## Occasional Papers from The RHS Lindley Library



HC Living to Laborate

#### Cover illustration:

Chrysanthemum indicum 'Purple Pheasant's Tail'

(See page 21)

From the collection of drawings by Chinese artists commissioned for the Society by John Reeves in Canton between 1818 and 1830

# Occasional Papers from the

### RHS Lindley Library

Volume One

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#### **Preface**

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Gardening is a creative but ephemeral form of individual and collective self-expression, rooted in a time and a place. Throughout history it has captured, better than any other medium, our changing relationship with the world around us, and the RHS Lindley Library collections are unique in their testament to this: in science, in art and in the practice of the craft.

The RHS is a special kind of learned society, open to all, and its remarkable collections of books and drawings underpin this role: a source of knowledge and inspiration to the thousands that visit the Library in London and Wisley in particular, but also the three other RHS Gardens. Increasingly, our legacy of art and literature is available to millions, through RHS publishing, our reproduced images, and of course, online at www.rhs.org.uk.

We believe that this publication marks the start of a new era for the RHS Lindley Library. The first issue of the *Occasional Papers* marks out the elements of principal significance in the collections, explaining their status, and we embark on a plan to bring these elements into sharper focus in the management of the collections as a whole: addressing their individual needs for development, for preservation, and for presentation to many more people, who we believe will appreciate their value.

This new *Occasional Papers from the RHS Lindley Library* series is established, then, to provide a means of expressing the importance of the collections, to record significant findings that derive from them, and to bear witness to their development as an internationally significant cultural asset.

Dr Brent Elliott's knowledge and understanding of the Lindley Library is unsurpassed, and it is his encyclopaedic knowledge of the collections, set in the context of a broad-ranging academic interest in the history of gardening and horticultural science, that gives substance to the early planned issues of the *Occasional Papers*.

The Occasional Papers will provide a further invaluable service. Why do we collect, what is it that we should collect, and how might it be preserved? This publication will provide substantial evidence for future custodians of our own perspective in the early twenty-first century. It will show how our appreciation of a remarkable social phenomenon, and most intimate point of contact with the natural world, each (it might be said) given its most enthusiastic expression by the British since the seventeenth century, have developed over time.

### The cultural heritage collections of the RHS Lindley Library

Brent Elliott Lindley Library, Royal Horticultural Society, London

The Royal Horticultural Society is the world's largest horticultural society, and it seems natural that it also has the world's largest horticultural library, with major collections at the Society's offices in London and at its garden at Wisley, and additional collections at each of the Society's other gardens. Its holdings include books, periodicals, drawings, photographs, postcards, trade catalogues, and miscellaneous archival collections.

The RHS Lindley Library has for decades been the primary source of materials for the history of gardens and gardening, of garden plants, and of commercial horticulture, while its art collections have made it also a major source for both historians of botanical art and practising artists. Its range extends across five centuries and all countries; 27 languages are represented in its holdings, and it has a particularly good collection of eighteenth- and nineteenth-century Japanese books. Nonetheless, its central remit is naturally the British Isles, for which it should be seen to serve as the quardian of the nation's horticultural heritage. The purpose of this paper is to indicate something of the extent and variety of its collections, and the benefits it can provide for the scholar, the scientist, and the gardener. This will often entail giving a short historical account of the literature under a given heading; all the works referred to in this article are held in the Lindley Library unless otherwise specified, and all the book and article titles cited will be found in the bibliography at the end.

A horticultural library is different in purpose from a botanical library, although there will inevitably be an overlap in content. Botanical institutions are, in principle, interested in all the world's plants, but

more specifically in the species that exist in the wild, and in their habitats. Horticultural institutions, on the other hand, are devoted especially to plants that are grown in gardens, including those raised in cultivation, and to the human activities on which they depend. So botanical libraries tend to be larger, as concentrating on a wider portion of the world's plants; but horticultural libraries will have ranges of publications, works on cultivars (cultivated varieties), on gardening practice, on garden design and so on, that are not directly relevant to botanical libraries.

Not only is horticulture, in ways ranging from garden history to food production, more directly relevant to the lives of most people than academic botany, but without horticulture botany itself cannot flourish. Horticulture preceded botany historically, and its practice continues to provide the necessary infrastructure for every botanic garden. Sir Joseph Hooker, speaking at the ceremony at which the Royal Horticultural Society launched its Victoria Medal of Honour in 1897, spoke of the work of Kew and asked, "how is this to be accomplished without practical horticulture, without which Kew would be limited to a herbarium, museum, and library, and its gardens would be a waste? Turning again to the scientific aspect of horticulture, how, without its aid, is the life history of plants to be written? ... It is physiological botany that profits most by the art of the horticulturist, for without this art that great branch of the tree of knowledge would be but a stunted limb." When the question is considered from this angle, it is surprising how few horticultural libraries there are, not only in Britain but the world; and the RHS Lindley Library is the largest and most diverse of these.

All branches are accessible to members and the public; members of the RHS may borrow books from the London, Wisley and Harlow Carr branches. The majority of the Library's holdings are open access. However, our rarer items, including many mentioned throughout the Occasional Papers, are fragile and cannot take a great deal of handling. It is the Library's policy to provide or create surrogates

#### Table 1. Timeline of the Lindley Library

1804	Horticultural Society founded
1806	First books acquired (including Philip Miller's Gardeners dictionary)
1817	First Library Committee established
1820	First acquisitions policy: to create a "permanent Collection of Books of
	Value"
1828	Library for staff and students at Chiswick already in existence by now
1846	Reading room for students set up at Chiswick; among donors to the
	book stock: John Lindley, Mrs Lawrence, W.H. Pepys, Robert
	Glendinning
1859	Financial crisis at the RHS; library sold in three-day sale at Sotheby's
1866	Purchase of the late John Lindley's library
1868	Creation of the Lindley Library Trust
1868	Queen Victoria donates Roxburgh's Plants of the Coast of Coromandel
	and Hooker's Filices Exoticae to the Library
1871-1875	W. T. Thiselton-Dyer, Lindley Librarian
1875-1878	W. B. Hemsley, Lindley Librarian
1897	Orchid drawings collection begun; Nellie Roberts hired as artist
1900	J. Hutchinson becomes Lindley Librarian
1903-1904	Chiswick library moved to Wisley
1907	Card catalogue begun
1910	RHS Council becomes sole Trustee of Lindley Library Trust; new Library
	Committee formed
1924	Wisley Library administered by Wisley Advisory Committee, not Library
	Committee
1926	Lindley Library deemed to include all books owned by the RHS
1927	Tincker becomes Wisley Librarian
1930	F. Chittenden made Keeper of the Lindley Library
1930	Third floor added to Lindley Hall to accommodate expanding library
1936	Reginald Cory bequest received (including one set of the Reeves
4000	drawings sold in 1859)
1939	W. T. Stearn becomes Lindley Librarian; E. A. Bunyard made Keeper of
4040	the Lindley Library
1940	Part of E. A. Bunyard's library bought with Cory Bequest funds
1946	R. Scase becomes Wisley Librarian
1957	P. Stageman becomes Lindley Librarian
1957	Gurney Wilson bequest of orchid books (including some of Withers'
1002	original drawings for Bateman's Orchidaceae of Mexico)
1982	B. Elliott becomes Lindley Librarian
1984	Annual budget for picture purchases set up
1988–1989	Library Review Committee: new acquisitions policy
1994	B. Collecott becomes Wisley Librarian
1996	Wisley Garden Library opened
2001	New London library premises opened in Lindley Hall
2007	B. Collecott becomes Head of Libraries, and B. Elliott Historian

wherever possible, through our ongoing surrogacy programme. The works listed here should be requested in writing, in advance, to check their availability for consultation. Items may sometimes be unavailable for various reasons, so readers should make prior appointments to use material from the art, rare books, archive, research and ephemera collections. The Library catalogue is accessible through the RHS website; it covers all the books, and entries for drawings and periodicals are currently being added. Any readers making a special journey to consult specific material are asked to contact the Library in advance to check on the availability of any of the collections, so that the Library can provide the best service to its readers.

#### 1. The RHS, its history and activities, and its library

The Royal Horticultural Society is the world's largest horticultural society, with an unparalleled range of disciplines. When it was founded in 1804 as the Horticultural Society of London, its aim was simply to provide an information exchange on horticultural matters among gentleman gardeners and enthusiasts, but within twenty years it had established a garden, and was busy with the introduction and distribution of exotic plants, the training of gardeners, and the identification of fruits. Today, its activities include the maintenance of display gardens; the education of gardeners; the administration of a programme of charitable grant aid; plant collection; the identification of plants and fruits; horticultural taxonomy; research into pest and disease control and growing media; the staging of flower shows and competitions; the giving of various awards to plants, exhibits, and people; the management and development of the world's largest horticultural library; a publications programme; not to mention the business and administrative functions necessary to provide the foundations for so much endeavour.

All these aspects of its history are represented in varying degrees in the Society's extensive archives. The minutes of its Council and Committees, and much attendant documentation, provide a major record of the history and development of British horticulture in the last two centuries. The recently published history, *The Royal Horticultural Society 1804–2004* by the present writer, was based largely on the Society's archives, and most of the references in the notes to that work are to be found in the Lindley Library, either in the archive collection or in published literature.

The Horticultural Society of London built up two impressive libraries in the first half of the nineteenth century – the major one held in its London offices, and a separate library for its staff and students, held at its garden at Chiswick. In 1859, at a time of financial crisis, the main library was sold at auction. In 1866, the private library of the Society's former Secretary, John Lindley (1799–1865), was purchased as a partial replacement for the library that had been lost, and in 1868, in order to ensure that it could not be sold as its predecessor had been, it was invested in a private trust. Since 1910 the sole trustee of the Lindley Library Trust has been the Council of the RHS. Since the 1920s, all books owned by the Society at any location have been deemed to be part of the Lindley Library (including the former Chiswick library, by that time rehoused at the new garden at Wisley).

The Lindley Library's first Librarian was William Turner Thiselton-Dyer, who served for two years before moving to Kew, where he later became Director. Among the Librarians since then have been the botanist William Botting Hemsley, the bibliographer Peter Stageman, and William Thomas Stearn, whose work in cataloguing the collections provided the raw material for many articles on the publication dates of important botanical works – articles that helped to form the basis for *Taxonomic Literature*.

The Lindley Library is therefore today a collective name for the libraries of the Royal Horticultural Society. At the time of writing there are branches at five sites. These include small garden libraries, of fixed size and with collections that are regularly pruned and updated, at the Society's gardens at Rosemoor in Devon and Hyde

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Hall in Essex; and a larger garden library at Harlow Carr, West Yorkshire, formerly the garden of the Northern Horticultural Society before that society amalgamated with the RHS in 2001, which includes that society's existing collections. The Society's two main libraries are the library at Wisley, which includes the scientific library; and finally, in London, the largest branch, housing the historical collections, at the Society's head office in Vincent Square.

The Lindley Library has a collection of books and pamphlets going back into the early sixteenth century; the oldest book is a 1514 edition of Pliny. The collection of periodicals goes back into the late eighteenth century, with titles such as Curtis's Botanical Magazine and Sickler's Teutsche Obstgärtner; there are close to 2,000 periodical runs (complete or incomplete), over 500 of which are titles currently taken. The collection of horticultural trade catalogues again goes back into the eighteenth century, though because of the 1859 sale, it is largely a post-1860 collection, containing catalogues of over 3,000 firms. The art collections go back into the early-to-mid seventeenth century, the oldest item being a volume of drawings by the Dutch artist Pieter van Kouwenhoorn, who is known to have flourished in the 1630s. So far, the online library catalogue has entries for all the books and a good quantity of pamphlets; drawings are now being added, and the cataloguing of the periodicals collection has begun. At the time of writing, there were just under 100,000 items recorded on the online catalogue.

#### 2. The orchard and kitchen garden

The primary purpose of the garden throughout most of history has been food production. Historical study of the kitchen garden is still virtually in its infancy, because it has been dependent on changes in technology, practice, and the development of crop varieties to a much greater extent than the ornamental garden. Apart from studies of the history of particular crops (frequently more concerned with establishing the facts of their introduction than with tracing the history of their subsequent improvement), there was no substantial

work on the history of the kitchen garden until Susan Campbell's article "A few guidelines for the conservation of old kitchen gardens" appeared in *Garden History* in 1985. But the public interest in the kitchen garden has grown immensely in the past quarter-century, with the BBC television series "The Victorian Kitchen Garden" (1987) and an increasing number of books, and with restoration projects at Audley End and the Lost Gardens of Heligan capturing public interest.

John Wedgwood, in proposing the creation of the Horticultural Society, had fruit cultivation firmly in mind, and for much of its history the Society has been closely associated with the improvement of fruit growing in Britain. One of the first research programmes carried out by the Society was an attempt to reform the nomenclature of cultivated fruits, by identifying and comparing named varieties with a view to establishing synonymy, and preventing the same fruit from being sold under multiple names. The first phase of this programme consisted of commissioning portraits of cultivars whose identification was certain, and nine volumes, containing approximately 225 paintings of cultivars, are housed in the Society's art collections (Fig. 1, p. 15). The second phase, after the Society acquired its garden at Chiswick, saw a reference collection of fruits established, and published catalogues that clarified their nomenclature and greatly reduced the proliferation of synonyms. In the twentieth century, the Society collaborated with the Ministry of Agriculture on the National Fruit Trials, and helped to set up Brogdale Experimental Station in Kent as a preferable site to Wisley for the purpose; much of the work for the NFT's massive National Apple Register was based on the Library's unparalleled holdings of fruit literature.

That literature goes back into the early sixteenth century, with Charles Estienne's *Seminario*, and continues through the works of Ralph Austen and John Evelyn in the seventeenth, Batty Langley, J. H. Knoop, and J. L. Christ in the eighteenth, William Ronalds, Giorgio Gallesio, and Joseph Decaisne in the nineteenth, to Pierre

Viala, U. P. Hedrick, and H. V. Taylor in the twentieth. The RHS itself is well represented among the authoritative writers on fruit, from William Forsyth (a founder member) and Thomas Andrew Knight (almost a founder), through its staff members Robert Thompson and Archibald Barron, to John Lindley (who edited the *Pomological Magazine*) and its Secretary Robert Hogg, whose *Fruit Manual* is still today an indispensable work on fruit cultivars.

The fruit literature may be divided into three categories: general cultivation, pruning, and description of cultivars. There is a formidable literature on the best methods of pruning fruit trees - a literature that has not been exhausted even today, and the pruning diagram is a specialised and unstudied category of illustration. As for the description and illustration of cultivars, virtually all the important works of fruit portraiture are to be found in the Library's collections, including among the colour-plate books Knight's Pomona Herefordiensis, Ronalds' Pyrus Malus Brentfordiensis, Gallesio's Pomona Italiana, Decaisne's Jardin Fruitier du Muséum, and the Herefordshire Pomona of Bull and Hogg. One special category of fruits should be mentioned: citrus fruits, which for long were the most important of glasshouse fruits; the Library holds a hundred works on citrus ranging from Ferrari's Hesperides of 1646, through Volckamer's Nürnbergisches Hesperides (1708–1714) and Risso's Histoire Naturelle des Orangers (1818), to the four-volume conference proceedings Citriculture (1989). In all these divisions of the subject, the Library benefited greatly by acquiring much of the unrivalled library of fruit books collected by Edward Ashdown Bunyard (1878–1939) of the Royal Nurseries at Allington (who introduced the 'Golden Delicious' apple into the UK).

Vegetables, for some reason, have never been the subject of a literature as enormous or beautiful as fruits. Probably the most visually important work on vegetables was the *Album Benary*, a set of chromolithographic plates of vegetables issued by the Erfurt seedsman Ernst Benary in the 1870s, and while there are some good drawings

Table 2. Ma	ijor works	illustrating	fruit	cultivars

Author	Title	Date
Langley, Batty	Pomona	1729
Duhamel du Monceau, H. L.	Traité des Arbres Fruitiers	1768
Knoop, J. H.	Fructologia	1750s-1760s
Knoop, J. H.	Pomologia	1750s-1760s
Mayer, J. P.	Pomona Franconica	1776–1801
Kraft, J.	Pomona Austriaca	1797
Duhamel du Monceau, H. L.	<i>Traité des Arbres Fruitiers</i> , rev. by Poiteau and Turpin ["Nouveau Duhamel"]	1807–1835
Knight, T. A.	Pomona Herefordiensis	1808-1811
Brookshaw, G.	Pomona Britannica	1812
Hooker, W.	Pomona Londinensis	1818
Noisette, L. C.	Le Jardin Fruitier	1821; 2nd ed. 1839
Brookshaw, G.	The Horticultural Repository	1823
Lindley, J.	The Pomological Magazine (Later reissued as: Pomona Britannica)	1828–1830
Ronalds, H.	Pyrus Malus Brentfordiensis	1830
Decaisne, J.	Le Jardin Fruitier du Muséum	1858–68; 2nd ed. 1862–75
Hoffy, A.	Hoffy's North American Pomologist	1860
Schweizerischen Landwirthschaftlichen Verein	Schweizerische Obstsortung	1863–1872
Vereeniging tot Regeling en Verbetering van de Vrucht- soorten te Boskoop	De Nederlandsche Boomgaard	1864
Hogg, R., & Bull, H. G.	The Herefordshire Pomona	1876–1885
Pomologische Vereeniging te Boskoop	Nederlandsche Flora en Pomona	1879
Viala, P.	Traité Générale de Viticulture: Ampélographie	1901–1910
Imperial Russian Society of Fruit Culture	Atlas Plodov	1903–1906
Krümmel, H.	Deutsche Obstsortung	1956–1963
Popov, E., et al.	Bulgarska Pomologiia	1960
Williams, R.	Bulmer's Pomona	1987
Sanders, R.	The English Apple	1988
Hawthorne, L., ed.	The Northern Pomona	2007

of vegetable varieties in the art collections, the more recent literature has been comparatively meagre in its illustration.

The RHS has, at intervals throughout its history, been seen as a promoter of food and home cooking, from its vegetarian banquet at Chiswick in the 1890s, through its pamphlets and campaigning about home fruit-growing, jam-making and preserving during the First World War, and of allotments and fruit-growing in the Second, when the Society collaborated with the Ministry of Agriculture on the Dig for Victory programme. In keeping with this purpose, the Library has an interesting collection of books on cookery, mostly of vegetables (though not necessarily vegetarian), ranging from Frugoli's Practica, e Scalcaria (2nd ed., 1638) and Bonnefons' Delices de la campagne (2nd ed., 1655), through the anonymous Adam's Luxury and Eve's Cookery (1744) and Richard Bradley's Country Housewife (6th ed., 1753), books on salad crops and salad making from John Evelyn to Bebe Daniels, on potatoes and potato cookery from Antoine Parmentier to Herman Senn (an RHS Committee member in the 1920s), and books on wild food from L. C. R. Cameron during the First World War, to Roger Phillips and Richard Mabey.

#### 3. Garden design and construction

Advice on the design and construction of gardens, as opposed to their cultivation, was slow to emerge in the horticultural literature; for the gardens of the Renaissance, the best source material lies in architectural rather than horticultural works, and these the Library tends to have only where modern facsimiles are available. The earliest work of designs for ornamental gardens held in the Library is the 1583 Hortorum Viridiarorumque... Formae of Vredeman de Vries, and the best collections of knot garden plans did not appear until the seventeenth century: Block's Horticultura Danica (1647) and Blake's Compleat Gardeners Practice (1664). By that time the style which they represented was already being superseded by the vogue for the French parterre, anthologies of which followed quickly:



Fig. 1. William Hooker, drawing of the 'Black Rock' melon (1822)

Mollet's *Garden of Pleasure* (1670) and the anonymous *Jardins Parterres* (1680), the latter particularly interesting for its use of counter-proof printing. In 1709 appeared the first edition of Dezallier d'Argenville's *Théorie et Pratique du Jardinage*, all the editions of which (and of John James' English translation) are held in the Library. The 1720s saw works by Batty Langley and Stephen Switzer, including the latter's *Universal System of... Water-works* (1734), a treatise on fountains and cascades.

The heyday of the landscape garden, in the later eighteenth century, along with the progressive improvement of landscape engraving, saw a burgeoning of works in England and, slightly later, the continent, offering designs and views, and the Library is well supplied with this literature. Our set of Le Rouge's Cahiers is incomplete, but the works of Whately, Hirschfeld, Ercole Silva, the picturesque theorists Price and Knight, and Humphry Repton are held. The Repton collection includes his book of plans for the Brighton Pavilion, in a copy formerly owned by Captain McLaren, the superintendent of Brighton parks, and one of his manuscript Red Books, for Waresley Park.

The later nineteenth century saw a reduction in the number of book titles published on garden design, but the second quarter of the century had witnessed the arrival of garden magazines, which form the major source for the period. The twentieth century has seen sporadic attempts at the publication of magazines specifically devoted to garden design as opposed to general gardening. The longest-running of these in England has been the *Journal of the Institute of Landscape Architects*, in its various changes of title and format, but few periodicals of this sort can rival the German magazines *Gartenkunst* and *Gartenschönheit*, which the Library holds from their inception in 1899 and 1920 respectively until the Second World War. Another genre from the twentieth century was the magazine dedicated to municipal parks: *Parks and Recreation, Parks Golf Courses and Sports Grounds*, and their overseas counterparts.

There has never been a central archive for the papers of garden designers. A modicum survives in local reference libraries and record offices, and records of some individual garden designers have been added over the years to the Library's manuscript holdings: the surviving account book of Capability Brown, covering the work of his last quarter-century, the diary of Edward Milner for his early years in London in the 1840s, the scrapbooks of his son Henry Ernest Milner (the first garden designer to be awarded the Victoria Medal of Honour), and in more recent times the papers of Lanning Roper. For researchers studying particular designers of the past, Desmond's Dictionary of British and Irish Botanists and Horticulturists (latest edition, 1994) is a necessary first reference source, and approximately threequarters of the references cited in it are to be found in the Lindley Library. Among the Library's useful sources is a collection of some 600 carte-de-visite photographs of nineteenth-century botanists and gardeners, several notable garden designers among them.

Among the subdivisions of the topic of garden design, we may single out glasshouses and garden ornaments. There is no better collection of works on the design, construction, and management of glasshouses, from the seventeenth century to the present, ranging from William Chambers' book of designs for the buildings at Kew (1763), through the plans of Tod and Robertson (1804 and 1807 respectively), to the catalogues of glasshouse manufacturers such as Messenger and Richardson (both of whom published lists of clients, which are today indispensable for the historian). As for garden ornaments, follies, and decorative garden buildings, the literature reaches a climax almost with its inception, with Grohmann's Ideenmagazin (1797-1803), whose plates offer designs for memorials, pagodas, gates and railings, and sports facilities. In the twentieth century, this field has diversified, and, in addition to the features already mentioned, the Library boasts a collection of modern works on fountains, sculpture, sundials, paving, walls, and nightlighting. Many of these subjects are also represented in the catalogues of specialist firms of horticultural sundriesmen, the makers of garden furniture, buildings, tennis courts, and the like.

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This ephemeral material is not usually kept, and the Lindley Library's collection is the finest in the country. And let us not forget the craftsman's range of garden activities, such as willow-weaving and dry-stone walling, books on which will be found in the collections.

#### 4. Gardening operations

Books on how to garden long preceded books on how to make gardens. By the middle of the sixteenth century there was already a literature on garden maintenance and practical cultivation. Much of this is literature that by today's standards would fall under the heading of agriculture, but it was not until the eighteenth century that the concepts of garden crops and field crops were clearly distinguished. Advice on propagation and pruning formed a great part of this early literature; there was nothing of any substance written on fertilisers until the end of eighteenth century.

A new genre emerged in the late seventeenth century: the gardening calendar, a pocket guide to operations required in the garden month by month. Altogether, the Library holds nineteen titles in the seventeenth and eighteenth centuries, some of them in multiple editions. John Evelyn was the pioneer, with his *Kalendarium Hortense*, editions of which appeared both separately and as supplements incorporated in the editions of his major work *Sylva*, from 1664 on. Philip Miller produced the most informative work, with the seventeen successive editions of his *Gardeners Kalendar*; Thomas Mawe and John Abercrombie produced the longest-lasting with their joint work *Every Man his Own Gardener*, which went through at least 25 editions between 1767 and the 1860s. This genre has been comparatively neglected, but is now proving important for the study of climate change (see section 9 below).

The development of gardening magazines in the nineteenth century provided a forum in which information on gardening operations could be debated; and with the emergence of gardening periodicals for the middle classes, from the 1880s (*Gardening Illustrated, Amateur* 

*Gardening*, etc.), regular instructions in gardening operations on a weekly basis proliferated.

The literature on garden tools is not rich. Until the arrival of gardening magazines in the nineteenth century there were few works which devoted significant attention to them, and only Lauremberg's Horticultura (1631) and London and Wise's Retir'd Gardener (1706) provided detailed discussions and illustrations. Until the arrival of mass production, most garden tools were made by blacksmiths rather than purchased from retailers, so it was only in the twentieth century that trade catalogues for retailers or manufacturers of garden tools multiplied. The Lindley Library has the largest and most comprehensive collection of such catalogues.

The glasshouse is a world to itself in the garden, with a distinct practical literature that begins tentatively in the seventeenth century and continues to the present day. The glasshouse flora has varied over the centuries, not only because of fashion and new plant introductions, but because changes in design and technology have changed the internal environment of the glasshouse, and it has gone through periods of hot and dry as well as hot and moist (Elliott, 2009a). All these changes, and the technical literature on construction, glazing, and heating, may be followed in the Library's holdings.

#### 5. Plant portraiture

The Horticultural Society began commissioning illustrations of plants within its first decade, initially to serve as illustrations for the *Transactions*, but before long as aids in research programmes (fruit identification), and to build up a general reference collection of depictions of garden (or more commonly greenhouse) plants. For several years, William Hooker was the Society's principal artist, but works were also commissioned from artists such as Ferdinand Bauer, Augusta Innes Withers, Clara Maria Pope, and William Clark. All these drawings were sold in 1859, and few have been recovered (mainly the Hooker fruit drawings, and the Reeves Chinese drawings, of

which more below). Bauer's drawings of passionflowers are now in the Jagiellonian Library in Cracow, but the location of most of the drawings is currently unknown. In the late nineteenth century, the drawing of award-winning orchids was begun under the auspices of the Orchid Committee, and today there is a collection of over 7,000 paintings, maintained so as to provide a standard by which currently exhibited orchids may be judged.

As a collection of important illustrated books on plants, more especially garden plants, the Lindley Library can have few rivals. From Renaissance herbals, through seventeenth-century florilegia, works on medical botany (which superseded the older herbal tradition in the eighteenth century), eighteenth- and nineteenth-century floras and monographs on plant families and genera, up to modern photographically illustrated identification guides, the Library is rich in its holdings.

In addition to published work, the Library holds the Society's collection of botanical drawings. Excluding the orchid award portraits, there are some 30,000 drawings, from an unpublished florilegium by Pieter van Kouwenhoorn (fl. 1630s), through works by Claude Aubriet, G. D. Ehret, P. J. F. Turpin, Franz and Ferdinand Bauer, William Hooker, Augusta Innes Withers, John Lindley, Lilian Snelling, Margaret Stones, Raymond Booth, and up to the present day, not excluding the work of little-known amateur artists depicting the local flora of Britain and of India. The subject matter is broad and covers the plant kingdom (there are drawings of fungi and mosses), but garden and florist's flowers make up the bulk of the collection. Most of the drawings are in watercolour, but there are examples of works in oils, gouache, oriental colours, ink, pencil, and print media. And although the Society has never systematically collected photographs of plants until the present day, there are miscellaneous holdings of plant photographs by Mrs Reginald Malby, J. E. Downward, Valerie Finnis, and others.

As may be expected, fruit varieties have been a focus of special interest in the development of the art collections: nine volumes of early nineteenth-century drawings by William Hooker and his successors as the Society's artists, twentieth-century drawings of cherry cultivars by Frances Bunyard, and a battery of drawings and attendant information about gooseberry varieties, compiled by Barbara Rake of East Malling Research Station.

One special aspect of the Library's art collections is the number of drawings made by oriental artists. Foremost among these are the over 700 drawings sent to the Society between 1818 and 1830 by John Reeves, commissioned from Chinese artists in Canton, depicting a range of the Chinese flora, with separate volumes for camellia, chrysanthemum, and peony cultivars (see cover). These drawings are currently the object of intensive study, for their importance in the history of Anglo-Chinese relations, Chinese pigments and painting styles, and as records of the introduction of Chinese plants into Britain, where they had a documented influence on English cultivar nomenclature. But in addition there are four volumes of later nineteenth-century Chinese drawings of plants made for the export market; an album of anonymous Japanese plant drawings; and an important volume of drawings made in Sri Lanka, sent to John Lindley by the Society's former plant collector James MacRae after he had become Director of the Peradeniya Botanic Garden, and mostly made by that garden's official artist Harmanus De Alwis.

Not content with providing a generous portion of the world's plant portraits, the Library also holds a useful collection of books on the techniques of plant illustration. The earliest title on the subject to be found in the Library is Thomas Parkinson's *Flower Painting Made Easy* (c. 1770), and this is followed by nineteenth-century works by artists and critics like P. J. F. Turpin, George Brookshaw, John Ruskin, and F. E. Hulme. In the twentieth century, the number of instructional manuals on plant illustration, whether botanical or impressionistic,



Fig. 2. A drawing of two chrysanthemum cultivars, identified as 'Quilled Buff' and 'Superb White', from the Reeves Chinese drawings (1810–1830).

multiplied, and the Library holds substantial collections of such works by contemporary artists like Coral Guest and Siriol Sherlock. As far as an inspection of their online catalogues can show, the RHS has a better collection of such practical manuals than any of the great botanical garden libraries or art libraries in this country.

#### 6. Garden plant introductions

The cultivation of exotic plants in gardens long pre-dated printing, and the dates of introduction for our older exotics are conjectural. Printed records of introductions begin in the sixteenth century, with Pierre Belon's establishment of a garden of acclimatisation for conifers and other plants introduced from the Levant, and Belon's Observations (1555) is probably the first published book by a plant collector. Tournefort's expedition to the Levant in the 1690s was the first to be accompanied by a botanical artist (Claude Aubriet, who produced the illustrations for Tournefort's account of their travels). Plant collectors' accounts of their travels frequently provide data on general natural history, politics, local customs and dress, etc., so that a work like Engelbert Kaempfer's Amoenitates Exoticae (1712) is as important for its early account of Chinese medicine and its report on Persian ruins as for its descriptions of novel plants like the ginkgo.

The Horticultural Society sent its first plant collector abroad in 1821 (John Potts, to China), and over the next 30 years sent collectors to every continent except Australia. The most famous today are David Douglas, after whom the Douglas fir is named, and Robert Fortune, whose role in bringing tea plants from China to India and thus inaugurating the British tea industry has received much attention; but their number also included John Damper Parks, who introduced yellow roses from China, and Carl Theodor Hartweg, who brought the ancestors of the modern hybrid fuchsia back from South America. All these plant hunters were contractually obliged to produce a manuscript journal of their travels for the Society, and these journals are held today in the Library.

Table 3. The Society's plant collectors and their manuscript holdings

Year	Collection
1821–1822	John Potts: China. Journal in two volumes
1821–1823	George Don: Africa, South America, West Indies. Rough and fair copy journals in 8 volumes
1822–1823	John Forbes: South America and Africa. Correspondence and miscellaneous papers
1823–1824	John Damper Parks: China. Journal in one volume
1823, 1824–27, 1829–1834	David Douglas: North America. Rough and fair copy journals, plus miscellaneous
1824	James McRae: South America and Hawai'i. Journal in one volume
1836–1845	Carl Theodor Hartweg: Mexico, California, South America. Three volumes of correspondence and miscellaneous documents
1843	Robert Fortune: China. Minutes of Chinese Committee, and volume of correspondence
1861–1864	John Weir: Brazil. Chiswick acquisition book for plants sent back

In the twentieth century, the Society employed no plant collectors, but helped, as part of syndicates, to fund plant-collecting expeditions by George Forrest, Kingdon Ward, Ludlow and Sherriff, and others. For Forrest and Kingdon Ward the Society helped to publish series of field notes. Nor has the tradition of commissioning travel reports ended, for the Lindley Library Wisley houses the reports produced by recipients of RHS travel bursaries, and the Lindley Library London houses the reports produced by recipients of grants from the Merlin Trust, established by Valerie Finnis in 1990.

The Library's art collections include a certain number of drawings made by plant collectors during their travels, among them Sir Charles James Fox Bunbury, F. W. Burbidge, and Reginald Farrer. There is also a quantity of glass transparencies of photographs by Farrer, some of them the basis for plates in his books of Himalayan travels. The most important of twentieth-century botanical artists

operating in the field, the late Margaret Mee, is represented by a sketch of *Coryanthes albertinae*, which was used as a basis for some of her later published illustrations. As for the introduction of garden cultivars from abroad, among the eight volumes of drawings by Chinese artists, commissioned for the Society by John Reeves in Canton between 1818 and 1830 (cf. p. 21), are three volumes devoted specifically to chrysanthemums (Fig. 2, p. 22), peonies, and camellias, which not only record the early cultivars to reach England but also, through the work of the Horticultural Society and its Secretary Joseph Sabine, influenced the conventions of nomenclature for cultivated plants.

There is today an apparently never-ending stream of books about plant hunters, many of them narratives of adventure rather than contributions to horticultural history, but the literature of plant introductions is something different and less frequently attempted. There are many ambiguities about introduction dates. The earlier the introduction, the less well documented it is - as witness Redvers Salaman's study of the introduction of the potato (1949) and the various subsequent discussions of this subject. The importance of determining dates of introduction has long been recognised. When Arthur Sutton donated his set of Plukenet's writings (1696–1720) to the Lindley Library, the Gardeners' Magazine reflected that the volumes "have an historical interest, as they serve to fix the date of introduction of many garden plants" (4 May 1895, p. 258). Many dates that are currently widely cited are in fact the dates of the first published reference to the plant's cultivation; so, in the first edition of the RHS Dictionary of Gardening, a date of 1597 means that the plant is mentioned in Gerard's Herball, 1629 that it is described in Parkinson's Paradisus Terrestris. Many others of our currently accepted dates for introductions are derived from the researches of William Aiton and his son William Townshend Aiton, one of the founders of the Horticultural Society, in the successive editions of their Hortus Kewensis. These dates were based in part on the records of Kew and the Chelsea Physic Garden, but were supplemented with Gerard's

Catalogus Arborum (1599) and manuscript records from Badminton and other estates. As collections of estate papers at country houses around the country are examined, many accepted introduction dates will no doubt be superseded.

With the flood of introductions that followed in the nineteenth century, introduction dates are on more certain ground, with *Curtis's Botanical Magazine* and other periodicals recording plants on their first flowering in captivity. But there can be considerable gaps between the arrival of a plant in Britain, its availability in commerce, and its popularity. Among the sources that are needed for enquiries of this sort are the gardening newspapers (including advertisements where preserved) and nursery catalogues, which can allow one to trace not only the entry of a plant into the commercial market but also the rise and fall of its popularity. The present writer's book *Flora* (2001) was an attempt, using the Library's collections, to illustrate the important plant fashions of the past four centuries.

#### 7. Horticultural taxonomy

Any researcher into the history of gardening and gardens must sooner or later face the need to identify plants. This requires being able to match cited names to their modern equivalents, and to locate illustrations and descriptions.

The researcher who wants to establish the currently correct name of a cultivated plant has no easy option, beyond (where relevant) relying on the *RHS Plant Finder*, which is maintained and regularly updated by the Society's team of botanists. There are two important surveys of the botanical literature: the *Index Kewensis* (1895 and many supplementary volumes, now searchable online at www.ipni.org), for a list of first published descriptions of plants, and the *Index Londinensis* (1929, and supplement 1941), for a list of published illustrations. While certain online databases (Algaebase, Index Fungorum) are accepted as authoritative for their contents, the major database for flowering plants, www.ipni.org, gives references

from *Index Kewensis*, the Grey Herbarium Index, and the Australian Plant Name Index, and does not attempt a final resolution where there are conflicts between the names proposed by these disparate sources. (This author's estimate, based on a comparison of *Index Kewensis* with *Flora Europaea*, is that in about a third of instances, the names proposed in the original *Index Kewensis* have since been overturned.) So the researcher who finds an obsolete plant name in a late eighteenth-century or nineteenth-century work must follow a tortuous course. Willis's *Dictionary of the Flowering Plants and Ferns* (last edition, 1973) is still an essential guide for the identification of generic names that have been abandoned for so long that they have been omitted from more modern plant dictionaries like Mabberley's *Plant-book*. And recently, Charlie Jarvis's *Order out of Chaos* (2007) has provided a comprehensive guide to the currently accepted versions of all the names in Linnaeus's *Species Plantarum* (1753).

The researcher who has to cope with pre-Linnaean names has an even greater problem. There is as yet only one systematic attempt to provide modern (i.e. Linnaean) identifications for the pre-Linnaean botanical literature: the historical edition of Linnaeus's *Species Plantarum* compiled in 1840 by Hermann Richter, and commonly called the *Codex Botanicus Linnaeanus*. Richter's work does not provide a comprehensive guide to pre-Linnaean names: he limited himself to those he could identify with confidence, he did not have access to all the literature, and of course he did not cite unpublished work (so there are many drawings bearing otherwise undocumented plant names). Richter provides the only channel through which pre-Linnaean polynomial names can be easily related to modern ones; but there eventually comes a point when the researcher needs to consult a botanist.

The next question is: where to locate lists of plant names, descriptions and illustrations. There are two main sources of plant descriptions as far as species are concerned: floras and plant monographs. The earliest floras suffer from the defects of pre-

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Table 4. Illustrated magazines devoted to plant descriptions						
Title	Country	Dates				
Botanical Magazine (Curtis)	UK	1787 – present				
Botanical Register (Edwards)	UK	1815–1847				
Botanical Cabinet (Loddiges)	UK	1817–1828				
Flore des Serres et Jardins de Paris	France	1834				
Icones Plantarum (Hooker)	UK	1837–1990				
Floral Cabinet	UK	1838–1840				
Flore des Serres et Jardins d'Europe	Belgium	1845–1880				
Gartenflora	Germany	1852–1938				
Illustration Horticole	Belgium	1854–1896				
Floral Magazine	UK	1861–1881				
Florist and Pomologist	UK	1862–1888				
Addisonia	USA	1916–1964				
Flowering Plants of South Africa	South Africa	1921 – present				

Linnaean taxonomy, in that there were no generally agreed standards for plant descriptions, and even the concept of a flora had not been well established. Cornut's *Canadensium Plantarum* (1635), while officially a treatment of plants newly introduced from Canada into France, also treats recent introductions from South Africa, including the first illustration of a pelargonium (Fig. 3, p. 31). Many early European floras, into the beginning of the nineteenth century, are not comprehensive floras but treatises on rare and newly discovered plants of an area; coverage tended to be rather more comprehensive for areas geographically remote from Europe, beginning with Rheede tot Drakestein's *Hortus Malabaricus* (1678–1703) and Rumphius's *Herbarium Amboinense*, coeval in compilation but not published until the 1740s. (These are two works on which Linnaeus relied for plants not represented in his herbarium, so their illustrations sometimes serve as type specimens for valid modern

names.) Floras only really began to cover areas of Europe to the same standard with Haller's *Stirpium Helvetiae* (1742). By the time of Sibthorp's *Flora Graeca* (1806–1830), often regarded as the greatest of floras, the conventions for plant description had been well established. (The Lindley Library is probably the only library in which both editions of the *Flora Graeca* may be placed side by side for comparison of the plates.)

The Library's earliest volume dedicated to a particular plant group is Johann Karl Rosenberg's Rhodologia (1631), a study of roses, but that is not a proper plant monograph as understood today; that honour probably belongs to Richard Bradley's History of Succulent Plants (1716–1727). Crantz's monographs on umbellifers and crucifers in the 1760s were succeeded by De Candolle on succulents (1799), Henry C. Andrews' Geraniums (1805) and that greatest of all plant monographs, Martius's Historia Naturalis Palmarum (1833-1850). As for works on individual genera, from Hoffmann on Salix (1786), Jacquin on Oxalis (1794), Sole on Mentha (1798), Lindley on Rosa (1820) and Digitalis (1821), Sweet and Trattinnick on Pelargonium, (1820-1830 and 1825-1834 respectively), Sweet on Cistus (1825-1830), and on through Maw on Crocus (1886) and a long list of later works, the Library has a collection of works that is unrivalled, especially when cultivation manuals and cultivar identification guides are taken into account. In particular may be singled out the various works on roses (including Ellen Willmott's own copy of her Genus Rosa, with the original drawings bound in), and on orchids, for which the Society is the International Registration Authority. John Lindley, the Society's former Secretary, has been called the father of modern orchidology (the American Orchid Society named its scientific journal Lindleyana in his honour); he was the first botanist to work out a classification of orchids, and wrote prolifically on the subject, most notable works being the Sertum Orchidaceum (1838) and The Genera and Species of Orchidaceous Plants (1830–1840).

Monographs that treat specifically of cultivars originated first with the traditional categories of florists' flowers (see section 12 below); and as the taxonomic status of varieties was at first problematic, some works, well into the nineteenth century, did not employ a taxonomic distinction between species and hybrids. The first illustrated books on roses and pelargoniums, for example, mix hybrids and species together indiscriminately. Early works can therefore yield a fair amount of information about garden forms if read attentively. Gerard's *Herball* (1597), while in principle an encyclopaedia of medicinal plants for the use of apothecaries and doctors, included substantial treatments of varieties Gerard grew in his own garden, and subsequent works such as Parkinson's *Paradisus* (1629), Rea's *Flora* (1665), Salmon's *Botanologia* (1710), and Miller's *Gardeners Dictionary* (1732 and later editions), contain detailed treatments of cultivars.

The idea of a garden flora – the equivalent of a regional flora but including all the plants grown in gardens, not merely those found in the wild – did not exist before the late eighteenth century. The first was probably Lady Charlotte Murray's The British Garden (1799), a rather amateur effort put together using Aiton's Hortus Kewensis. But three decades later Robert Sweet and J. C. Loudon were able to produce full-scale and remarkable works enumerating the plants grown in British gardens: both entitled Hortus Britannicus (1827 and 1830 respectively for their first editions). The tradition that they established has most recently borne fruit in the massive European Garden Flora (1984–2000). A great advantage of the garden flora is that it can be organised systematically, according to an accepted taxonomy; this allows a ready basis for inference about the likely garden conditions, hardiness, etc. of other members of the same genera or families. For most people, however, it is easier to track things down in large-scale dictionaries of gardening, a genre that effectively began in 1732 with the first edition of Philip Miller's Gardeners Dictionary, and continues today with the New RHS Dictionary of Gardening and its spin-offs.



Fig. 3. The first published illustration of *Pelargonium triste*, from Jacques Cornut, *Canadensium Plantarum* (1635).

Plant taxonomy involves not merely the identification of plants but their classification. The earliest literature on garden plants is pretaxonomic; there was no theory to dictate different taxonomic levels, no principle by which to distinguish species from varieties. This is one of the reasons that polynomials flourished before the Linnaean reform in the eighteenth century. Most writers were content to use binomials as long as there were not many species to distinguish; but the greater the number of taxa to identify, the more detailed in their descriptive quality names needed to be.

The first widely accepted system of classification for plants was that proposed by Tournefort, in his Institutiones Rei Herbariae (1700); it was succeeded, from the 1750s, by Linnaeus's sexual system, based largely on the number of stamens. The early nineteenth century saw a number of attempts to replace Linnaean classification by a system based on the entire plant; Jussieu, De Candolle, Robert Brown, George Bentham, William Jackson and Joseph Dalton Hooker, and John Lindley are among the major advocates of "natural classification", and Bentham and Hooker's Genera Plantarum (1862-1883) was for generations Britain's standard reference work on plant taxonomy. In the twentieth century, the competing systems of Engler, Cronquist, Hutchinson, and the proponents of cladistics have battled for prominence, and all are now being re-examined in the light of DNA analysis. All these theories may be reviewed using the materials in either of the main branches of the Library, but it is to be regretted that there does not exist a modern study comparable, in its survey and tabular analysis of conflicting theories, to the Tableau des Systèmes (1788) by Mouton-Fontenille.

Since the 1860s there has existed a *Code of Botanical Nomenclature*, which is updated regularly; since the 1950s it has been supplemented by a *Code of Nomenclature for Cultivated Plants*. More will be said in section 8 about the registration of cultivar names; suffice it to say here that the Library maintains as complete as possible a collection

of the checklists and registers of cultivars published by International Cultivar Registration Authorities.

#### 8. Horticultural science

Probably the most famous and influential employee in the history of the RHS was John Lindley (1799–1865), who spent most of his career as Assistant, Deputy, or Vice-Secretary. He may be considered one of the founding fathers of horticultural science, especially through his *Theory of Horticulture*, which Alexander Cramb, the head gardener of Tortworth Court, described as "raising horticulture almost to an exact science".

All of Lindley's independently published works, even if not all the editions of them, are to be found in the Lindley Library. Lindley did not have copies of all his works in his library at the time of his death, and some titles have been added since; for one of his major works, Sibthorp's Flora Graeca, of which he edited the last four volumes, he only ever owned the letterpress for the particular volumes he edited. He did at least own the foreign translations which had been made from his works. In some cases, such as the third edition of his Vegetable Kingdom, his copy included annotations in preparation for a future edition that never appeared, while his copy of Illustrations of Orchidaceous Plants includes an unpublished drawing by Franz Bauer. In addition to his books, he was also an important editor of periodicals, most notably, for its last fourteen years, the Botanical Register, and the Gardeners' Chronicle, of which he was a founder, and the editor for its first 22 years.

The study of botany is intimately connected with the study of horticulture. Many aspects of botanical science are of tangential importance from the horticulturist's point of view, so while through general textbooks and various works of antiquarian literature it is possible to find out about algae, mosses, the cytology and anatomy of plants, and general physiological botany, the Library has never systematically collected this literature, which is readily available at

more appropriate institutions. Nonetheless, since technical botany once figured more largely in the training of gardeners than it does now, and in particular since Lindley himself collected literature on the subject, the history of physiological botany can be traced through the Library's collections in the same way the history of taxonomy can. The major classics of the discipline will be found here, from the writings of Malpighi, Stephen Hales, and Richard Bradley (whose *New Improvements of Planting and Gardening* (1719) includes on its title-page "the motion of the sapp and generation of plants" among the subjects it discusses), through the electrical experiments of Bertholon and Ingenhousz' discovery of photosynthesis, through the writings of the German plant morphologists of the early nineteenth century and the *Vegetable Teratology* (1869) of Maxwell T. Masters, to Darwin's studies of plant motion.

The study of soils and growing media is essential to the cultivation of plants, but until the nineteenth century and the development of modern chemical analysis the literature on the subject was intermittent and hypothetical. The first published treatise was John Evelyn's Philosophical Discourse of Earth (1676), and the scientific analysis of soils was hardly broached thereafter until John Morton's Nature and Property of Soils in the 1840s; detailed mapping of local soils began in the late nineteenth century, to be institutionalised in the Soil Survey in the twentieth. As for growing media in the garden, recipes for potting composts were promulgated in the eighteenth and early nineteenth centuries by growers of florists' flowers like John Maddock and Isaac Emmerton, based on practical experience but not on scientific testing, and these formulae were repudiated as the knowledge of chemistry improved. A vigorous literature on potting composts began only in the interwar years, when the work of W. J. C. Lawrence at the John Innes Horticultural Institution led to the development of the widely adopted "JI" composts; recent demands for reducing the use of peat have once again led to widespread experimentation in alternative growing media, and augmented the literature on the subject.

Two subjects of great importance for practical horticulture are plant pathology and entomology. The literature on pests and diseases of plants barely exists before the eighteenth century; Richard Bradley was one of the first writers to discuss insect pests in detail, and Francis Home's Principles of Agriculture and Vegetation (we have the 2nd ed., 1759) was the first work with a special chapter on pests and diseases. The epidemiology of plant pathology was pioneered in the Society's Transactions by Sir Joseph Banks, who contributed to the second volume an essay attempting to determine when and how the "American blight" (Eriophora lanigera) was first introduced to Britain. The growing literature on pests and diseases was attended at every stage by debates over plant physiology. One of the Society's founders, William Forsyth, caused controversy with his "plaister" for treating tree injuries, which the Society's second President, Thomas Andrew Knight, attacked as fraudulent. The literature on pests and diseases is important not only historically, as revealing the slow development of botany and ecology, but is of immense practical importance today, as "organic" methods of cultivation are experiencing a renewed surge of interest; virtually all the literature on the subject before the Second World War, which saw the introduction of the first synthetic chemical pesticides, is effectively organic by today's standards, and the late Lawrence Hills, the director of the Henry Doubleday Research Association, used to visit the Library to study the older literature on pest control, to provide ideas for modern organic procedures.

# 9. Biodiversity and climate change

Two issues that have recently risen to the front of the horticultural agenda are environmental conservation, most particularly the preservation and encouragement of biodiversity, and the effects of climate change on the garden.

Concern about dangers to biodiversity is a recent phenomenon, which first began to appear at the end of the nineteenth century. The raw material for the study of biodiversity is of course floras,

which at least provide a record of what was there. The information value of floras varies considerably, and has increased steadily as time has gone on. The earliest floras (e.g. Pena and Lobel, 1571) frequently provide no more than enumerations of species; one of the first works to provide specific localities at which plants were observed was Gerard's Herball (1597). Hewitt Cottrell Watson introduced a systematic approach to the collection of regional location data in the 1840s, with the result that the Watsonian Vice-County system was adopted for describing plant distribution in the British Isles. Distribution maps of different sorts were experimented with in the nineteenth century, for example by Alphonse de Candolle and Hermann Hoffmann; the modern dot distribution map was developed by Ronald Good in the 1930s; and the first national plant atlases using dot distribution maps appeared after the Second World War: Hultén's Atlas for Sweden in 1950, and the Atlas of the British Flora in 1962. Attempts at compiling lists of the "alien flora" of Britain got under way at the beginning of the twentieth century. It will be apparent from this that while older materials hold much information that is highly relevant for calculating changes in biodiversity, they need interpretative skills on the part of the researcher. The Library carries an excellent collection of British and European floras of all periods.

The study of the environment, as opposed to the enumeration of the species, of a given region was hardly known before the nineteenth century, when Alexander von Humboldt, in his *Cosmos* and attendant publications, produced the first analysis of climatic regions, and described the environmental correlation between zones of altitude and of latitude. The first book of illustrations designed to show the pattern of vegetation was Berg's *Physiognomy of Tropical Vegetation in South America* (1854), dedicated to Humboldt. Berg's plates were lithographed; photography, in the next generation, was to make depictions of vegetation types easier and more useful, as seen in Bommer's *Aspects de la Végétation en Belgique* (1908) and the magazine *Vegetationsbilder* (1903–1936).

The study of the interrelationships of plants and animals was initiated by Darwin, in the third chapter of his *Origin of Species* (1859); seven years later his German follower Haeckel coined the word *Ökologie* to describe this sort of study. The historical development of the science of ecology, as far as it deals with plants, may be followed in the Library's collections, through the high theoretical phase represented by F. E. Clements to the more empirical and historically conscious treatments by authors like Oliver Rackham and F. W. M. Vera today. The fully ecological flora is a product of the last few decades.

At least as far as Britain is concerned, the recent intensification of interest in biodiversity has had a major impact on the practice of gardening. Wildlife gardening has become an established practice, and gardeners are being encouraged to protect, monitor, and promote the welfare of native plants and animals in their gardens. While the literature on garden wildlife could be said to go back at least to Darwin's study of earthworms (1881), it offers little but subjective essays on birds in the garden until after the Second World War. Even a manual like Charles T. Brues' *Insect Dietary* (1946), the most comprehensive work on the plants that serve to feed different species of insect, was compiled for the entomologist rather than the gardener. The 1970s saw the real emergence of wildlife gardening as a fashionable idea, and the literature of this idea is comprehensively collected in the Library, including some of the journals of the country's various wildlife trusts.

One activity which until recently stood on the fringes of most people's idea of gardening is beekeeping; but the recent decline in the bee population, and the necessity of bees for pollination, have given them a significant position in the rhetoric of biodiversity. The Lindley Library has a substantial collection of books on beekeeping, both historical and currently practical – possibly one of the largest in the country.

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The study of climate change depends on the keeping of weather records, and here the Horticultural Society has played a major role. Systematic weather records began to be kept at the Society's garden at Chiswick in the 1820s, and were often published in the Transactions; the Meteorological Office's weather records were modelled on the Chiswick ones, and in the 1870s, when James Glaisher edited the Society's records to date into a handy abstract, he said that they were second only to the Royal Observatory's in value. The publication of data on frost damage was very important to the Society in its early days, for it was the collection of such records that encouraged gardeners to test the hardiness of their imported plants, so that plants known to previous generations only from the glasshouse began to flourish outdoors. (Reports on frost damage continued into the twentieth century, the last being published in the *Plantsman* in 1981.) Additional weather observations may be found in the gardening newspapers, as well as in specialist publications like Symons' British Rainfall (the Library's set is almost complete, from 1865 to 1924).

An additional source of data which has hitherto been ignored is the pocket garden calendar, a largely eighteenth-century genre giving advice for the gardener. Some, most notably Philip Miller's *Gardeners Kalendar*, included lists of plants in flower in each month of the year; and the comparison of different editions can point to the gradual warming of the climate in the eighteenth century, as some plants begin to appear a month earlier than in previous editions. A review of the information on changing flowering times provided by this literature has been published in *The Plantsman* (Elliott, 2009b); meanwhile, an ongoing research project has been established that is proceeding to look at nineteenth-century nursery catalogues and other sources to continue the story.

#### 10. Garden plant breeding and selection (cultivars)

The Horticultural Society was founded at a time when the development of cultivated varieties of garden plants was being

developed for the first time in a large way. Cultivars, especially of highly variable plants like tulips, had been grown and collected for generations, but until the eighteenth century these had generally been sports, accidentally produced and maintained in cultivation by vegetative propagation. Before hybridisation could begin in a practical way, the sexual reproduction of plants had first to be recognised; the first documented hybrid was 'Fairchild's Mule', a hybrid dianthus bred by Thomas Fairchild in the 1710s. The first deliberate programme of breeding cultivars for garden use was begun by the nurseryman William Rollisson in the 1790s, using Cape heaths. The development of cultivars of dahlias, passionflowers, gladioli, and other glasshouse plants was an enthusiasm of wealthy garden owners and their head gardeners during the formative years of the Society. Mrs Bury's Selection of Hexandrian Plants (1831–1833) provides a record not only of now long-vanished varieties of Hippeastrum and Crinum, but of Liverpool as a centre for the introduction and breeding of exotic plants in the early nineteenth century.

In 1856 the first orchid hybrid was produced, by John Dominy of the Veitch Nurseries, and in the latter part of the century orchid breeding became the rich man's horticultural hobby. From 1897 all orchids which received awards at the Society's shows had their portraits painted, so that future generations of judges would have a record against which to judge whether the orchids of the future represented a genuine advance over their predecessors; this collection now stands at some 7,000 drawings, and represents probably the largest and most continuous battery of documentation of the cultivars of any category of plants.

The documentation of cultivars began in the sixteenth and seventeenth centuries with illustrations of florists' flowers (see section 13 below): in addition to books such as Sweerts' *Florilegium*, the Library has collections of drawings of tulips by Pieter van Kouwenhoorn (*fl*.1630s) and August Wilhelm Sievert (+1751), and of dianthus by an anonymous German artist of the late seventeenth

century. It has continued to the present day in specialist monographs, photographic identification guides, and commissioned series of drawings (for example, the drawings of nerine cultivars made by Lilian Snelling for H. J. Elwes shortly before the First World War). Nor is it a European phenomenon only: the Reeves drawings, commissioned from Chinese artists in the 1810s and 1820s, provide a sizable record of chrysanthemum, peony, and camellia cultivars cultivated in China. But only a small proportion of the immense number of cultivars available for any genus of plants has ever been depicted; far more survive now only in descriptions or lists of names, whether in nursery catalogues, garden inventories, reports of plant trials (which the RHS has been running since the 1860s), or magazine articles.

The RHS began to conceive the idea of compiling a register of cultivars in the 1880s, with daffodils as the first subject; the first List of Daffodil Names was published in 1907. Its early experiment in the registration of orchid hybrids, the Orchid Stud-book by F. A. Rolfe and C. C. Hurst (1909), was superseded by the lists issued by Frederick Sander's nursery - eventually to be first subsidised, and finally taken over, by the RHS as Sander's firm declined. An official international programme of plant name registration was set up in the 1950s, and the RHS is now the International Registration Authority for nine categories of plants: clematis, conifers, daffodils, dahlias, delphiniums, dianthus, lilies, orchids, and rhododendrons. The Society's registers, like those of other organisations, began as lists of varieties in cultivation, but have moved steadily in the direction of being historically comprehensive; the lists of dianthus, lilies, and daffodils have grown into directories of all the known cultivars ever to have been produced. Among the materials used in their compilation have been, where available, the stud books used by actual plant breeders, and some of these (most notably those of the daffodil nurseryman Lionel Richardson) are now held by the Library.

The recording of cultivars is one thing, but their assessment for garden value is another. Since the end of the 1850s the Society has

Table 5. Major checklists and registers of cultivars of plants

Type of plant	Registrar	Date of inception
D (( ))		1007
Daffodils	Royal Horticultural Society	1907
Orchids	Sanders, then Royal Horticultural Society	1915
Tulips	Royal Horticultural Society, then Royal Dutch Bulbgrowers' Society	1929
Irises	American Iris Society	1940?
Roses	McFarland, then American Rose Society	1930
Rhododendron	Royal Horticultural Society	1947
Lilium	Royal Horticultural Society	1960
Dahlia	Royal Horticultural Society	1959
Delphinium	Royal Horticultural Society	1949
Chrysanthemum	National Chrysanthemum Society	1955
Hemerocallis	American Hemerocallis Society	1957
Dianthus	Royal Horticultural Society	1974
Fuchsia	British Fuchsia Society	1975
Magnolia	American Horticultural Society, then Magnolia Society	1975
Camellia	International Camellia Society	1993
Pelargonium	Australian Geranium Society	1978
Bougainvillea	Indian Agricultural Research Institute	1981
Conifers	Royal Horticultural Society	1985
Nymphaea	International Water Lily Society	1988
Hosta	American Hosta Society	1993
Saxifraga	Saxifrage Society	1995
Bromeliads	American Bromeliad Society	1998
Heather	Heather Society	2000
Clematis	Royal Horticultural Society	2002
Passiflora	Passiflora Society International	2003

issued awards to plants (the First Class Certificate and Award of Merit, the later Award of Garden Merit, and such special awards as the Reginald Cory Medal, given for important hybrids), as the result both of exhibition at its shows and of commissioned trials carried out at its gardens. The records of the various Committees (Floral, Fruit and Vegetable, Orchid, Daffodil and Tulip, Rhododendron and Camellia, etc.) are regularly used by researchers tracing the history of individual cultivars.

The Society was naturally interested, not only in recording and judging varieties produced in cultivation, but also in the theoretical understanding of the process of hybridisation. By the late nineteenth century great claims were being made for the capacity of the plant breeder to create new forms: Shirley Hibberd, in 1883, said that "the hybridist who has thoroughly mastered the art may predetermine, with almost mathematical exactitude, what it is in his power to produce". The RHS was represented on the Royal Society's Evolution Committee in the 1890s, and the Library has an excellent collection of the late nineteenth- and early twentieth-century literature on evolutionary theory, which was increasingly focusing attention on the origin of variations. In 1865, Gregor Johann Mendel's paper "Versuche über Pflanzen-Hybriden" was published in a fairly obscure journal, of the natural history society of Brünn; it was noticed only by a couple of scientists who rejected his conclusions, and thereafter sank without trace. In 1899, the RHS convened the first International Conference on Hybridisation, one of the results of which was a literature search for all records of hybridisation. This search revealed Mendel's paper, now more meaningful to the botanical world than when it had been first published; William Bateson was informed of the discovery, and gave Mendel's ideas their first public airing in Britain in a lecture to the RHS in May 1900. He was then commissioned to translate Mendel's paper, which became the lead article in the Society's Journal for the 1901 volume. In 1906, the Society convened the Third International Conference on Hybridisation, at which Bateson proposed the term "Genetics" for the new discipline that

had arisen in the seven years since the first conference. It will be seen that for anyone interested in the origins of genetics, the Society's *Journal* (and its predecessor the *Transactions*, for as early as 1822 there were articles on the results of cross-breeding in garden peas), and the Library's collection of the attendant literature, are an important source.

#### 11. Nurseries and commercial horticulture

One of the founders of the Horticultural Society was a professional nurseryman (James Dickson), and nurseries have played a significant role in the history of the RHS, most notably as exhibitors in its flower shows. There is no comprehensive history of the nursery trade, however, not even for Britain, let alone any other country; the late John Harvey produced two authoritative books on the early history of nurseries, but he did not pursue his investigations beyond 1800 except for firms already established before that date. There are now a few studies of individual nurseries (Veitch, Cheal), biographies or autobiographies of nurserymen, and regional studies (as in the works of the late E. J. Willson, whose papers are now lodged in the Library's archive collection). But the history of commercial horticulture in the last two centuries has received comparatively little attention, and beyond Ronald Webber's Market Gardening (1972 -Webber's papers are also now lodged in the archives) and the special 50th-anniversary issue of the Grower magazine (1983), there is little in the way of secondary sources that can be placed before the researcher.

Of primary sources there is a great quantity in the RHS Library. The scale of the collection of nursery catalogues is immense, and over 3,000 firms of nurserymen, seedsmen, and horticultural sundriesmen are represented, mostly British, but with a large number of foreign firms, especially European and American. The oldest printed lists of plants offered for sale were published as addenda to books, such as Worlidge's *Systema Horticulturae* (1688). Trade lists as independent publications in book form began to appear in the eighteenth

century, and early lists from the firms of Christopher Gray, William Malcolm, Daniel Grimwood, and others are held in the Library. These lists do no more than enumerate names until the middle of the nineteenth century; in the early 1860s, the firms of Peter Barr and James Veitch began to include illustrations and detailed descriptions, setting a standard that was eventually followed by all the larger firms. Some nurseries produced up-market illustrated books, like E. G. Henderson's Illustrated Bouquet (1857–1864); and in the early twentieth century, the larger seed houses (Sutton, Carter, Webb, Daniels) produced annual catalogues that were comparable to books, in quarto format, with coloured illustrations and ornamental wrappers. Sometimes the Library has complete runs of a firm's catalogues (e.g. the firm that began as Barr & Sugden, then became Barr & Son, then Wallace & Barr, and is now a subdivision of De lager); sometimes incomplete but very substantial runs (we do not have a complete set of Hilliers' catalogues, but we have more than Hilliers have); sometimes single issues – but there is more joy in the Library over a mimeographed price list from a British provincial nursery of the 1950s than over many a recent coffee-table book.

Nursery catalogues are valuable for a variety of reasons: as sources of descriptions and illustrations of garden plants, particularly cultivars; as a major source recording the introduction and subsequent history of cultivars; as a source of first published descriptions of species, and of their introduction dates; as a record of printing technology, and of garden technology, since some catalogues include garden equipment; as a source for the history of garden design, for some nurseries offered their services as landscaping contractors, and firms like W. H. Gaze of Surbiton, and Wells of Taplow, published photographs of their works; and as a record of the history of the nurseries themselves, since some catalogues contain maps, views, or photographs of the nursery buildings and of trial grounds.

Other aspects of commercial horticulture are less easy to study. Market gardeners and floral decorators hardly ever printed catalogues, and the only survey of market gardens ever issued in book form was C. W. Shaw's *The London Market Gardens* (1879). But from the end of the nineteenth century, there grew up a range of trade periodicals for the horticultural world, and while for many journals the Library has only incomplete sets, there are substantial runs of the *Commercial Grower, Market Grower, Grower, Horticulture Industry, Fruit Trades Journal*, and the like. There is no other library which has such an extensive collection of books, magazines, pamphlets and ephemera on commercial horticulture – much of the material is not held in the British Library.

As for the practice of commercial horticulture and the way it has been transformed in the second half of the twentieth century, most of the technical developments in this field took place in horticultural experiment stations, which experienced an unparalleled rate of growth in the years after the Second World War, and whose annual reports are held in the Library. The 1980s reversed this trend, with experiment stations being progressively closed and/or amalgamated, and the RHS Library has in some cases intervened to salvage parts of the library holdings of these institutions – most notably the collection of pamphlets on fruit-growing formerly held by East Malling.

#### 12. Flower shows, growing for exhibition

The exhibiting of plants has been a part of horticultural life for almost as long as has the maintaining of specialist plant collections.

The first documented competitions involving plants took place in the seventeenth century, and from then until the later nineteenth century local societies of "florists" (meaning raisers of plants, not floral decorators) flourished, often in artisan districts, holding competitions annually or more frequently for particular categories of plants known as "florists' flowers". These were plants that varied unpredictably in cultivation, so that new sports could excite attention and be vegetatively propagated for distribution. During the classic period of florists' societies the categories of florists' flowers

were: anemones, auriculas, carnations (Fig. 4, p.47), hyacinths, pinks, polyanthus, ranunculus, and tulips. By the middle of the nineteenth century alarms were already being raised over the future of these societies, and today only a few survive. Such of their archives as have been preserved are usually held in local authority collections; Ruth Duthie's book on *Florists' Societies and Feasts* (1988) was based on an examination of these, as well as on the materials in the Lindley Library.

But the published literature of the florists' activities will be found in the Lindley Library, falling into two categories. The first is the practical literature on the cultivation of florists' flowers, from the 1660s to the twentieth century, and including identification guides, most notably F. A. Kannegiesser's *Aurikel Flora* (1801) and Robert Sweet's *Florist's Guide* (1827–1832), with their coloured engravings of cultivars. The Library has benefited hugely in this respect by acquiring the library of C. Harman Payne, the compiler of the *Florist's Bibliography*, which held an unrivalled collection of books on florists' flowers. The second is that small body of literature which records the results of competitions. In the 1820s the first efforts were made to publish the results of florists' meetings, beginning with the 1821 *Account of the Different Flower Shews*. Some of the nineteenth-century journals covered florists' shows, in particular the *Horticultural Journal* (1834–1839) and *Gossip for the Garden* (1852–1863).

Competitive exhibition was not limited to florists' flowers, however; a similar effort of publication was made on behalf of gooseberry shows, eventually becoming the annual *Gooseberry Grower's Register*, of which the Lindley Library has an incomplete but substantial set covering most of the years from the end of the Napoleonic Wars to the First World War.

The Horticultural Society held its first flower shows in the 1820s, and beginning in 1833 it held competitions for different categories of plants: not the traditional florists' flowers, but more recently

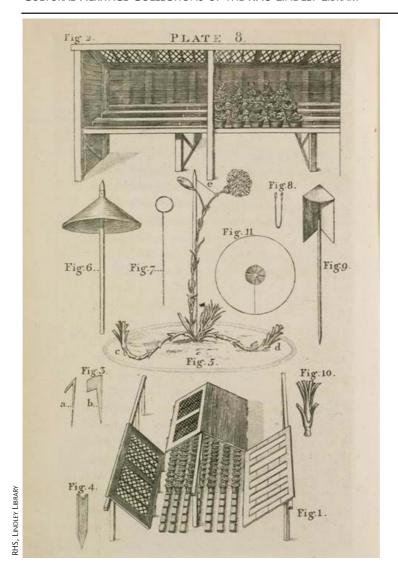


Fig. 4. Stage for displaying auriculas and carnations, with other florists' equipment, from James Maddock, *The Florist's Directory*, revised by Samuel Curtis (1822).

introduced categories of plants such as dahlias, rhododendrons, and camellias. (Efforts were made in the nineteenth century to add dahlias and other new plant groups to the list of traditional florists' flowers, but these were short-lived.) Progressively through the century new local horticultural societies, dedicated to the cultivation of a wider range of garden plants, grew up, and these tended to hold flower shows and competitions as well. By the 1890s, the RHS was publishing *Rules for Judging*, later succeeded by *The Horticultural Show Handbook*, in an attempt to ensure uniformity of standards around the country, and the twentieth century has seen a small but important body of literature on "growing for showing".

Records of local and regional flower shows were only intermittently published. Weekly horticultural newspapers like the Gardeners' Chronicle made an effort to cover a representative selection of the country's shows during the course of the year, and these will generally be found in the Lindley Library, but for most societies the only regularly published records of shows must be sought in the regional press. But for a reasonable portion of the twentieth century, the Lindley Library holds another form of record. The RHS began its current programme of affiliation for independent horticultural societies in the 1860s, and it soon began to provide medals for local societies to award at their shows, so long as their criteria for award conformed to the RHS rules. It therefore became customary for affiliated societies to send the RHS their show schedules, and while in the past these were only occasionally passed to the Library for retention, the Library today holds a substantial collection of flower show schedules, primarily of recent decades but going back intermittently to the 1890s. These show schedules record the extraordinary range of medals and challenge cups awarded throughout the country, a subject that has yet to be investigated. (The late W. L. Tjaden published a study of the RHS's own medals (1994), but did not extend this to challenge cups, and no broader survey has yet been undertaken.) Among these schedules will be found a neglected aspect of business history, namely the promotion

of horticultural societies and shows within large firms, like the Post Office and Boots Chemists.

The records of the RHS's own shows, for most of the nineteenth century, must now be sought in the horticultural press, as there is no surviving archive of shows records until the twentieth century. But from the 1890s, with the Temple Flower Show and its successor the Chelsea Flower Show, a long run of printed catalogues was produced, augmented, from the 1920s to the 1960s, by a collection of press photographs, mostly of Chelsea, which form a record of social and horticultural history alike. The Society's archives hold records not only of the Society's own shows, but of foreign shows with which it has been represented, and of the National and International Garden Festivals of the 1990s, with which it was involved. It is unlikely that there is a comparable record of flower shows anywhere else in the world

#### 13. Floral decoration and indoor plants

There is hardly any literature on flower arrangement before the 1850s, although there have been several twentieth-century works that have attempted to reconstruct what the flower arrangements of previous centuries might have been.

The Royal Horticultural Society staged the first documented competition for flower arrangement (then called table decoration) to coincide with the opening of its new Kensington garden in 1861. Thereafter, the Society's involvement with flower arranging has been intermittent but significant, and has included conducting examinations in floristry (which provided the model for the Society of Floristry's later examinations), and the promotion of flower arranging through exhibits at its flower shows.

In keeping with this effort, the Library has built up what is probably the largest publicly accessible collection of literature on flower arrangement and floristry, comprising over 700 titles, as well as



Fig. 5. Manner of decorating a church for a wedding, from a trade catalogue issued by Wills & Segar, floral decorators of Kensington (c. 1898).

magazines such as *The Flower Arranger*, the *Florists' Review*, and the *Pressed Flower Guild Magazine*. Among these are Victorian works containing chromolithographic plates of table settings; trade catalogues from firms of florists like Wills and Segar (Fig. 5, opposite), and of florists' sundriesmen; books ranging from Felton's *British Floral Decoration* (1910) to the works of the abstract-art generation of the 1950s and 1960s (e.g. Wilson's *Flowers, Space and Motion*). Ikebana, or Japanese-style flower arrangement, has its own range of books, ranging from Josiah Conder's pioneering works in the 1890s, through the manuals of the major Japanese schools of flower arrangement, to the 12-volume history of ikebana (*Kazaibetsu Gendai Ikebana Geijutsu Zenshu*) published in 1974.

Two additional works of interest must be mentioned here: a pair of albums by the floristry firm of Pipers of Bayswater, containing photographs of their wreaths and other decorations, and the archives of Constance Spry (1886–1960), the foremost flower arranger of her day, and of the school she established.

The decoration of rooms with plants also includes the cultivation of house plants generally; in fact, the earliest literature on the subject, in the mid-nineteenth century, tended to cover house plants and floral decoration in the same books. There is no specialist library devoted to indoor cultivation, and with over 450 works on the subject, the Lindley Library holds the country's largest collection.

### 14. Gardens and garden history

Over the years the RHS has published guidebooks to its various gardens, currently four in number, though there have been others in the past. For the short-lived garden in Kensington, which the Society held from 1861 to 1888, it issued the mid-Victorian equivalent of a coffee-table book, Andrew Murray's *Book of the Royal Horticultural Society* (1863), an early example of a book with tipped-in photographs (Fig. 6, p. 53); and a number of original plans and drawings for this

garden survives among the Library's art collections, including work signed by W. A. Nesfield, Sydney Smirke, and Francis Fowke.

For generations, the Library has acquired books on individual gardens, and in the twentieth century it supplemented these with a fine collection of garden guides in pamphlet form, to gardens British and foreign. Books describing individual gardens date back to the late sixteenth century, and fall into two different categories: inventories of the plants in a collection, and descriptions of the garden as a designed landscape.

The first printed garden inventory was that of John Gerard, who in 1599 published his *Catalogus Arborum*, a list of over 1,000 plants grown in his private garden. (Though some data on particular collections of exotics will be found in previous decades: Lobel refers to the London apothecary Hugh Morgan and his collection of West Indian cacti.) Guy de la Brosse's *Description du Jardin Royal* (1636) combined a description of the Royal Gardens in Paris with an inventory of its plant collection, while Pietro Castelli's *Hortus Messanensis* (1640), a guidebook to the Messina Botanic Garden, included the first parterre plans to give some detail of planting. Many of the florilegia of the seventeenth century functioned at least in part as garden inventories, since their purpose was to depict the plant collections of particular important gardens: the Jardin Royal in Vallet's *Jardin du Roi Tres Chrestien Henri IV* (1608), the Episcopal garden at Eichstatt in Besler's *Hortus Eystettensis* (1613).

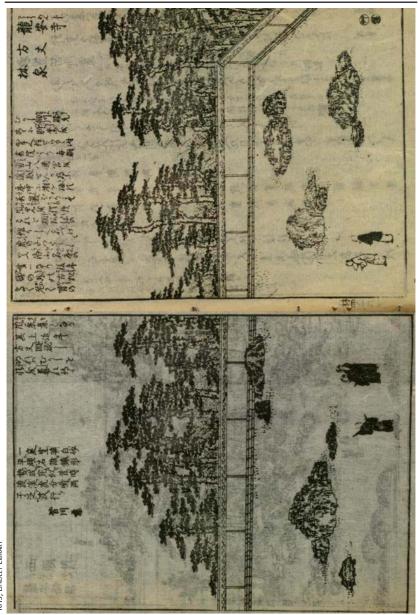
Illustrated accounts of gardens that paid attention to structures and views rather than to plants emerged during the seventeenth century, the first to reach more than one edition being an account of the Labyrinth of Versailles (1677, 1693). Versailles was also the first garden to have a guidebook compiled (by Louis XIV himself: translated in the first issue of *Garden History*, September 1972), directing the visitor along the appropriate route for viewing the scenic effects. Such guidebooks increased in number during the heyday



Fig. 6. Photograph of the RHS garden, Kensington, from Andrew Murray, *The Book of the Royal Horticultural Society* (1863).

of the landscape garden, with Stowe, Blenheim, Ermenonville, and Beloeil receiving the tourist's guide treatment before the end of the eighteenth century. The same century saw the gradual increase in the number of books specialising in the depiction of famous gardens, from Falda's *Giardini di Roma* (1683), through works by Volckamer and Matthias Diesel, to Krafft's *Plans des Plus Beaux Jardins Pittoresques* (1809). With E. A. Brooke's *Gardens of England* (1856–1857), the portrayal of gardens was augmented by colour printing, and the twentieth century brought photography into play.

The arrival of gardening magazines in the nineteenth century immensely increased the number of descriptions of gardens, with or without illustrations, and any garden historian who encroaches on that century soon learns that the periodical literature is the major source of information, far surpassing what was published in book form. For Great Britain and Ireland, Ray Desmond's *Bibliography of* 



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British Gardens (1984) provides a handy search tool for tracking down period descriptions, its main deficiency being the midnineteenth century, when magazines were generally badly indexed. So far, no comparable index or database has been compiled for descriptions of gardens outside Britain; there is a comparable range of continental and, eventually, American magazines which contain many accounts of gardens. The Library's collection of late nineteenthand twentieth-century travel narratives, while developed mainly for accounts of plant collecting, also contains accounts of foreign gardens; while its collection of early Japanese books includes Akizato's five-volume account of the gardens of Kyoto (1799; Fig. 7, opposite).

The Library's art collections hold a series of watercolours by Edith Helena Adie of The Dyffryn, Reginald Cory's garden in Wales, commissioned by him during the 1920s (and recently used in the restoration of that garden). Although the art collections are primarily botanical, there are also such individual items of interest as the first plan of the botanical garden at Peradeniya in Sri Lanka, sent by James McRae to John Lindley; an original drawing by Ralph Hancock for the Derry & Toms roof garden in Kensington; and the drawings of National Trust gardens made by Graham Stuart Thomas for his book Gardens of the National Trust (1979).

However, the twentieth century saw the development of another form of published illustration, the picture postcard. Postcards are particularly important for the documentation of municipal parks, of which few illustrations were published in the mainstream horticultural press, and entire fashions, like three-dimensional carpetbedding, have relied on postcards as their main form of publication. The Library has a collection of some 5,000 postcards of British municipal parks, one of the largest collections of postcards of parks in the UK.

Fig. 7. (opposite) The garden at Ryoan-ji, Kyoto, from Rito Akizato, Miyako-rinsenmeisho-zue [Famous gardens of the capital] (1799).

Photographic records of gardens have become increasingly important during the twentieth century. Besides those in published sources, the Library holds autochromes and other photographs of its garden at Wisley; a collection of 300 coloured glass-plate photographs of English gardens between the wars, taken by Mrs Reginald Malby; nearly 300 transparencies of gardens taken by Lanning Roper, and others by John St. Bodfan Gruffydd, Anthony Huxley, and other photographers.

To these sources may be added directories of gardens available for visiting, most notably those organised through much of the twentieth century by the National Gardens Scheme, a virtually complete set of whose directories is housed in the Library.

A certain number of manuscript works on individual gardens may also be found in the Library: William Robinson's "Tree and shrub book" for Gravetye Manor, which may be considered the rough draft for his book *Gravetye Manor*; Canon Ellacombe's garden book for Bitton Rectory, and John Wedgwood's for his gardens; Sir Frederick Stern's photograph album for his garden at Highdown; the photograph albums of Marion Cran, which *inter alia* show the development of her garden at Coggers; and E. A. Bowles's scrapbooks tracing the history of his garden at Myddelton House in photography, plans, published articles, and correspondence.

The history of gardening is a fairly recent discipline, and the first attempts in the eighteenth century (e.g. Horace Walpole) were propagandistic in origin, intended to justify the emergence of the current style. Many of the early histories of the subject are in fact bibliographies of gardening literature. With the beginnings of historical relativism in the nineteenth century, superseded styles of gardening began to receive serious attention. The successive editions of J. C. Loudon's *Encyclopaedia of Gardening* from 1822 to 1850 provide the most thorough history of gardening undertaken until the late twentieth century, but it was largely based on printed materials

and personal knowledge. The use of manuscript sources for garden history began in a limited way with Thomas Hudson Turner's 1848 article "Observations on the State of Horticulture in England in Early Times", but it was Alicia Amherst's History of Gardening in England (1895) that set the standard for the use of manuscript material. For much of the twentieth century, however, the practice of garden history remained decidedly amateur. But with the founding of the Garden History Society (in a meeting in the Society's rooms in 1965), and the publication of new histories of gardening with a stronger background in cultural history - most notably F. R. Cowell's The Garden as a Fine Art (1978), and Christopher Thacker's The History of Gardens (1979) - a new generation of garden historians emerged, and created a professional discipline. Today the Library houses the learned journals Garden History, the Journal of Garden History (now renamed Studies in the History of Gardens and Designed Landscapes), and the Historic Gardens Review, the magazines of the various county Garden Trusts, as well as regional periodicals such as the Journal of the New England Garden History Society, Canadian Horticultural History, Australian Garden History, not to mention the Dumbarton Oaks Colloquia on the History of Landscape Architecture (published at intervals since 1972).

#### 15. The social history of gardening

Any study of the social history of gardening will draw on many of the sources already indicated. The literature on the design of gardens was traditionally aimed at the wealthy, and the first gardens to be described in the literature were those of royalty and the nobility. Indeed, some of the publications so far issued on the social history of gardens could be better described as dealing with the society history of gardens, in the sense of high society. The literature on the maintenance and cultivation of gardens, by contrast, was aimed at the ranks of professional gardeners, and the history of gardening as an occupation has largely yet to be written. Little information on individual gardeners (other than those on royal estates or botanic gardens) survives from before the nineteenth century, but the rise of

periodical literature for gardeners helped to promote a movement to obtain for them professional status, a movement bound up with the history of horticultural education and examinations in the twentieth century. The gardening magazines are the best source for material on this subject.

From the late eighteenth century, a literature emerged for the socially conscious landowner on the provision of allotments or cottage gardens for the poor. It began sporadically with aristocratic paternalism and gradually developed into a political campaign, the main fruit of which was the acceptance by local authorities of a requirement to make allotments available to the public. Much of this literature is held in the Library, from Thomas Bernard's Account of a Cottage and Garden near Tadcaster (1797) through E. O. Greening's periodical One and All Gardening in the 1890s to the report of the Thorpe Committee on Allotments (1969).

Books of practical advice for the urban or suburban householder began to appear in the early nineteenth century with the works of Loudon, and today have become the norm, with only the major encyclopaedias produced by the RHS and other organisations continuing the older tradition of garden literature. Gardening magazines for the urban or suburban householder began in the 1850s with Shirley Hibberd's *Floral World*, followed by his weekly magazine *Amateur Gardening* (1884 to the present day) and its rivals; by the later twentieth century these had succeeded the former professionally-targeted magazines as the mainstream in horticultural periodical publication. While gaps in some of these titles mean that the researcher will need to supplement the RHS Library with the British Newspaper Library at Colindale, the RHS Library has still the most substantial collection of such material in the UK, and probably the world.

Artisans and others who did not have significant gardens of their own nonetheless grew plants, and floral competitions, as has already been noted, have formed part of British horticulture since the seventeenth century. Quite apart from the literature on the RHS's own shows, the Library has an unrivalled collection of flower show schedules of local horticultural societies, intermittent in holdings but with some going back to the end of the nineteenth century.

#### 16. Folklore and social history of plants

The use of plants in the garden is not confined to the decorative and the culinary. The first books on plants concentrated on their medicinal uses: herbals, and their eighteenth- and nineteenthcentury successors, works on medicinal botany, had the specific goal of helping doctors and apothecaries to identify the plants that were used in medicine, and describe their properties. From the standpoint of modern medicine, previous practice was unscientific and untrustworthy, the alleged properties of plants frequently unverified and almost always falsely accounted for, and the continuation into the present day of some aspects of the herbal tradition a source of alarm. But for the historian of medicine, the subject is full of complexities. Two distinct types of tradition run through the older literature, a tradition of book-learning derived from classical and mediaeval manuals, and a quite separate tradition of folk medicine based on practice; and these two traditions mingle unpredictably in the herbals. (The work of Gabrielle Hatfield is beginning to clarify the distinction; see especially her Medicinal Plants in Folk Tradition, written with D. E. Allen, 2004.) Add to this the various theories or fads that have affected medical prescription at different times, for instance the doctrine of signatures (Fig. 8, p. 60) promoted by Giovanni della Porta (Phytognomica, of which we have the 1650 ed.), or the astrology that Nicholas Culpeper and later editors of his herbal used. Nor can the historian of gardening (or the curious gardener?) ignore this body of literature, for to a great extent it determined the planting choice of the earliest documented gardens. The Library has a very good collection of sixteenth- and seventeenthcentury herbals, and of the major works on medical botany from later generations, through Woodville, Lindley, and Bentley to

60 B. Elliott



Fig. 8. The doctrine of signatures: plants to be used against scorpion stings because of their resemblance to a scorpion, from Giovanni Battista della Porta, *Phytognomica* (1650).

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modern research on essential oils: close to 1,000 titles altogether. Current works to be found on the shelves range from standard pharmacopoeias, through scientifically trialled assessments of plant products, studies of hay fever plants, bibliographies like Mitchell and Rook's *Botanical Dermatology* (1979), and studies of folk remedies in different societies, to works on Bach flower remedies, aromatherapy, and complementary medicine.

With these last-named practices, we are shading into the study of the folklore of plants, and the Library has over 300 titles on the subject, ranging from classical and Biblical lore, through the ethnobotany of a range of countries, to the symbolic flower codes ("the Victorian language of flowers") so recently popular. We have a good collection of commentaries on classical botanists, from Brunfels and Mattioli in the sixteenth century, through Sibthorp in the eighteenth, to modern works by John Raven and J. M. Riddle, and an almost equally long tradition of commentaries on the plants mentioned in the Bible, from Westmacott and Ursin in the 1690s, through Hiller and Celsius in the eighteenth century, Balfour, Henslow, and Anne Pratt in the nineteenth, to Michael Zohary and Nigel Hepper in recent years. As for floral symbolism, Rembert Dodoens wrote one of the first works on the use of floral symbolism (Florum et Coronariarum... Historia, 1569); some of his contemporaries (Ulisse Aldrovandi and Johann Coler) brought the interpretation of dreams into their treatises.

# 17. Miscellaneous social history

Like every specialist library, the RHS Lindley Library is regularly approached by people investigating their family history, with enquiries ranging from straightforward biographical information on ancestors who were gardeners, nurserymen, or amateur plant raisers, to the identification and purport of medals awarded to ancestors. The materials that are used for these purposes include obituaries in the gardening press and in modern press cuttings; carte-de-visite

photographs of nineteenth-century botanists and gardeners; ex libris labels and provenance stamps in books.

The collections inevitably contain a wealth of material superfluous to the purposes for which they were acquired. Period illustrations and carte-de-visite photographs are useful to the historian of costume; annotations are useful to the historian of handwriting and calligraphy (not to mention grammar and spelling); books on garden design can include matter relevant to the history of pure architecture, engineering (fountain construction), sports and games (sports turf maintenance, play equipment (Fig. 9, opposite), children's games played in the garden); floras and books on plant collecting can contain much sociological, anthropological, and even archaeological information about the countries visited; accounts of gardens, parks, cemeteries, allotments and garden villages or suburbs are relevant to local and social historians; the archives of the Society contain the minutes of Music and Fine Arts Committees from the 1860s, the former of which in particular has yet to be exploited by music historians.

# 18. Bibliography and history of the book

The library does not acquire material for reasons of bibliographic interest alone; nonetheless, through the accidents of gift and bequest, there is a wealth of material in the Library that is particularly instructive for the bibliographer, or the student of the history of printing and publication. For instance, the Library contains two copies of Clusius' *Rariorum plantarum historia* (1601), one of which contains a large addition on the final page not present in the other – a good demonstration of the fact that in early printing, amendments could be made at any point during the print run, and that copies should not be assumed to be duplicates without detailed examination. Some copies have cancels that the binder has failed to substitute for the original pages intended for replacement; a work like Warner's *Plantae Woodfordienses* (1771) reveals the limitations of provincial printers, with ten cancels in a little over 200 pages.

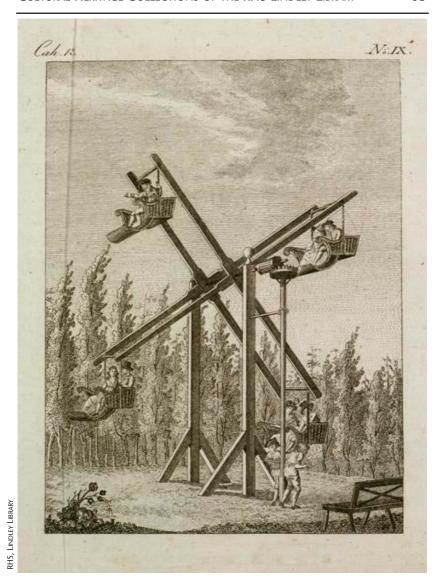


Fig. 9. Play equipment for the garden: an ancestor of the Ferris wheel, from Johann Gottfried Grohmann, *Ideenmagazin*, Vol. 2, Heft xiii (1797).

As with any collection of early printed books, the Library contains a variety of types of early paper, in many cases with watermarks. The Library has been the home of a pioneering experiment on the imaging of watermarks, conducted by Dr Ian Christie-Miller, in the course of which he developed his system of "Paperprint" identification for books printed on handmade paper. The analysis of the paper and watermarks in early English and French books resulted in the discovery that the older the book, the more disparate the sources of paper.

The older books in the Library exhibit a wide range of styles of binding, ranging from the paper wrappers in which works were distributed by seventeenth- and eighteenth-century bookshops, through Renaissance panel-stamped vellum, eighteenth-century cartonage, and nineteenth-century marbling, to twentieth-century binding in the school of Cobden-Sanderson. Some bindings immediately identify the collection from which they derived, and it is possible to trace the movements of individual volumes through series of owners using ex libris labels, signatures and annotations, and an excellent range of specialist booksellers' catalogues going back into the early twentieth century. Among important previous owners of some of the Library's volumes are William Salmon, Anthony Relhan, William Curtis, Malesherbes, Jean-Jacques Rousseau, Richard Pulteney, Lord Bute, James Edward Smith, George Grote, K. F. P. Martius, James Bateman, Queen Victoria, Peter Barr, Beerbohm Tree (whose bookplate was designed by Max Beerbohm), not to mention major donors like John Lindley, Donald McDonald, C. Harman Payne, E. A. Bunyard, Reginald Cory, Alfred Gurney Wilson, B. Daydon Jackson, Fred Stoker, E. A. Bowles, Sir Frederick Stern, Graham Stuart Thomas, David McClintock, and John Bond.

The Library's collections of flower show schedules and nursery catalogues provide a fascinating record of the history of amateur printing in the UK over the course of the twentieth century, from the work of the turn-of-the-century stationer, through the age of the Gestetner and the mimeograph, to modern desktop publishing.

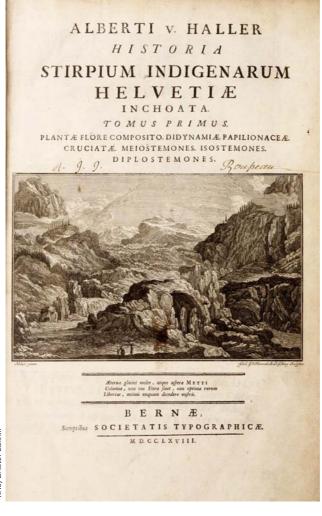


Fig. 10. The title page of Jean-Jacques
Rousseau's copy of Albrecht von Haller's Historia stirpium indigenarum Helvetiae (1768), with Rousseau's signature.

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For the student of printed illustrations, the Library houses some collections of printing media of the nineteenth and twentieth centuries. These include wood-engraving and halftone blocks used in the Veitch Nurseries' Manual of Coniferae (1881 and 1900 editions); the colour separation plates for one of Lilian Snelling's Botanical Magazine illustrations; modern drawings showing preparations for making camera-ready copy; the printing materials for an issue of *The* Garden from the 1990s, as evidence of commercial printing by offset photolithography; and a range of photographic media, from a daguerreotype and albumen prints of the 1860s and 1870s, through glass transparencies and lantern slides, autochromes, modern transparencies, and digitally assembled prints. The Library houses standard biographical dictionaries of artists as well as works specifically on flower painters and botanical artists, as well as the major historical works on botanical art, of which it can boast a larger collection than that of the National Art Library at the Victoria and Albert Museum.

# 19. Garden writing as literature

Let it not be forgotten that one of the major functions of a library is to provide material for leisure reading. If the literature of gardening consisted purely of practical instruction, it would attract no greater following than the literature of automobile maintenance, but instead we can see a never-ending issue of competing anthologies of garden writing over the centuries.

Some older horticultural works have become literary classics because of the interesting antiquity of their prose style. Gerard's *Herball* was not designed as a literary work, but, like *The Anatomy of Melancholy*, it has become one; Marcus Woodward's volume of extracts has been reprinted several times since 1927. Parkinson's *Paradisus Terrestris*, similarly, became the first gardening book to be published in facsimile (1904). Surprisingly, Philip Miller's *Gardeners Dictionary* has yet to experience revival as a work of literature, possibly because of the difficulty of deciding on the most appropriate edition. As we near

the twentieth century, various writings of William Robinson and Gertrude Jekyll have been re-issued more than once; an anthology of Mrs Earle was published in 1982; and George Sitwell's *Essay on the Making of Gardens* (1909) has been republished three times.

Garden writers tend to live in the memory on the basis of published books; those whose periodical contributions are not collected disappear from view. The books of Vita Sackville-West and Christopher Lloyd have effectively kept their journalism continually in the public eye, but there is a wealth of now forgotten material by Miles Hadfield, Arthur Hellyer, not to mention nineteenth-century predecessors like Donald Beaton, that rewards study. For anyone who wants to survey gardening literature as an art form, the Lindley Library has the largest and most accessible relevant collection. In addition to the books and periodicals, the Library also holds William Robinson's manuscript "Tree and Shrub Book", from which his book Gravetye Manor was compiled; the manuscripts or typescripts of books such as Patrick Synge's Lilies (1980) and Peter Smithers' Adventures of a Gardener (1995), and the working papers of writers like Mea Allan, E. J. Willson, and Ronald Webber – not to mention a copy of William Bowyer Honey's Gardening Heresies and Devotions (1939), which includes the original illustrations that Honey wanted, before his publishers overruled him.

Children's books on gardening and botany form a separate but fascinating category, beginning with botanical instruction manuals in the late eighteenth century, and showing all the period changes in approach and rhetoric that characterise the general development of literature for children. With approximately 800 titles over a period of two centuries, the Lindley Library has the best collection of its kind.

No library is ever fully comprehensive for a given discipline, and the serious scholar will always have to look in other libraries and other collections to be sure of covering all the extant sources. But for the subject range compassed by horticulture, garden history, garden

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design, and the attendant disciplines dealt with in this article, the RHS Lindley Library remains the scholar's primary source of information and materials. This has been known for generations to the specialists in these subjects; it is to be hoped that this article will bring the Library greater attention in the wider scholarly world.

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