

‘Specimens Distributed’

The circulation of objects from Kew’s Museum of Economic Botany, 1847–1914

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This paper presents research on the dispersal of objects from the Museum of Economic Botany at the Royal Botanic Gardens, Kew (RBGK) from 1847 to 1914. Established by William Hooker, the museum received thousands of objects from around the world, the display of which was designed to illustrate plants’ properties and economic potential. The paper argues that the conventional focus in museum studies on processes of acquisition and accumulation captures only one side of collections’ history. Drawing on research in archives and collections at Kew and elsewhere, we highlight the redistribution of specimens and artefacts from Kew’s museum through a variety of channels. We focus on three modes of circulation: firstly, Kew’s role as a clearing house for collections; secondly the exchange of objects; and thirdly the distribution of specimens and artefacts to schools across the British Isles, a practice which became prevalent towards the end of the period.

THIS paper is concerned with the mobility of museum objects during the second half of the nineteenth century, a period that saw the establishment of many different kinds of collections. In contrast to the conventional emphasis in museum histories on the means by which collections were acquired and the sites in which they were accumulated, we focus here on the circulation of specimens and artefacts through a variety of institutional channels, a process in which the museum was a conduit rather than a final destination.¹ Using the collections of the Kew Museum of Economic Botany as a case study, the paper seeks to explore the variety of processes by which the dispersal of museum objects was effected through state, museum and educational networks.

The Museum of Economic Botany, an integral element of Kew Gardens as a state-funded botanical complex, was founded by William Hooker in 1847.² It was established in the same utilitarian and pedagogical spirit that drove other museum agendas in Britain during the early Victorian era, notably at South Kensington.³ Its displays, eventually exhibited in four separate buildings across the Kew site, were designed to instruct a variety of users, commercial as well as scientific, popular as well as specialist – in

Hooker’s words, not just the ‘scientific botanist’, but also ‘the merchant, the manufacturer, the physician, the chemist, the druggist, the dyer, the carpenter and cabinet-maker, and artisans of every description’.⁴ The museum was central to Kew’s commitment to the diffusion and extension of the public understanding of botany. Its composite displays of plant raw materials alongside objects made from these, together and in the same space, were literally case-studies in the application of botanical knowledge.⁵

This method of display of botanical specimens alongside manufactured artefacts, accompanied by information on their physical properties, sources and processes of making, was not merely a pedagogical device: it expressed a key aspect of Kew’s programme which was dedicated to the potential of scientific knowledge to transform nature into a resource. The Economic Botany displays at Kew were effectively representing wider processes through which nature was transformed into ‘raw material’, and raw materials transformed into commodities. In this sense, for all its strangeness to historians, the Museum of Economic Botany was a thoroughly modern invention. The classification of its collections as ‘biocultural’ in the modern-day literature of collections management stems

from this combination of natural specimen and artefact in a single museum assemblage, an arrangement which appears much more anomalous to us than it did to its Victorian founders and sponsors.⁶

Once the purposes for which the Museum of Economic Botany was founded are understood, its role in the circulation of objects becomes easier to appreciate. While Kew had no direct equivalent of the South Kensington Museum's 'Circulation Department',⁷ its museum played a key role in dispersing objects across multiple collections both within the UK and around the world. The present paper, which focuses on modes of dispersal operating in the second half of the nineteenth century, draws on research by the authors and colleagues within a larger research project aiming to map the circulation of objects into and out of the Kew complex.⁸ In tracing the trajectories of specimens and artefacts across multiple collections, we seek to understand the various forms of mobility underpinning them, reflecting distinct aspects of the museum's function as a centre of circulation. Here we focus on three of the channels through which objects were dispersed from the Kew Museum: firstly its role as a clearing house for major state collections such as those of the India Museum whose collections were redistributed in 1879; secondly the interchange of objects between Kew and other museums, especially those with ethnographic collections, often involving the exchange of so-called 'duplicates'; and thirdly the donation of specimens and artefacts to schools, a major phenomenon in the later decades of the nineteenth century, associated with moves to promote the establishment of school museums.

Patterns of dispersal: the case of the Kew Museum

The research presented here is enabled by the rich archival documentation of the Economic Botany Collection at Kew, notably a systematic record of museum dispersals in the form of two registers of 'Specimens Distributed' covering the period from 1881 to 1990,⁹ supplemented by information from other sources (including, in some cases, annotations in the museum's 'entry books' or accession registers). The 'Specimens Distributed' volumes, founded on the model of the 'Goods Outwards' books maintained by Kew Gardens as a record of its distribution of plants and seeds over a much longer period, has enabled us to

construct a database of museum dispersals including information on date of deaccession, type of object, and type and location of recipient.¹⁰ In order to extend the underlying dataset back from 1881 to 1847 (the year of the foundation of the museum), we have undertaken a systematic survey of other archival sources both at Kew and at major recipient institutions. At Kew these include the Directors' Annual Reports, in both manuscript and printed form, Directors' Correspondence in the Kew archives, and Kew's Miscellaneous Reports series (invaluable in piecing together details of dispersals in the early years of the museum). While it is possible that further dispersals may be uncovered in the course of future research (notably for the period before 1881) we are confident that the resulting dataset accounts for the bulk of the distributions from Kew during the period as a whole.

As a context for the discussion which follows, [Fig. 1](#) provides a synoptic view of the pattern of dispersals from the Kew Museum between 1847 and 1990 (including data reconstructed for the years 1847–81, for which no systematic record survives). It is important to note that the basic unit in this time series is the number of 'dispersal events,' rather than, say, individual objects. This focus on event rather than object has both a pragmatic and a conceptual justification. In pragmatic terms, variations in the level of detail in the description and enumeration of objects make an analysis of trends at the object level difficult. A focus on events also allows for a systematic comparison between patterns of accession and dispersal over time.¹¹ In conceptual terms, this focus also draws attention to the significance of dispersals as events in the life of a collection. Here we follow the example of Chris Wingfield's study of the formation of the English collections at the Pitt Rivers Museum in terms of 'accession events'.¹² Wingfield argues that as far as museum–donor relations are concerned, a succession of smaller donations may be as important as, or more important than, a single large donation; and that dealing with object quantities alone may give a false impression of the relative importance of different channels of acquisition. His use of the terminology of 'accession event' draws on Janet Owen's discussion of 'collecting events' in her analysis of the collections – acquired through fieldwork, auction purchase and gift – of the Victorian archaeologist John Lubbock.¹³ For both Wingfield and Owen, analysis at the level of the 'event' rather than the individual object helps to

highlight differences in the types of processes underlying the accession of objects into a collection. In this paper, the same approach to the life history of a collection is extended to museum dispersals.

Fig. 1 indicates that while there were dispersals in the Kew Museum's first three decades (as we shall see further below) these were neither frequent nor routine. Distribution as a systematic museum practice emerged only from the mid-1870s, a period coinciding with the appointment of William Thiselton-Dyer as Assistant Director to Joseph Hooker. The management of dispersals was at its most intense in the period between 1880 and 1914, when the museum was involved in distributing artefacts from international exhibitions and from the India Museum, whose collections were dispersed in 1879–80 (as discussed below). In other cases, dispersals formed part of developing exchange relationships with museums and botanic gardens in the UK and overseas (also explored further below). As we shall see, in the final decades of the nineteenth century Kew also became active in the systematic redistribution of sets of specimens and artefacts to schools, accounting by the end of the nineteenth century for around 70 per cent of all dispersal events. Following the First World War, which saw a dramatic reduction in dispersal activity, the practice of distribution continued at a lower level of intensity. Recipient institutions during the twentieth century were more likely to be universities and research facilities, though ethnographic collections

(notably at the British Museum, the Pitt Rivers and the Horniman Museum) received substantial transfers in 1958–60, further to the closure of two of Kew's museum collections.

In this paper, we focus on dispersals from the Kew Museum in the period between its foundation in 1847 and the First World War. We start from the proposition that during this period museum dispersals (or 'distributions' as they were often called at Kew) are more than mere disposals, of only marginal relevance to the history of the institution. Instead, we portray these events as vital components in the making of inter-institutional projects and networks operating at national and international scales. In this sense, therefore, we are concerned with the role of the museum as a centre of circulation. An active policy of object redistribution from the museum, and its documentation in a routine form, reflected some of Kew's most important wider roles to be explored in this paper: for example, as part of a government department, mediating between different branches of the imperial state; as a significant centre for research in botanical science, a field which had long depended on the exchange of duplicate specimens between institutions; and as an enabler of new pedagogic schemes for object-based learning. In each case, far from being a residual by-product of museum history, the mobilization of objects served a distinct purpose.

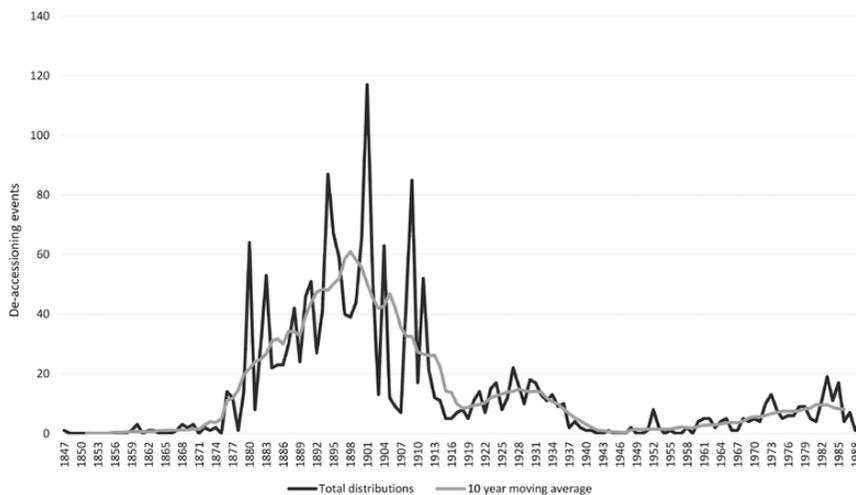


Fig. 1. Dispersals from the Museum of Economic Botany, 1847–1990. (Source: Museum Specimens Distributed Books and Kew Archives).

Clearance: the redistribution of the India Museum collections

The first mechanism of circulation considered here is that of clearance: this refers to Kew's role in the redistribution of museum materials, including both specimens and artefacts, gathered by others. This occurred periodically during the second half of the nineteenth century, especially in the aftermath of both of London's major international exhibitions (for which Kew was often both a donor and a recipient) and scientific expeditions. In this context Kew's position within the networks of government, including the government of empire, was undoubtedly a pre-eminent factor. However, the single largest example of Kew's function as a clearing house for state-funded collections in this period arose not through its connections with exhibitions and expeditions, but through the redistribution of the collections of the India Museum in 1879–80.

In 1801, an 'oriental repository' was established by the East India Company in the august surroundings of East India House, the Company's headquarters on Leadenhall Street, in the City of London. In its early decades, the India Museum (as it came to be called) amassed a remarkable array of artefacts, antiquities, manuscripts, drawings and natural history specimens, reflecting the diversity of British collecting in South Asia.¹⁴ Its successive curators, including Thomas Horsfield, John Forbes Royle and John Forbes Watson, all had interests in applied natural history, including economic botany: indeed, in 1858 Forbes Watson was appointed 'Reporter on the Products of India'.¹⁵ However, in the wake of the crisis in India of 1857–8 and successive debates over the future of the museum the collections, now administered by the India Office, led something of a peripatetic life. In 1861, on the demolition of East India House, the museum was given temporary accommodation at Fife House, at the southern end of Whitehall; then in 1869 it was moved to the new India Office building, where it remained in cramped conditions until 1874. Its final incarnation as a museum, from 1875 to 1879, was in the Eastern Galleries of the South Kensington Museum.¹⁶

When the India Museum was finally closed in 1879, its botanical collections were transferred to Kew, the zoological collections to the British Museum and most of its antiquities and ethnographic artefacts divided between the British Museum and South Kensington.

When Joseph Hooker was first approached by the India Office to receive, sort, retain or redistribute the economic botany materials, he was keen to accept the offer (after some astute negotiation over grant aid to fund the operation), since it gave Kew access to a significant collection, albeit often poorly documented.¹⁷ Kew took delivery of the India Museum's 'botanical and economico-botanical collections' in October 1879.¹⁸ A transfer of such magnitude was unprecedented in the history of the Kew Museum; the forest produce alone included over 3,000 timber specimens weighing thirty-six tons, delivered by barge up the Thames. The variety of artefacts delivered in twelve large van loads stretched the definition of botanical and economico-botanical well beyond plant materials: they included a wide variety of South Asian textiles, food products, dyes, drugs, drawings and models.¹⁹

As a result of Hooker's negotiations, the India Office provided Kew not simply with a large body of material, but also with funds for buildings to house it and for staff to manage it. Once at Kew, the amassed objects were sorted in a shed provided by the India Office, and reputedly a remnant of the 1862 International Exhibition; it was later known amongst Kew staff as the 'iron house' or 'iron room' (Fig. 2). In addition, Kew received a £2,000 grant from the India Office towards the costs of building an extension to its Museum No. 1 in order to display the new Indian collections. The India Office also granted the sum of £200 annually to meet additional curatorial costs and a further £200 towards the salary of mycologist Mordecai Cubitt Cooke – a member of the India



Fig. 2. The 'iron house' used for sorting the India Museum collections at Kew. Image © RBGK.

Museum staff who had worked as an assistant to Forbes Watson – for a five-year period.

The process of sorting the India Museum collections at Kew took a full year to complete, their scale and diversity posing a considerable challenge. They included, for example, 2,000 samples of rice from all over India, weighing in total about three tons: 'Every grain was examined and classified by form, colour and texture to illustrate local variations'.²⁰ Materials that Kew did not wish to retain, including a large quantity of what were routinely (though not necessarily accurately) described as 'duplicates', were boxed up and dispatched to destinations across the UK and overseas. The recipients of these boxes included a wide variety of museums and botanic gardens, as well as a smaller number of private collectors and commercial associates, such as the paper manufacturer Thomas Routledge. The range of recipients gives some idea of the reach and variety of Kew's institutional networks at this time – from scientific botanists to captains of industry, from metropolitan museums like the British Museum or the Bethnal Green Museum to their civic equivalents (as at Blackburn, Dundee, Exeter or Glasgow), from international botanic gardens and museums (in Australia, the United States, France and Germany) to colonial institutions (such as the Forest School at Dehradun [formerly Dehra Dun]).

For Kew, the significance of the India Museum redistribution lay not simply in the expansion of its collections but also in the infrastructure it created for managing further distributions on a more systematic basis. In Kew's Annual Report for 1880, Joseph Hooker outlined the benefits of the Indian materials newly displayed in the museum. As well as enriching Kew's own economic botany collection, and offering a more 'complete' representation of Indian useful plants, the transfer had enabled much greater public access to these materials than ever before.²¹ At the same time, the expansion of the museum infrastructure – including the routine documentation of dispersals in the 'Specimens Distributed' registers (begun in 1881) – left an important legacy. The iron house remained, and with it a 'reserve' collection of Indian specimens and artefacts, to be used 'for the supply of future applicants,' providing the basis for future distributions of museum objects.

Exchange: Kew and the British Museum

Major dispersal events, such as the redistribution of the India Museum collections in 1879–80, had the potential to initiate longer-term relationships between Kew and other institutions. Such relationships enabled repeated dispersals and indeed exchanges of objects between well-established collections including major museums. For example, of the twenty-five institutions recorded as receiving ten or more separate donations from the Kew Museum between 1847 and 1990, at least twenty were museums or botanic gardens. While many of these housed significant botanical collections (such as those at Harvard, Oxford or Cambridge), some of the most frequent recipients were major repositories of ethnographic material, including the British Museum and the South Kensington Museum (and its satellite at Bethnal Green); and others were technological or industrial museums, including those in Sydney, Glasgow and Warrington.

The second mode of dispersal from the Kew Museum to be considered here is the process of object exchange with other museums, in particular museums with significant ethnographic collections, which depended on well-established relationships between institutions and the individual managers of collections. We focus here on reciprocal exchange between Kew and the ethnographic department of the British Museum, especially the transfer of 300 artefacts from Kew in autumn 1866.²² The timing of this event is of particular note as it coincided with both a period of reorganization at Kew (following the death of William Hooker in 1865) and the establishment of the Christy collection which played a formative part in the history of the ethnographic collection of the British Museum.

While Henry Christy's role in the history of British museum ethnography and his association with key figures such as his fellow Quaker Thomas Hodgkin is well known amongst historians of anthropology,²³ his connections with Kew and his interest in botanical collecting have received very little attention. During his lifetime, Christy developed a close friendship with William Hooker and from 1853 he was a regular donor of specimens to the Kew Museum.²⁴ Upon Christy's death in 1865, Joseph Hooker was named as one of the four trustees of Christy's substantial collection of ethnographic and archaeological artefacts. The other trustees were the botanist and pharmacologist, Daniel Hanbury (another Quaker also closely connected with Kew), the archaeologist John Lubbock, and Augustus

Wollaston Franks of the British Museum. Under the terms of Christy's will, the trustees were authorized to donate the collection to a public museum on condition that it be exhibited and a catalogue be made, and a sum of £5,000 was provided to ensure its upkeep and future development. It was under this arrangement that the trustees enabled a series of exchanges between Kew, the Christy collection and the British Museum.

The year 1866 also saw Franks appointed as Keeper of the new Department of British and Mediaeval Antiquities and Ethnography at the British Museum. The donation of the Christy collection to the British Museum (agreed in 1865) clearly played a significant role in Franks's consolidation of his own position and that of the British Museum's ethnographic collections.²⁵ Amongst his earliest and most substantial acquisitions for the Christy collection was the donation received in three consignments from the Kew Museum in October–November 1866, consisting of over 300 objects. This was described in the British Museum Presents Book as 'an extensive collection illustrating the ethnology of various parts of the world, and chiefly composed of vegetable materials.'²⁶ The donation included a wide range of materials gathered by explorers and collectors in many different parts of the world, including the botanist Richard Spruce in the Amazon basin, John Kirk, botanist on Livingstone's Zambesi expedition, and William Baikie in the Niger. There were also items sent by colonial

officials, such as James Wetherell, British consul in Bahia and Sir James Brooke, Rajah of Sarawak. There were even pieces previously donated by Christy himself to the Kew Museum.

The 1866 transfer marked the start of a thirty-year period of reciprocal exchanges between Kew and the British Museum's Department of Ethnography (Fig. 3). Later donations between Kew and the British Museum were more episodic, typically arising from Kew's acquisition of materials from international exhibitions, colonial officials, doctors or travellers. Yet they were becoming routine, operating according to established practices in a process described by Laurence Drietas as 'taxonomic triage', through which specimens were propelled through networks towards more specialist sites of analysis.²⁷ In November 1874, for example, the Kew Museum curator J. R. Jackson notified Franks of a collection from Yarkand and Ladakh received from Dr Aitchison, including 'some things in duplicate which seem to be in your line, either on account of their uses, carving, or manipulation. Amongst them are some polo sticks and ball, carved wooden notebook, cross stick for resting loads, etc.'²⁸ The traffic was two-way, as evidenced for example in the correspondence concerning the 1866 donation, which included a note from Jackson acknowledging safe arrival of botanical specimens from the British Museum sent in the same box he had used to dispatch a consignment of ethnographic artefacts to Franks.²⁹ Yet most of the documented transfers consisted of

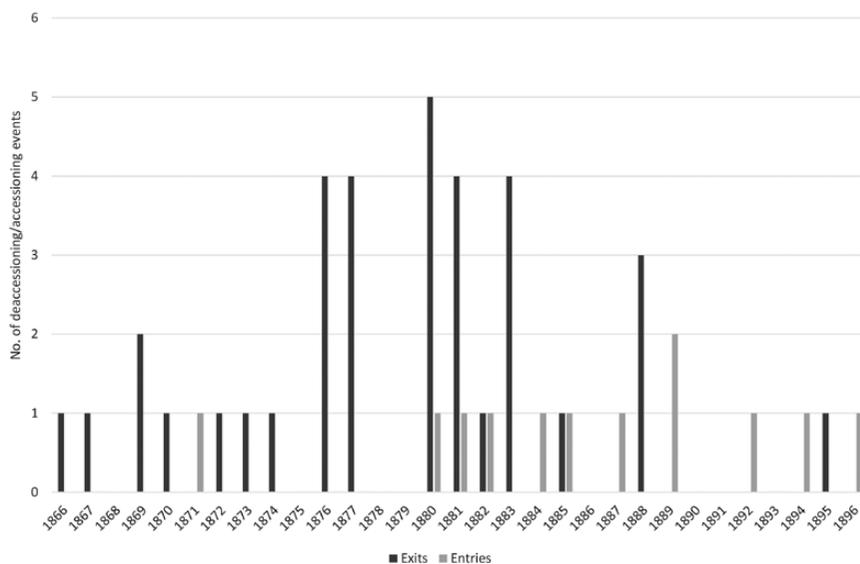


Fig. 3. Exchanges between the Kew Museum and the British Museum Ethnographic Department, 1866–96. Here 'exits' and 'entries' refer to objects leaving and entering the Kew Museum. (Source: Kew Museum Specimens Distributed Books, British Museum archives).

ethnographic material travelling from Kew to the British Museum, following a pattern also seen in the case of the Royal Navy's museum at Haslar,³⁰ though over a more extended period. William Thiselton-Dyer, who succeeded Joseph Hooker as director at Kew, summarized the arrangement in an 1885 letter to Franks: 'We know it is more blessed to give than to receive. But still I think we receive well of you.'³¹

This practice of inter-museum exchange needs to be set in the context of long-established practice amongst botanists who were well accustomed to exchanging herbarium sheets, a system whose benefits were well known to collectors since the seventeenth century. The process of exchange evidently required a degree of trust between collectors as well as a ready supply of 'duplicate' specimens. In the context of botany and natural history more generally, the meaning of a 'duplicate' specimen was defined through taxonomy: it depended on the definition of a species. In material terms, human knowledge of the natural world depended above all on classification: it was made visible in the herbarium cabinet as a tabular arrangement of shelves and compartments, filled systematically with representative specimens of known taxa.³² Linnaeus' cabinet of plant specimens, now at the Linnean Society in London, is the archetype of the modern herbarium.³³

In principle, from the perspective of Linnaean natural history, multiple examples of a given species were surplus to requirements; they were *de facto* duplicates which could provide what Jane Maclaren Walsh calls 'currency' for specimen exchange.³⁴ In practice, many other factors shaped decisions over which specimens were retained and which were offered up for exchange: the representativeness of a given specimen – to what extent it was deemed typical of its species – was important, as was the quality of the specimen itself, its physical condition, the data accompanying it and the identity of the collector and their 'philosophical' credibility.³⁵ Moreover, continuing debates and uncertainty amongst naturalists over species definition and variation during the eighteenth and nineteenth centuries impelled collectors such as Sir Hans Sloane, in the words of his most recent biographer, to amass 'seemingly endless varieties of the same thing'.³⁶ The subsequent advance of Lamarckian notions of species evolution and Humboldtian concerns with the spatial and vertical distribution of species meant that early nineteenth-century collectors sought out multiple

specimens for the study of species variation. In this context too, what exactly constituted a 'duplicate' was a matter for debate.

If the notion of a 'duplicate' was contingent on naturalists' definitions of species and approaches to variation, its extension to other domains – in relation to objects in art, archaeology, technology, trade and culture – added new dimensions of complexity. In the context of collections of antiquities and ethnographic material, the term 'duplicate' was often used as a shorthand for an object to be exchanged (as surplus to requirements) rather than a description of a literally identical object. The question then was how to establish value in this market for exchange. There is some evidence, as Catherine Nichols and Nancy Parezo have shown, of the use of market valuations to arrive at 'exchange equivalencies'.³⁷ Yet it has also been argued that the museum exchange lists issued by many institutions influenced the setting of market prices as much as the other way round.³⁸ And as Nichols has shown in her path-breaking work on the Smithsonian Institution's duplicate anthropological specimens, the process of establishing the value of objects in the context of exchange depended on many other factors, including the status of the individuals and institutions involved.³⁹

In the case of exchanges between Kew and the British Museum, where there is good (if somewhat scattered) evidence in the form of correspondence and documentation, it is clear that the parties involved developed a negotiated system of exchange based only indirectly on monetary values, and rather more on mutual trust. Perhaps the single clearest example of an attempt to establish an equivalence between objects in the context of an exchange comes in a letter of 31 March 1870, in which Franks listed what the British Museum had to offer to Kew. This included two clubs from Fiji, a bow from Amazonia (probably collected by Spruce) and weapons from Bengal. In return he sought bows and arrows from Sikkim and the Khasia Hills. What is interesting to note here is that what we now regard as ethnographic rather than botanical items were flowing, not only from Kew to the British Museum, but also in the opposite direction, undermining any presumption that what was at stake in these exchanges was simply the inexorable logic of disciplinary specialization. Franks's desiderata were duly dispatched from Kew and can still be identified in the current British Museum collection.⁴⁰ On this

occasion, however, it appears that Franks's suggestion of a reciprocal exchange was not taken up.

It is clear from such correspondence that the practice of museum exchange between established institutions was a long game, with transactions often occurring over an extended time-scale rather than being reciprocated immediately. One of the most significant requirements of this practice of duplicate exchange, and a shared feature of the history of both natural history and ethnographic collections, was the formation of so-called 'reserve collections' providing a ready resource of material for exchange. Often such objects were not formally accessioned into museum records, making the process of exchange more straightforward to operate (though much more difficult for historians to trace). It is clear that this is exactly what Franks himself had in mind when, in the midst of the major transfer from the Kew Museum in October 1866, he wrote to Joseph Hooker to enquire whether some of the newly-arrived artefacts could be used as duplicates for further exchanges. At the same time, he asked for Hooker's support as a fellow trustee in proposing the transfer to the Christy collection of other specimens at the British Museum previously acquired from the Haslar Museum 'and laid aside as duplicates' (in exchange for which, the Christy collection would transfer a set of silver ornaments more suitable for the main museum). This exchange was planned explicitly to enable the expansion of a reserve for the Christy collection, including objects from both Kew and Haslar, designed for further exchange: in Franks's telling words, 'They will be capital stock in trade'.⁴¹

It is through the use of exchanged objects as reserve collections that the story of the Kew-British Museum transfer of 1866 spirals into that of other institutional

networks. Hooker's reply to Franks's query about the use of Kew objects as 'stock in trade' was definitive: 'By all means exchange, give away, or otherwise dispose of what are not wanted of the things sent from these Museums, and according to your judgement.'⁴² Amongst the objects Franks was to redistribute in this way was an Iban skirt from Borneo, which is today in the collections of the Pitt Rivers Museum in Oxford (Fig. 4). It was one of thirteen textiles originally sent to Kew in 1856 by Sir James Brooke, first Rajah of Sarawak (for one of those remaining, see Fig. 5). As these images show, these objects were far from identical, confirming the suggestion made above that the term 'duplicate' was frequently used as shorthand for what Franks called 'stock in trade'. The textiles received by the Kew Museum in 1856 included jackets, as well as the cloths, or skirt lengths; were made of different materials; and were woven in a range of patterns. One of the skirts was displayed at Kew with other 'specimens of cotton cloths in various stages of manufacture, etc., both by civilised and barbarous nations', alongside plant specimens of the *Gossypium* – or cotton – genus (Fig. 6).⁴³ In the context of the Kew Museum, the value of the object lay in its expression of the properties and usefulness of its materials: in this context, a jacket and a skirt could be considered duplicates.

Of the thirteen Iban textiles originally sent to Kew by Sir James Brooke, eight formed part of the 1866 transfer to the Christy collection, six of which can still be found at the British Museum.⁴⁴ Of the two others, one was sent on by the British Museum to the South Kensington Museum and another to the Ashmolean Museum in 1869.⁴⁵ In an accompanying letter to the Ashmolean Keeper, John Phillips, Franks advised that



Fig. 4. Iban Dayak textile (1886.1.259), Pitt Rivers Museum Collection. Image ©Pitt Rivers Museum, University of Oxford (CC BY-NC-ND).



Fig. 5. Cotton cloth, 480 × 990 mm. RBGK, Economic Botany Collection, EBC 65620. Image © RBGK.



Fig. 6. Case in Museum No. 1, c.1900, showing 'A cotton plant, mounted specimens of cotton pods from China, Assam, Brazil and Cuba, and a collection of Indian Cotton in various stages of manufacture.' Image © RBGK.

'If any of the specimens are duplicates of what you have it might be as well to set them aside for exchange but it is scarcely worthwhile to send them back.'⁴⁶ Just as Hooker had granted Franks permission to use Kew objects as 'stock in trade', so Franks did the same

when passing on the textile to the Ashmolean, sustaining the momentum of the cloth's continued journey through networks of collection and exhibition. And this Iban textile was indeed eventually transferred, in 1886, from the Ashmolean to the Pitt Rivers Museum, where it presently resides (see Fig. 4).⁴⁷

In considering duplicate exchange and the formation of reserve collections as mechanisms to support the practice of inter-institutional transfer, we have followed other recent work on the history of ethnographic collections in North America and Europe, notably Catherine Nichols in the case of the Smithsonian collections,⁴⁸ Penaloza Patzal on an exchange between the Smithsonian and the Berlin Museum of Ethnology,⁴⁹ and Christian Feest on the role of duplicates in museum exchanges between the Vienna Museum of Ethnology and museums in Berlin, Dresden and Hamburg.⁵⁰ Such research requires much patience in the mining of archival sources beyond accessions registers, especially where reserve collections are concerned. Even where consistent records survive, the linking of dispersals and accessions poses considerable challenges given the diverse forms in which institutional collections are documented.⁵¹ Yet this kind of research is essential if we are to tease out the mechanisms and contexts for such exchanges, as illustrated here in the case of transfers between Kew and the British Museum. In the process of circulation, the knowledge associated with these so-called duplicates changed significantly, as they moved from one epistemological space to another. In the case of Kew's Museum of Economic Botany, an artefact's primary value lay in its capacity to illustrate the properties of particular plants and the human skill required to

transform plant into product. In this context, many of the Iban textiles originally received from Borneo could plausibly have been regarded as duplicates: only with their movement through other institutional circuits did they emerge, variously, as signifiers of Iban culture, oriental art objects, or exemplars of traditional design.

Pedagogy: object lessons and school museums

The third mode of mobilization of museum objects considered in this paper – the circulation of objects to schools – accounts for 35 per cent of all documented dispersal events over the history of the Kew Museum. These dispersals were heavily concentrated in a relatively short period, between 1880 and 1914, during which schools dominated the museum's distributional activity. This pattern reflects a combination of circumstances both within and well beyond Kew itself. As outlined above, since its foundation the Museum of Economic Botany had a theoretical commitment to what botanist John Lindley, in his celebrated 1840 report on the future of Kew Gardens, had termed 'supply' – in other words, the provision of materials to other institutions both in the UK and overseas.⁵² This commitment had taken a more tangible and systematic form with the advent of the museum's role in the distribution of objects from the India Museum in 1879–80, whose legacy, as noted above, included an infrastructural and administrative capacity to undertake similar operations. Before this date, institutions receiving objects from Kew on request included only a handful of schools. The flow of objects to schools increased very significantly from the mid-1880s, remaining at a high level until the First World War. This owed much to wider changes in educational policy and practice emerging in the later decades of the nineteenth century, specifically the application of ideas of object-based learning in the formation of school museums.

The idea of the school museum and the practice of object-based learning were not in themselves new. Indeed they have a rich if largely untold history in Britain, USA and many other countries.⁵³ In England and Wales the establishment of school museums became increasingly prevalent following the Elementary Education Act of 1870, which established

School Boards for the provision of mandatory elementary education and a national system of inspection. More emphasis came to be placed on the value of experiential learning, particularly in the form of object lessons – a theme sometimes attributed to the revival of Pestalozzian ideas,⁵⁴ but also having a variety of other sources and inspirations, including the writings of popular science authors and scientific reformers such as Thomas Henry Huxley.⁵⁵ The use of 'common objects' familiar in everyday life proved useful ways of introducing children to larger themes in the study of nature. At the same time, teaching about the unfamiliar and the exotic – in a sense 'uncommon objects' – was also enabled through the circulation of items, including plant materials and artefacts derived from them. Furthermore, in the context of increasing reference to ideas of imperial citizenship in the teaching of geography, the use of object display echoed the pedagogical functions of imperial exhibitions of raw materials and commodities.⁵⁶

From the 1880s, periodicals such as the *Teachers' Aid* were actively promoting the use of glazed museum cabinets in the classroom, with the contents labelled and systematically arranged. These cabinets were designed to contain what were described in one account as 'specimens of raw and manufactured products in stages to illustrate the various industries of our land'.⁵⁷ Teachers were advised to write to local companies to acquire such products. In London there was an arrangement between the Royal Parks and the London School Board – known as the 'Botany Scheme' – by which plants were supplied to the Board's store yard in Hyde Park for distribution to schools across the capital, 'for the purpose of teaching Botany and Drawing, and for Object Lessons.' The inspiration for this scheme came from the city of Berlin where cut flowers were supplied to schools for botany lessons.⁵⁸ In 1900 Kew Gardens joined the London scheme, with the gardens supplying 'materials ordinarily thrown away', and the museum providing duplicate specimens for school museums.⁵⁹

With increasing interest in school museums in the educational press and encouragement by school inspectors, the Kew Museum began to receive more requests for duplicate specimens from schools. In 1894 there was a huge surge in demand following the publication in the *Teachers' Aid* of an article describing a collection received from Kew: 'They represent a small museum in themselves, and are most valuable,

consisting as they do of seeds, fibres, beans, and vegetable curios from all parts of the world.⁶⁰ The journal's promotion of the scheme, in articles with such titles as 'How to obtain free specimens', clearly played a part in the multiplication of requests.⁶¹ The archives at Kew contain plentiful evidence concerning the distribution and character of the schools involved. In total, around 700 schools received donations between 1877 and 1914, amounting to around 18,000 specimens. These schools, though nearly all elementary schools, were of widely varying types: they included Board Schools, National, British and Church Schools, orphanages and workhouse schools. While there was a significant concentration in London, including many of the poorest boroughs, these institutions were widely distributed across England and Wales, with urban and rural areas well represented.

The *Teachers' Aids*' description of the boxes of museum objects received by schools, as 'small museums in themselves' is entirely apt. From the letters sent by teachers to Kew, it is clear that there were widespread efforts to establish museums or museum-type displays in the classroom as an aid to nature study as well as to other subjects such as commercial geography. Moreover, the contents of the materials sent out from the 1890s were on a standardized pattern, each box containing a similar number and range of objects – usually around thirty items, including seeds of various types, fibres and fibre-based materials such as tapa (bark cloth) and paper, coffee and soya beans, along with woods, algae and fungi. These collections of plant materials from around the world are comparable to the portable museums once promoted by John Forbes Watson at the India Office,⁶² and to those displayed on a larger scale at the Bethnal Green Museum. And as with these larger museums, there is evidence that these portable museums were accompanied by botanical 'plates' or prints, as important for the classroom as for the public museum.

Kew's role in the dispersal of museum objects to hundreds of schools in the late nineteenth and early twentieth centuries has hitherto received relatively little attention from historians.⁶³ While Kew was not the originator of such schemes, it was evidently an active agent in the provision of materials to teachers across the country.⁶⁴ This form of object mobilization clearly raises a number of wider issues, intersecting as it does with larger themes including the history of object-based pedagogies and the uses of nature study and

geographical teaching within discourses of imperial citizenship. In the literature on the history of museums in Britain, the subject of museum education has hitherto been limited mainly to the outreach practices of civic museums, including loan services.⁶⁵ The topic has received more attention within the history of science, especially in the United States, where museums (including school museums) played a key role in the nature study movement.⁶⁶ The evidence of the Kew Museum dispersals, published here for the first time, reveals an intense interest in museum-based study within the classroom, a phenomenon that deserves more attention in its own right.⁶⁷

Conclusion

This paper has highlighted three of the main ways in which objects in Kew's Museum of Economic Botany were mobilized during the first seventy years of its existence. What is particularly significant in this story is the active institutional commitment to the re-circulation of specimens and artefacts – not merely as disposals of surplus, but as active agents of museum and pedagogical practice. Today, at a time when the provenance, mobility and repatriation of museum objects are subjects of great debate across the world, and particularly within Europe, it is instructive to be reminded that objects have always circulated through the museum complex even in its early days; and that in some cases, as at Kew, this mobility was regarded as a positive good. Whether in sorting and splitting of major existing collections, the exchange of so-called duplicates, or the dispersal of objects for classroom use, it was the movement of objects that formed the basis of social networks between curators. And, as we argued in the case of the Iban textiles, the circulation of objects also played an important role in the creation of new meanings and values.

The commitment of the Museum of Economic Botany to the re-circulation of objects needs to be seen in the context of its position as a state-funded institution serving a number of national and imperial roles. Moreover, the well-established practice of specimen exchange amongst botanists also helped to shape a culture of inter-institutional exchange extending well beyond the field of botany. And yet the resulting histories of dispersal have received relatively little attention within museum historiography. In this context, we see an ironic reversal of Marx's famous contrast between

the ‘noisy’ sphere of exchange and the ‘hidden abode’ of production, where the secret of value creation was to be found. As far as the history of museum collections is concerned, it is the sphere of circulation which has for too long been hidden from view.

Supporting data

The data underlying this paper, consisting of a record of dispersals from Kew with references to associated documentary sources in each case, is available in an Appendix at Journal of the History of Collections online.

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Supplementary information

An online appendix at *Journal of the History of Collections online*, lists all known distribution events from Kew, with references to the source documents where these can be found.

Notes and references

- Cf. F. Driver and S. Ashmore, ‘The mobile museum: collecting and circulating Indian textiles in Victorian Britain’, *Victorian Studies* 52 (2010), pp. 353–85.
- C. Cornish, ‘Curating Science in an Age of Empire: Kew’s Museum of Economic Botany’, Ph.D. thesis, Royal Holloway, University of London (2013).
- L. Kriegel, *Grand Designs: Labor, empire and the museum in Victorian culture* (Durham, NC, 2007); A. Dutta, *The Bureaucracy of Beauty: Design in the age of its global reproducibility* (New York, 2007); B. Robertson, ‘The South Kensington Museum in context: an alternative history’, *Museum and Society* 2 (2004), pp. 1–14.
- W. D. Hooker, *Museum of Economic Botany, or, A Popular Guide to the Useful and Remarkable Vegetable Products of the Museum of the Royal Gardens of Kew* (London, 1855).
- C. Cornish, ‘Botany behind glass: the vegetable kingdom on display at Kew’s Museum of Economic Botany’, in *Science Museums in Transition: Cultures of display in nineteenth-century Britain and America*, ed. C. Berkowitz and B. Lightman (Pittsburgh, 2017), pp. 185–213.
- J. Salick, Jan, K. Konchar and M. Nesbitt (eds), *Curating Biocultural Collections: A handbook* (Kew, 2014).
- T. Barringer, ‘The South Kensington Museum and the colonial project’, in *Colonialism and the Object: Empire, material culture and the museum*, ed. T. Barringer and T. Flynn (London, 1998), pp. 11–27.
- ‘The Mobile Museum: Economic Botany in Circulation’ is a research project funded by the UK’s Arts & Humanities Research Council. For further details, see <https://royal-holloway.ac.uk/mobilemuseum>.
- The two volumes (covering the period 1881–1990) are now both available in digital form on the Biodiversity Heritage Library website: <https://www.biodiversitylibrary.org/subject/Economic%20Botany%20Collection#/titles>.
- This database is currently under development, and will be publicly available in 2019.
- This is the subject of another paper in progress.
- C. Wingfield, ‘Donors, loaners, dealers and swappers: the relationship behind the English collections at the Pitt Rivers Museum’, in *Unpacking the Collection: Networks of material and social agency in the museum*, ed. S. Byrne, A. Clarke, R. Harrison and R. Torrence (New York, 2011), pp. 119–40.
- J. Owen, ‘The collections of Sir John Lubbock, the First Lord Avebury (1834–1913): an open book?’, *Journal of Material Culture* 4 (1999), pp. 283–302.
- R. Desmond, *The India Museum 1801–1879* (London, 1982); J. Ratcliff, ‘The East India Company, the Company’s museum and the political economy of natural history in the early nineteenth century’, *Isis* 107 (2016), pp. 495–517; A. MacGregor, *Company Curiosities: Nature, culture and the East India Company, 1600–1874* (London, 2018).
- See Driver and Ashmore, op. cit. (note 1), p. 581.
- See Desmond, op. cit. (note 14), p. 138.
- Office of Works Memorandum 8 October 1879, India Museum 1875–92, vol. 1, fol. 58, Archives, RBGK.
- J. D. Hooker, *Report on the Progress and Conditions of the Royal Gardens at Kew, during the Year 1880* (London, 1881), p. 56.
- Desmond, op. cit. (note 14), pp. 180–86.
- Ibid., p. 187.
- See Hooker, op. cit. (note 18), pp. 56–9.
- In this section we consider only the ethnographic objects transferred from Kew to the British Museum, excluding specimens transferred to the British Museum (Natural History).

- 23 C. Wingfield, 'Placing Britain in the British Museum: encompassing the other', in *National Museums: New studies from around the world*, ed. S. Knell, P. Aronsson, A. Bugge Amundsen and A. Barnes (London, 2011), pp. 123–37.
- 24 Christy's letters to William and Joseph Hooker survive in Directors' Correspondence; his donations to the Kew Museum are recorded in the entry books.
- 25 The Christy collection remained at Christy's house, 103 Victoria Street, until the early 1880s.
- 26 Book of Presents, vol. 7, 1866–68 (Central Archives, British Museum).
- 27 L. Dritsas, 'From Lake Nyassa to Philadelphia: a geography of the Zambesi Expedition, 1858–64', *British Journal for the History of Science* 38 (2005), p. 50.
- 28 Letter from John Reader Jackson to Augustus Wollaston Franks, 11 November 1874 (Christy Correspondence, Pre-1896, BEP Department, British Museum).
- 29 'The botanical specimens arrived safely in the returned box': J. R. Jackson to A. W. Franks, 22 October 1866 (Christy Correspondence, Pre-1896, BEP Department, British Museum).
- 30 D. Simpson, 'Medical collecting on the frontiers of natural history: the rise and fall of Haslar Hospital Museum (1827–1855)', *Journal of the History of Collections* 30 (2018), pp. 253–67.
- 31 Letter from William Thiselton-Dyer to A. W. Franks, 24 January 1885 (Christy Correspondence, Pre-1896, BEP Department, British Museum).
- 32 For more on the spatial aspects of herbarium practice, see J. Endersby, *Imperial Nature: Joseph Hooker and the practices of Victorian science* (Chicago and London, 2008) pp. 137–94.
- 33 S. Müller-Wille, 'Linnaeus' herbarium cabinet: a piece of furniture and its function', *Endeavour* 30 (2006), pp. 60–64.
- 34 J. MacLaren Walsh, 'Collections as currency', in *Anthropology, History, and American Indians: Essays in honor of William Curtis Sturtevant*, ed. W. L. Merrill and I. Goddard (Washington, DC, 2002), pp. 201–9.
- 35 Cf. Endersby, op. cit. (note 32), pp. 249–75.
- 36 J. Delbourgo, *Collecting the World: The life and curiosity of Hans Sloane* (London, 2017), pp. 269–70.
- 37 C. A. Nichols and N. J. Parezo, 'Social and material connections: Otis T. Mason's European grand tour and collections exchanges', *History and Anthropology* 28 (2017), p. 64.
- 38 A. Coote, A. M. Haynes, J. Philp and S. Ville, 'When commerce, science and leisure collaborated: the nineteenth-century global trade boom in natural history collections', *Journal of Global History* 12 (2017), pp. 319–39.
- 39 C. A. Nichols, 'A century of circulation: the return of the Smithsonian Institution's duplicate anthropological specimens', *Museum Anthropology* 37 (2014), pp. 144–59; 'Exchanging anthropological duplicates at the Smithsonian Institution', *Museum Anthropology* 39 (2016), pp. 130–46; 'The Smithsonian Institution's "greatest treasures": valuing museum objects in the specimen exchange industry', *Museum Anthropology* 41 (2018), pp. 13–29.
- 40 They are now listed in the British Museum catalogue as As6699a, As6699b–f, As6700, and As6701. British Museum, 'Collection online,' accessed 8 August 2018. https://www.britishmuseum.org/research/collection_online/search.aspx.
- 41 Letter from A. W. Franks to J. D. Hooker, 24 October 1866, DC86, fol. 139, Archives, RBGK.
- 42 Letter from J. D. Hooker to A. W. Franks, 7 November 1866 (Christy Correspondence, Pre-1896, BEP Department, British Museum).
- 43 Royal Botanic Gardens, Kew, *Official Guide to the Kew Museums: A Handbook to the Museums of Economic Botany of the Royal Gardens, Kew, 6th edition, with additions by John R. Jackson* (Kew, 1875), p. 11.
- 44 As.3426, As.3427, As.3428, As.3429 and As. 3430. British Museum. 'Collection online'. Accessed 8 August 2018. https://www.britishmuseum.org/research/collection_online/search.aspx.
- 45 'In 1869 the trustees of the Christy collection gave one Iban kain kebat to the Victoria and Albert Museum. There is no other documentation for this cloth. However, because of the association with the trustees of the Christy collection, it seems reasonable to consider the possibility that this specimen also came from the original Brooke donation to Kew' T. Gavin, 'Seven Early Iban Kain Kebat,' unpublished manuscript, 2017. We are indebted to Traude Gavin for making her paper available to us.
- 46 Letter from A. W. Franks to John Philips, 17 February 1869, fol. 36, Letter Book, Archives, Ashmolean Museum, cited in Gavin, op. cit. (note 45).
- 47 Pitt Rivers Museum. 'Objects online'. Accessed 7 August 2018. <http://objects.prm.ox.ac.uk/pages/PRMUID23838.html>.
- 48 See Nichols, op. cit. (note 39).
- 49 B. Penalzoza Patzal, 'An emissary from Berlin: Franz Boas and the Smithsonian Institution, 1887–8', *Museum Anthropology* 41 (2018), pp. 30–45.
- 50 C. Feest, 'The ethnographic collection of Johann Natterer and the other Austrian naturalists in Brazil', *Archiv Weltmuseum Wien* 63–4 (2013–14), pp. 60–95.
- 51 This linking of dispersal and accessions records in multiple institutions forms a key part of the database component of the Mobile Museum project.
- 52 J. Lindley, Report to Treasury Committee on Management of Royal Gardens at Kew by Doctor Lindley, February 1838 (1840), Parliamentary Paper (PP) (292).
- 53 See for example E. Fuchs, 'All the world into the school: world's fairs and the emergence of the school museum in the nineteenth century', in *Modelling the Future: Exhibitions and the materiality of education*, ed. Martin Lawn (Oxford, 2009), pp. 51–72; S. G. Kohlstedt, *Teaching Children Science: Hands-on nature study in North America 1890–1930* (Chicago, 2010); D. G. Vidal, 'Transnational education in the late nineteenth century: Brazil, France and Portugal connected by a school museum', *History of Education* 46 (2017), pp. 228–41.
- 54 P. Elliott and S. Daniels, 'Pestalozzi, Fellenberg and British nineteenth-century geographical education', *Journal of Historical Geography* 32 (2006), pp. 752–74.
- 55 B. Lightman, *Victorian Popularizers of Science: Designing nature for new audiences* (Chicago, 2007).
- 56 D. Gorman, *Imperial Citizenship: Empire and the question of belonging* (Manchester, 2013); T. Ploszajska, *Geographical Education, Empire and Citizenship: Geographical teaching and learning in English schools, 1870–1944* (London, 1999).

- 57 Anon, 'School museums', *Teachers' Aid* 4 (1887), p. 265.
- 58 Letter to W. Thiselton-Dyer from Graham Wallas, Chairman of the School Management Committee, School Board for London, 19 December 1899, School Museums Correspondence, vol. III, fol. 813, Economic Botany Collection (EBC), RBGK.
- 59 Letter from W. Thiselton-Dyer to G. Wallas, 21 December 1899, fol. 815; memorandum from John Masters Hillier, Keeper of the Museums, 31 May 1900, fol. 823, School Museums Correspondence, vol. III, EBC, RBGK.
- 60 G. Singleton, 'School museums', *Teachers' Aid* 18 (1894), pp. 169–70.
- 61 G. Singleton, 'How to obtain free specimens', *Teachers' Aid* 18 (1894), pp. 269–70.
- 62 See Driver and Ashmore, op. cit. (note 1).
- 63 For the literature to date on the subject of Kew and school museums see Cornish, op. cit. (note 2), pp. 203–46; C. Cornish, 'Shared Histories: The Collections of the Royal Botanic Gardens, Kew and the Natural History Museum', Report (2013), available online at: https://www.academia.edu/3726009/Shared_Histories_The_Collections_of_the_Royal_Botanic_Gardens_Kew_and_the_Natural_History_Museum.
- 64 The history of the Kew scheme and of school museums more generally is the subject of current research by Laura Newman and the Mobile Museum project team.
- 65 See, for example, S.J.M.M. Alberti, *Nature & Culture: Objects, disciplines and the Manchester Museum* (Manchester, 2009); K. Hill, *Culture and Class in English Public Museums, 1850–1914* (Farnham, 2005).
- 66 See Kohlstedt, op. cit. (note 53); R. S. Onion, 'Picturing nature and childhood at the American Museum of Natural History and the Brooklyn Children's Museum, 1899–1930', *Journal of the History of Childhood and Youth* 4 (2011), pp. 434–69.
- 67 L. Newman and F. Driver, 'School museums in the history of science and education: learning from Kew', forthcoming.