

The Royal Botanic Gardens at Kew

Tony Rudawski

History of World Landscapes

LA 314

Kletzing

8/2/2020

The Royal Botanic Gardens at Kew is a historical site responsible for significant contributions to science and economic botany, the curation of which reflects the views of the individuals who have contributed to the gardens and the changing artistic and socio-political attitudes over time. With a form that generally follows its function, the layout and facilities of Kew support and venerate populations of plants in their natural orientation while exhibiting the artistic attitudes of various landscape architects throughout the last four centuries. Thousands of ornamental, medicinal, and industrially recognized plants have come to be part of the landscape at Kew. The accelerated transfer of those plants that are used for scientific and industrial purposes has resulted in significant global economic and socio-political impact. Consequentially, the landscape architecture tells a story of scientific, aesthetic, and economic interest in plants around the world and how that altered the dynamic of history.

Kew became a royal place of residence in the early eighteenth century. The nineteenth century map in figure one gives a bird's eye view of what was originally the royal family's pleasure gardens. The river Thames seems to bend around it, guarding it from the north and the west. Nestled near the city of London with many streams of traffic nearby, the Royal Gardens have always been somewhat of a central location of England. The High Street of Brentford, a main road connecting the metropolis to England's southwest region, lies just across the river from Kew. This gives a royal, yet unostentatious air to the gardens because it is central while separate from the large population. The beautiful, quiet gardens are closely adjoined to the city in such a way that they are easily accessible by crossing a bridge, but the river itself secludes and preserves the natural greenery from the nearby urban sprawl. Similar to the way an organ, tissue, or cell composes yet remains distinct within a body, the Royal Botanic Gardens at Kew, when viewed from above, seem almost like the life giving heart of the country, sending people to and

from the therapeutic landscape via railways, electric trams, and steamboats. Several individuals responsible for the development of Kew and its surrounding regions even gave life to modern botanical interest. Long before the establishment of the Royal Botanic Gardens by the Princess of Wales in 1759, a local botanist by the name of William Turner earned the title “Father of English Botany” in the middle of the sixteenth century. No connection can be traced between his work and Kew, but his authoring of a famous Herbal and maintenance of a garden in the area has helped to build and maintain the region’s value in worldwide plant specimens.¹

Botanic gardens like Kew are an invaluable tool for the scientific study of plants. In a report written in 1837 by notable botanist Dr. John Lindley, he pointed out “the benefits to the community at large which might be derived from a well-managed, well-equipped botanic garden; how medicine manufactures, and horticulture might be helped by the existence of a central establishment to which useful and ornamental plants might be sent and redistributed; how a taste for refined horticulture might thereby be fostered; and how such a garden might be relied on by government to supply authentic information in regard to the economic development of new colonies.”² This report arguably saved the public recognition of Kew as a scientific establishment from near demise. Considering its implications, there is an analytical argument to be made concerning the ideas expressed in this statement and the worldwide impact of botanic gardens in general. Though they exist largely for pleasure, there has been increasing economic interest in botanic gardens for the role they play as a harbor for plants and ideas around the world. History has shown this phenomenon to result in great benefit for some but drawbacks for others, whether it be plant, animal, or human populations. The last phrase in the quote by Lindley

¹ Jackson, “The Royal Botanic Gardens, Kew” 1-3.

² Jackson, “The Royal Botanic Gardens, Kew” 5.

expresses the necessity of the Royal Botanic gardens as a tool for European expansion, an ideal that in current times is viewed as problematic and sometimes destructive to indigenous cultures and native flora and fauna.

In an important article on anthropology and colonial expansion, Lucile H. Brockway states that “since the sixteenth century, scientific knowledge, and the application of that knowledge via technical innovation, has been the cutting edge of Western comparative economic advantage.”³ Many technological advances in travel, communication, and weaponry have been unevenly distributed, favoring the expansive capacity of Western culture. Historically this has resulted in alteration and exploitation of other cultures along the way, and botanic gardens sometimes act as tools of dissemination. Kew and other gardens are like zoos in that they display specimens from around the world in artificial ecosystems so that the viewer can enjoy and learn from their presence. This is evident in the layout of Kew being oriented with the purpose of allowing lines of sight to every point of interest; the small sections being dedicated primarily to more dense foliage and large sections having trees, shrubs, and structures with walkways winding through them. Although, some of these plants are not there for the sole purpose of viewing but have special agro-industrial purpose. The main examples within Kew are the Cinchona, the Andean tree whose bark yields a malaria-fighting alkaloid known as quinine, and the rubber tree, the South American tree whose trunk can be tapped to harvest the milky precursor to rubber known as latex. These commercial crops were taken from their natural habitats in Latin America and established abroad with the help of the Kew Royal Botanic Gardens. The facilities and knowledgeable staff of Kew helped with the selection and hybridization of plants to transfer to Asian colonies of the British Empire. There, they were

³ Brockway, “Science and Colonial Expansion” 450.

grown and studied by a corps of scientists whose work spanned a network of governmental stations in other parts of the world, and new varieties were developed with improved genetics. The new varieties and improved cultivation methods were then given to colonial planters, a major factor in the expansion of new plantation industries.

Before raw materials had synthetic substitutes, botanical knowledge was a crucial source of wealth and success in the early years of the industrial revolution. For that reason, it was customary for world explorers to be accompanied by a surgeon-naturalist sponsored by national governments. Although, it was not uncommon for empires to seek out plants of economic interest on their own terms via covert operations. In 1860 and 1861, five collectors and gardeners from the Kew Gardens India Office were dispatched to Peru, Bolivia, and Ecuador by the British council to smuggle Cinchona seeds out of their borders despite prohibitive laws and angry locals. Seeds and young trees were successfully taken, and this was justified by European observers who claimed their intervention in the native agriculture was “saving the industry” from the “harmful practices” of the forest Indians who worked in the four Andean Republics. Their harvest method of felling trees and stripping bark was assumed to be harmful by those who only saw that portion of cultivation, but the trees would grow back from felled roots in about six years.⁴

England has a temperate climate with cold winters that would not be suitable for warm-climate plants, so trees like the Cinchona and other botanical specimens at Kew require an artificial climate. Partly as a solution to this, heated greenhouses like the Lily House, the Temperate House, and the Palm House were erected at Kew. In 1844, in accordance with the

⁴ Brockway, “Science and Colonial Expansion” 451-456

designs of Decimus Burton, The Palm House seen in figure two was constructed by Richard Turner. He and other architects adapted techniques from ship builders to achieve the shape and structure of the palm house, which explains why the arching beams resemble the bottom of a ship. This was the biggest glasshouse constructed in its time, and the first to combine iron and glass in such a way.⁵ The design was inspired by the Great Conservatory of Chatsworth but improved upon by rejecting the use of wood. Metal was chosen as the skeletal support for the glass panels of the greenhouse instead of wood because it allowed more sunlight to penetrate the building.⁶ Burton's style-less architectural character and Turner's reliance on the more technical nature of building resulted in a structure that was highly functional but lacked artistic character.⁷ This expresses the idea that the building was constructed primarily to serve a purpose. Though it was also intended to be an attraction of the newly founded public botanic garden and remains quite a site to behold, it seems that the plants inside the building withhold more beauty than the structure itself. Greenhouses often become metaphorically the canvas upon which the living components of visual interest are displayed. The design and building of sea-faring ships that served as a model for the Palm House resulted in hastened industrial growth, and ironically, the greenhouses built for the purpose of economic botany had the same result.

For better or for worse, cheap labor was another key factor for empirical expansion in the countries where European Cinchona plantations employed convicts and indigenous people alike. In South India, the Badagas of the Nilgiri Plateau benefited from added income brought about by the expanding plantation-based industry, but many lost their lives to disease in the unfamiliar climate and high altitudes where the medicinal plant thrived. Young cinchonas were established

⁵ Diestelkamp, "The Design and Building of the Palm House"

⁶ Diestelkamp, "Richard Turner and the Palm House at Kew Gardens." 1-4

⁷ Diestelkamp, "The Design and Building of the Palm House"

in South India and Ceylon, but the plantations there never met the needs of the Indian people due to high prices and served more to strengthen the British tropical empire. High prices prevented the common people of Africa, Asia, and Latin America from accessing quinine at a time when Malaria was killing millions. The Andean native industry was pushed out of the market and taken over by Europeans.⁸ Herein lies another painful irony of botanic history; life-saving medicinal plants were being propagated with military-like strategy by the hands of indigenous cultures who needed it most, but the power structure and unequal distribution limited their access and resulted in intense social stratification.

There is a dynamic tension between the unhindered inclinations of man and good stewardship within the field of botany, and one could say this is visually expressed in the juxtaposition of “wild” and “tame” inside the walls of the Royal Botanic Gardens at Kew. The Eighteenth-century English landscape garden is a style that presents an idealized view of nature. By mimicking the natural form of the land, the design allows the viewer to enjoy the benefits of a feeling of connection to nature without having to part with the benefits of modern life. The diverse, untamed foliage sectioned off by ornate walkways tells a story of the romantic relationship between humans and nature but is done so through the lens of English royalty. This limited view excludes some of the people who are also involved in the story, and their absence offers painful coherence of meaning within the landscape.

The landscape garden was a quiet revolution of art and horticulture that took place in the 1700s. It represented a break-away from the formal style of gardens disseminated in the Italian Renaissance, replacing blatant geometry with a more naturalistic style that embraced meandering

⁸ Brockway, “Science and Colonial Expansion” 451-456

pathways and swelling hills. The use of the greenery in nature as a medium of artistic expression relied on limited elements to compose the whole. Grass, trees, and water were the main attractions and other embellishments only distracted from them. The traditional walled garden was moved far from the house to make space for large swathes of land sprinkled with clumps of trees. The lack of crops on the land showed that the owner did not need the added income, and became a symbol of status, wealth, and power. The open expanses of grass were kept down with herds of sheep or cattle, a place to display improved breeds of livestock and thoroughbred horses. The estates which incorporated this new, relaxed fashion of landscape architecture contrasted the box-like layout of contemporary mansions around them, inspiring others to merge styles by using elements of landscape gardening in their designs. The landscape garden became the “outdoor equivalent of a painting.”⁹ It was decorative but functional, and incorporated engineering, agriculture, and hydrology. By the nineteenth century its popularity flourished, making it Britain’s greatest contribution to the visual arts. A large portion of England’s economy in the 1700s owes itself to the thousands of landscape estates that sprang up in this era.

Among many great landscape architects of the time, a man by the name of Lancelot Brown nicknamed “Capability” Brown made the most significant contribution to this movement with his extravagant installations. He designed many gardens throughout England and Wales, and in 1764, King George III made him the Royal Gardener at Kew. The king liked the informal look of the landscape garden and how Brown employed it in his other works. Brown proposed a radical scheme for a new landscape design that involved removing several of the existing landscape features at Kew, including work by William Kent and Charles Bridgeman built in the 1730’s. This was viewed as an act of vandalism by some. However controversial at the time, his

⁹ Rutherford “*Landscape Gardens*” 1-13

naturalistic approach seemed well received given that other skilled designers only expanded upon his work.¹⁰ Tons of earth were moved when he added varying levels to the flat landscape at Kew. This work gave a more natural form to the land by use of sloping, contoured lines which suggested the gardens were an extension of the naturally occurring landscape. Any formal elements of the landscape that were not removed were suppressed.¹¹ In Brown's redesign scheme in figure three, it is possible to see evidence of human manipulation of the land and trees even though it seems rather natural. His strategic removal of some trees and planting of others results in smooth lines that flow into one another. Where there is not a continuous line, there are clumps of trees which delineate lines, rarely forming right angles. These long curving lines intersect in several areas where the eye is naturally drawn, creating multiple focal points large and small. From the point of view of a person standing in one of these points from which several lines of sight diverge, one could see three or more long winding paths with no visible end. This gives a feeling of what might be described as a combination of isolation and awe brought about by both the large expanse of seemingly natural forest and knowing that it is the handiwork of only a few people. Brown's changes also expanded the range of the parklands, and the sheer size of the park combined with the more natural look created an atmosphere that disrupted visible boundaries between wild and tame.

When looking into the history of Kew and other botanic gardens, it is evident that they exist as more than just tourist attractions and pleasure gardens for entertainment, but they also serve as national assets of economic botany. History would not be the same were it not for the

¹⁰ Rutherford "*Landscape Gardens*" 1-13

¹¹ ¹¹ Rutherford "*Landscape Gardens*" 1-13

accelerated transfer and study of plants from around the world. With silent beauty, the large fields and intricate buildings reflect the scientific projects and artistic movements of the past. The landscape of the Royal Botanic Gardens at Kew tells a story of the people who have overseen its expansion as well as the history of the country. It is a mirror of culture and displays changing socio political and artistic attitudes over time. What was once a royal hobby has since become a collection of tens of thousands of living plant specimens and was made a UNESCO world heritage site in 2003. Now, people come from all over the world to witness this tribute to plant life for all its natural beauty and utility. This royal botanic garden is no longer just a symbol of power but a relic of the past. The charming buildings, long walkways, and centuries-old botanic collections shine a light on parts of history that have been neglected or misrepresented.

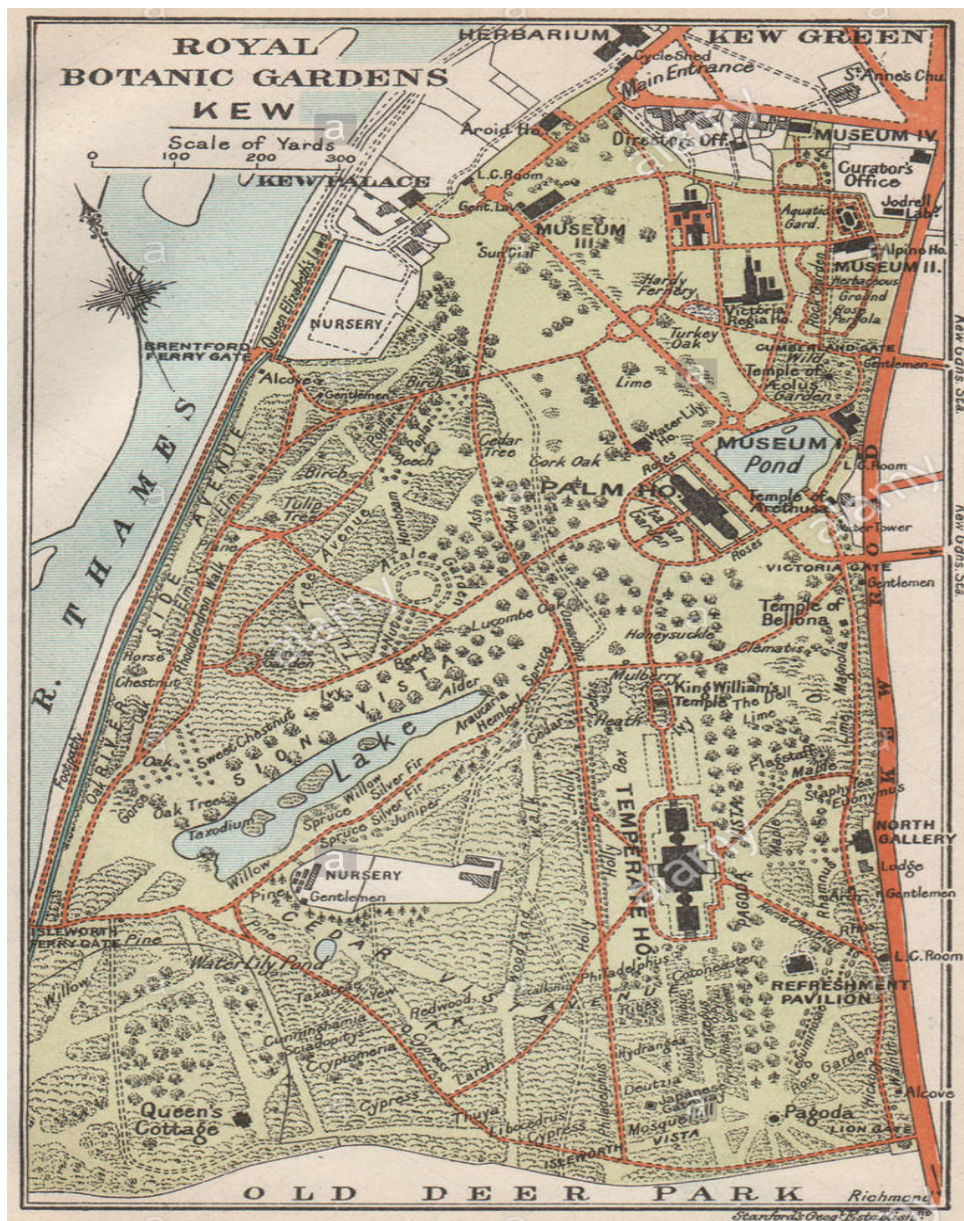


Figure 1 'Royal Botanic Gardens Kew'. Artist/engraver/cartographer: Unsigned. Provenance: "The Blue Guides Muirhead's London and its Environs"; Edited by Findlay Muirhead, Published by Macmillan & Co. Ltd., London: 1st Edition. Type: Vintage colour map.



Figure 2 Palm house. (2020, May 14). Retrieved August 02, 2020, from https://en.wikipedia.org/wiki/Palm_house



Figure 3 “Kew.” Kew - Garden | Capability Brown, www.capabilitybrown.org/garden/kew/.

- Bean, William Jackson. *The royal botanic gardens, Kew: Historical and descriptive*. Cassell, 1908.
- Brockway, Lucile H. "Science and colonial expansion: the role of the British Royal Botanic Gardens." *American Ethnologist* 6, no. 3 (1979): 449-465.
- Diestelkamp, Edward J. "Richard Turner and the Palm House at Kew Gardens." *Transactions of the Newcomen Society* 54, no. 1 (1982): 1-26.
- Diestelkamp, Edward J. "The design and building of the Palm House, Royal Botanic Gardens, Kew." *The Journal of Garden History* 2, no. 3 (1982): 233-272.
- Hunt, John Dixon. *Greater perfections: The practice of garden theory*. University of Pennsylvania Press, 2000.
- "Kew." *Kew - Garden* | Capability Brown, www.capabilitybrown.org/garden/kew/.
- Palm house. (2020, May 14). Retrieved August 02, 2020, from https://en.wikipedia.org/wiki/Palm_house
- Rutherford, Sarah. *Landscape Gardens*. Amberley Publishing Limited, 2017.
- Veselkova, N. S., and E. A. Tukish. "Royal Botanic gardens, Kew." (2011).
- Villagra-Islas, Paula. "Newer plant displays in botanical gardens: The role of design in environmental interpretation." *Landscape research* 36, no. 5 (2011): 573-597.