

EAST MEETS WEST

The geographic location of Canary Wharf Crossrail station, directly north of Greenwich, places the West India Docks virtually on the Prime Meridian dividing the eastern and western hemispheres.

This position at the point where east meets west has inspired the division of the Roof Garden into two geographic zones.

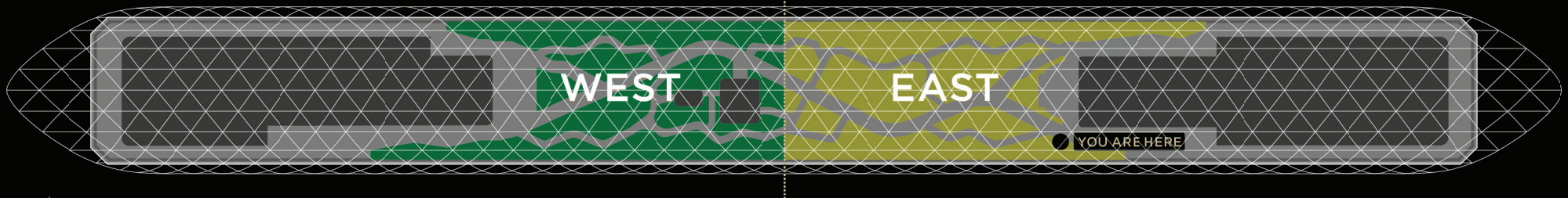


Dr. Nathaniel Bagshaw Ward

DID YOU KNOW?

The survival of the majority of plants which were imported to Europe from overseas was possible thanks to the Wardian Cases, a type of sealed protective container for plants, and an early version of the terrarium.

The case is named in honour of Dr. Nathaniel B. Ward, a physician with a passion for botany.



1802

A NEW DOCK FOR LONDON

In the late 18th Century traders from America and the Caribbean were victims of piracy and theft at London's overcrowded riverside wharves. A group led by Robert Milligan lobbied Parliament for the creation of a secure dock for their precious cargoes such as sugar, coffee and spices. The West India Docks which opened here in 1802, were considered to be the greatest engineering structure of the day.



West India Docks in the 19th Century



Robert Milligan



2018

A NEW STATION FOR LONDON

The Roof Garden sits above the Canary Wharf station, part of Crossrail, one of the greatest engineering projects of the 21st Century. It celebrates some of the plants that were brought to London from faraway lands by intrepid explorers in merchant ships.

The Roof Garden is designed to evoke a ship laden with unusual and exotic specimens from around the globe. The Wardian Case, described above, has been a source of inspiration for the design of the Roof Garden.



Crossrail Roof Garden



The Wardian Case

EXPLORATIONS WEST

The late 13th and 19th Centuries saw increasing exploration of areas previously unknown to Europe. Ships involved in these explorations were bringing cargoes from both eastern and western hemispheres. Intermingled with this, explorers returned with specimen plants collected on their travels.

Certain expeditions by plant hunters were sponsored by scientific establishments such as Kew Gardens and the Royal Horticultural Society (RHS) whilst others, overtly commercial, sought to exploit the natural bounty of these far flung regions with an emphasis on valuable cash-crops. The main commodities that ships were bringing to the UK from the west were: **sugar, coffee and bananas**.



DAVID DOUGLAS

Douglas made several separate trips from England to **North America**. In 1824 The RHS sent him on a plant-hunting expedition to the Pacific Northwest, which ranks among the greatest botanical explorations of a heroic generation. He introduced about **240 species of plants** to Britain with a unique collection of pines and conifers that **transformed the British landscape** and timber industry.



SIR JOSEPH DALTON HOOKER

Sir Joseph Dalton Hooker was one of the renowned British botanists and explorers of the 19th Century. He was amongst the **first plant explorers to use the new Wardian Cases**, when he shipped live plants back to England from **New Zealand** in 1841. In 1847 Hooker left England for a three-year-long expedition, which made him the first European to collect plants in the Himalaya. His travels truly joined **east and west**.

CARIBBEAN, AMERICA AND AUSTRALIA

WEST INDIA DOCKS, LONDON



West India Docks 1900
Sugar being hoisted into warehouses



19th Century Brazil
Coffee plantation



DID YOU KNOW?

The banana plant is not a tree, it is the world's largest herb.

COFFEE

COFFEA ARABICA

- Coffee grows on trees and is a red berry before it becomes a bean
- It takes 5 years for a coffee tree to mature enough to produce its first crop

SUGAR

SACCHARUM

- Sugar has no fat and is 100% natural
- Sugar cane is a relative of ordinary grass and it is found in the tropical and semi-tropical climates of the world

West India Docks
Unloading bananas from ship to van



BANANA

MUSA

- Bananas are the most popular fruit in the world
- The "trunk" of a banana plant is not made of wood, it is made of tightly overlapping leaves

6 m
4 m
2 m



PLANTS FROM THE WEST



CAN YOU SPOT ANY OF THE FOLLOWING TREE FERNS IN THE GARDEN?

This half of the garden primarily represents plants from the western hemisphere.

Tree ferns are common in the wet tropics, in mountain valleys where mist and drizzle are frequent. The trunks are covered with a mat of roots and at the top of the trunk they have large feather-like leaves.

The Dicksonia variety of tree fern contains 30 species originating from South America, Malaysia, Australia and New Zealand. Tree ferns are primitive plants and can be dated back to the Jurassic Period.



SOFT TREE FERN
DICKSONIA ANTARTICA

- Native to south eastern Australia
- Can grow up to 15m high in the wild
- First came to the UK a: the end of the 20th Century aboard ships returning from Australia
- The Dicksonia genus is named in honour of James Dickson (1738-1822), a prominent British nurseryman



GOLDEN TREE FERN
DICKSONIA FIBROSA

- Native to New Zealand
- Can grow up to 6m
- As it grows the stems become covered in thick, densely matted, fibrous red aerial roots, this is why the plant is also known as the Woolly tree fern



NEW ZEALAND TREE FERN
DICKSONIA SQUARROSA

- Native to New Zealand
- It is found growing abundantly in coastal montane forests
- Can grow up to 7m
- Develops a slender black trunk as it grows



STRAWBERRY TREE
ARBUTUS UNEDO

- Native to the western Mediterranean and Ireland
- A small multi-stemmed, rounded, evergreen shrub or small tree reaching 9m in the wild
- The trees take on a picturesque appearance over time and exhibit red/brown and flaking bark accompanied by the lush, dark green, leathery, red stemmed leaves



SWEET GUM
LIQUIDAMBAR STYRACIFLUA

- Deciduous tree native to the eastern USA and Mexico
- Its wood is often used for furniture making
- The tree was introduced to the UK by John Banister, a missionary and botanist, employed by Henry Compton, Bishop of London from 1675-1713, who made the gardens of Fulham Palace famous

SOAP

DID YOU KNOW?

The sweet gum tree produces a resinous gum known as liquid storax that is used to scent soap and as an ingredient in cough remedies.



CAN YOU SPOT THE FOLLOWING BAMBOOS IN THE GARDEN?



GOLDEN BAMBOO
PHYLLOSTACHYS AUREA

- Native to Fujian and Zhejiang in China
- It has long, tall stems with crowded nodes at the base
- Forms large clumps of yellow canes and dense foliage



BLACK BAMBOO
PHYLLOSTACHYS NIGRA

- Produces slender canes of up to 6m with dark green leaves
- New green columns emerge every spring and gradually turn black in one to three years



VEITCH BAMBOO
SASA VEITCHII

- Native to Japan
- Can grow up to 1.8m
- Its stems, which branch from each node, are generally purple



CAN YOU SPOT THE JAPANESE MAPLE GROWING IN THE GARDEN?



JAPANESE MAPLE
ACER PALMATUM

- Native to Japan
- Small tree with delicate foliage and brilliant autumn colour
- It can reach heights of up to 4-5m and grows best in shaded locations



NORTHERN JAPANESE MAGNOLIA
MAGNOLIA KOBUS

- Native to Japan
- This tree is deciduous and develops a conical shape reaching heights of up to 10m in the wild
- It produces white flowers in early spring preceding its aromatic foliage

PLANTS FROM THE EAST

This half of the garden primarily represents plants from the eastern hemisphere.

Phyllostachys is a type of evergreen bamboo from Asia. Grown for their decorative foliage, they have spreading roots that may sprout shoots some distance from the parent plant. Bamboos were brought into cultivation in western gardens from the early 19th Century, tropical species, such as Bambusa vulgaris from India, were the first to be introduced to Europe, but they were only suitable for hothouses. Bamboos like Phyllostachys aurea were among the first temperate bamboos to be introduced in Europe.



DID YOU KNOW?

In recent years a range of technologies have been developed allowing bamboo fibre to be used in a wide range of textiles. In fact, the insulating characteristics of bamboo fibre make it great for sustaining body temperature, protecting people from the extremes of hot and cold.

WEST INDIA DOCKS,
LONDON

INDIA AND
CHINA



EXPLORATIONS EAST

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Certain expeditions by plant hunters were sponsored by scientific establishments such as Kew Gardens and the Royal Horticultural Society (RHS) whilst others, overtly commercial, sought to exploit the natural bounty of these far flung regions with an emphasis on valuable cash-crops. The exotic cargoes from the east included: **tea, silk and spices**.



ROBERT FORTUNE

Fortune was a Scottish botanist, plant hunter and traveller and his most famous accomplishment was the successful **transportation of tea** from China to India in 1848 on behalf of the British East India Company. He introduced many trees, shrubs and flowers to the west and many varieties of tree peonies, azaleas and chrysanthemums.



CHARLES MARIES

Maries was an English botanist and plant collector who was sent by James Veitch & Sons of Chelsea, London to search for new hardy plants in Japan, China and Taiwan between 1877 and 1879. There he discovered over **500 new species** which were introduced to England, one of them, the Magnolia Kobus, you can see in this roof garden.

West India Docks 20th Century
Commodity transit shed



DID YOU KNOW?

The world's oldest cultivated tea tree is more than 3,200 years old and is found in Yunnan province in south-west China.

SPICES

BLACK PEPPER (PIPER NIGRUM)

- The most valuable spices brought to the UK were cloves, nutmeg and peppercorns
- The black pepper plant is a perennial woody vine growing on supporting trees, poles or trellises



East India Docks 1867
Unloading tea ships

TEA

CAMELLIA SINENSIS

- Tea is an infusion of the dried leaves, flowers and buds of the Camellia sinensis plant
- Tea plants prefer a rich and moist growing location in full to part sun



South East Asia
Process of weaving and dyeing silk

SILK

- Silk is a natural protein fibre, some forms of which can be woven into textiles
- Silk is produced by several insects, but generally only the silk of moth caterpillars has been used for textile manufacturing



3 m

2 m

1 m