Smith highlight the extent of the material sent to London. As I have discussed, the drawings to which he makes reference here and the plants he details elsewhere are the product of largely undocumented Indian and international labour. Although valuable recent work by Noltie and Dalrymple for the Wallace Collection (Noltie 1999; Dalrymple 2019) details the scale and outstanding ability of the artists commissioned by the East India Company during this period, there are many thousands of native collectors, artists, and gardeners whose contribution to the vast European plant, herbarium, and botanical drawing collections, is unlikely to be acknowledged.

The small corpus of letters between Roxburgh and Smith in the 1790s, therefore, contrasts with some conventional notions of travel writing in that the letters present few details of travels or the locations of the human participants, nor do they offer levels of subjectivity and personal insight, which we might assume travel writing of the period to contain from accounts of Romantic period travel writing by Carl Thompson and others (Thompson 2011, p. 118). However, if we read this corpus and the enormous numbers of other letters sent during this period as travel writing, we open up new ways of reading about place and movement. With an ecocritical reading, this epistolary travel writing has at its centre the lives, appearance, and mobility of plants, and by focusing on the ways in which the human actors fastidiously detail their effects on that mobility, the significance of these small actions and interactions reveals intricate networks which were integral to sustaining and developing British colonialism.

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