

7030

b 22

KEW GARDENS

OR

A Popular Guide

TO THE

ROYAL BOTANIC GARDENS OF KEW.

BY

SIR W. J. HOOKER

K.H. D.C.L. F.R.S. & L.S.

CORRESPONDENT OF THE INSTITUTE OF FRANCE, ETC. ETC.

Director.

---

"Soft roll your incense, *Herbs and Fruits and Flowers,*  
In mingled clouds, to Him whose sun exalts,  
Whose breath perfumes you, and whose pencil paints."

---

SIXTEENTH EDITION.

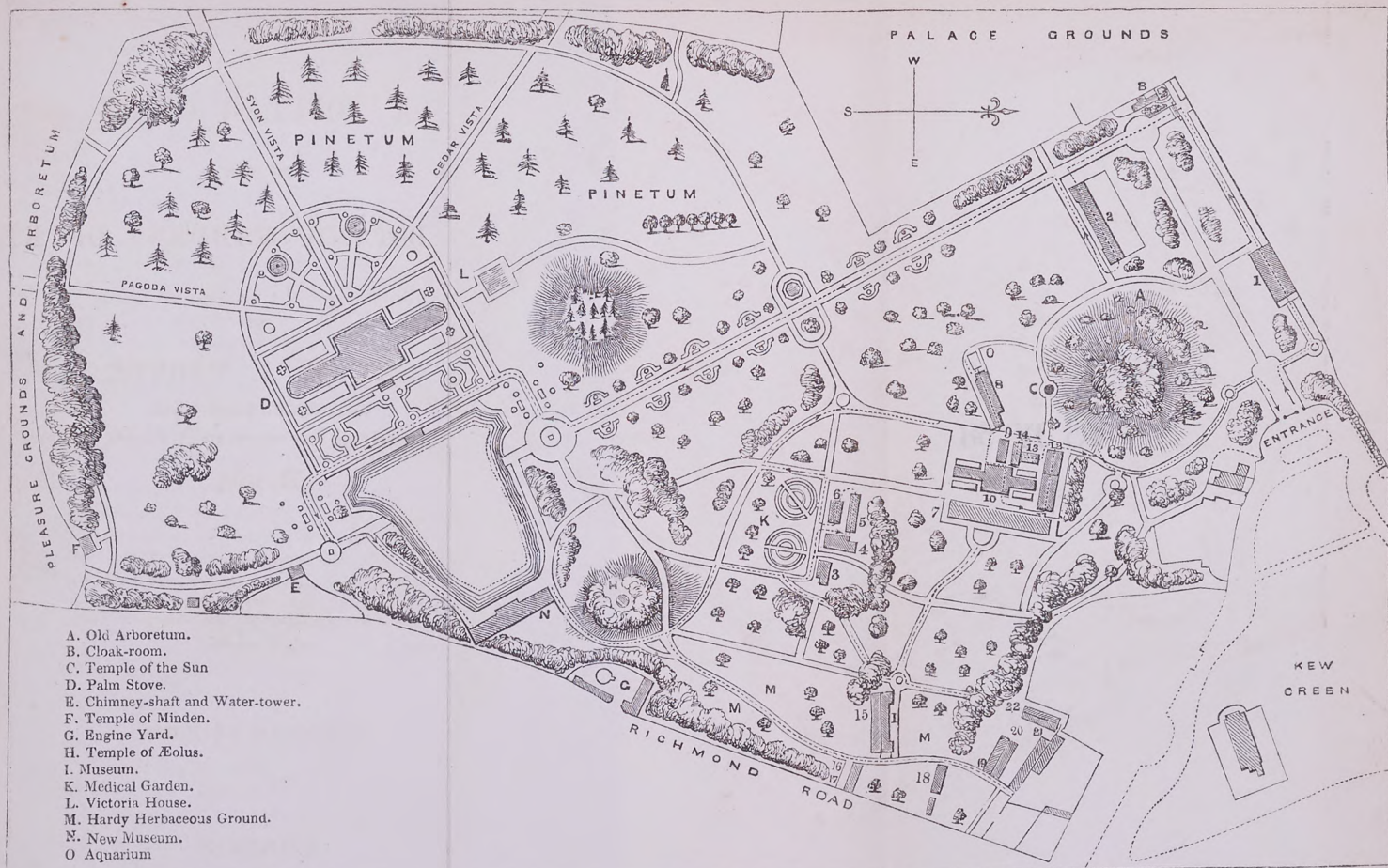
LONDON

LONGMAN, BROWN, GREEN, LONGMANS, & ROBERTS.

1858

b 22

Price Sixpence



PLAN OF THE ROYAL BOTANIC GARDENS OF KEW.



116  
22  
KEW GARDENS

OR

A POPULAR GUIDE

TO THE

ROYAL BOTANIC GARDENS OF KEW.

BY

SIR W. J. HOOKER K

K.H. D.C.L. F.R.A. & L.S.

CORRESPONDENT OF THE INSTITUTE OF FRANCE, ETC. ETC.

Director.

---

“ Soft roll your incense, *Herbs and Fruits and Flowers*,  
In mingled clouds, to Him whose sun exalts,  
Whose breath perfumes you, and whose pencil paints.”

---

SIXTEENTH EDITION.

LONDON

LONGMAN, BROWN, GREEN, LONGMANS, AND ROBERTS,

1858

- “ So sits, enthroned in vegetable pride,  
 Imperial Kew, by Thames’s glittering side :  
 Obedient sails from realms unfurrow’d bring  
 For her the unnamed progeny of Spring.
- “ Delighted Thames through tropic umbrage glides,  
 And, flowers antarctic bending o’er his tides,  
 Drinks the new tints, the sweets unknown inhales,  
 And calls the sons of science to his vales.  
 In one bright point admiring Nature eyes  
 The fruits and foliage of discordant skies,  
 Twines the gay flow’ret with the fragrant bough,  
 And binds the wreath round George’s regal brow.
- “ Sometimes, retiring from the public weal,  
 One tranquil hour the Royal Partners steal,  
 Through glades exotic pass, with step sublime,  
 Or mark the growth of Britain’s happier clime.”



LONDON :  
 Printed by SPORTSWOODS & Co.  
 New-street Square.

## PREFACE.

---

A GUIDE, which should indicate to strangers the more remarkable features in the Royal Botanic Gardens of Kew, and point out some of the many interesting plants cultivated there, has long been a desideratum. Of late, this want has been peculiarly felt, because of the great extent of ground, the number of plant-houses, and the amazing increase of the collection. The very fact, however, of the continued additions to the plants, combined with their rapid growth under good cultivation, renders any approach to a *perfect* Guide or Handbook a very difficult, if not an impossible, task; for, though it is true that only a reference to the more remarkable objects can be desired, yet the frequent arrival of novelties must, of necessity, cause such a book to become, in a measure, imperfect soon after its publication. This circumstance, along with the constantly increasing bulk, entails the incessant removal of plants from one house to another; thus the individuals that are recorded as occupying one particular greenhouse or stove may require shifting the very next day. It is eminently needful to warn our readers of this circumstance, because they will thus comprehend how it happens that a plant stated to exist in Plant-house No. 1., for instance, may not at the time of their visit be found there. To a certain extent, and owing to the causes just mentioned, individual specimens cannot be stationary for a great space of time; still we endeavour to retain them in the places indicated as long as possible; and, if a large plant of peculiar interest be necessarily removed, we shall, as often as we can, replace it with a smaller individual of the same kind. When this is impracticable, and any particular plant is not seen where the Guide-Book states it to be, the *Index* will probably refer to the page where it is noticed.

The beauty of these grounds and of the plants which they contain, combined with the liberal admission granted by Government, attracts, as may be supposed, great crowds of visitors; and a few needful regulations, over and above those expressly posted in the grounds, may be here appropriately given.

1. Smoking, or eating and drinking, or the carrying of provisions of any kind into the Gardens, are strictly forbidden. No dogs can be admitted.

2. No packages or parcels, bags or baskets, are allowed to be carried within the grounds. All such articles must be deposited at the gate of entrance while the owners make the tour of the Gardens.

3. No person attired otherwise than respectably can enter, nor children too young to take care of themselves, unless a parent or suitable guardian be with them: the police have strict orders to remove such, as also persons guilty of any kind of impropriety. Nor can large schools have admission, except in accordance with the printed regulations to be seen at the gate.

4. It is by no means forbidden to walk upon the lawns; still it is requested that preference be given to the gravel-paths, and especially that the lawn-edges parallel to the walks be not made a kind of foot-way, for nothing renders them more unsightly. It might scarcely be thought needful to say, that all play, leaping over the beds, and running, particularly on the mounds and slopes, are prohibited; yet the latter has been practised, and so heedlessly, that very serious injuries have resulted from falls, and grievously scarred faces have been the memento of such folly. The Gardens are intended for agreeable recreation and instruction, not for idle sports.

5. It is requested that visitors will abstain from touching the plants and flowers: a contrary practice can only lead to the suspicion, perhaps unfounded, that their object is to abstract a flower or a cutting, which, when detected, must be followed by disgraceful expulsion.

6. It is particularly requested that visitors will enter the Plant-houses by the doors indicated for the purpose; if they do otherwise, and come in by opposite ones indiscriminately, they will meet and pass each other, which the narrowness of the walks renders difficult; and this must occasion inconvenience to all parties, and often injury to the plants.

The accompanying Plan of the Gardens and Plant-houses will, it is expected, prove useful; and a stranger to the ground and the collection may do well to follow the route indicated by *dotted lines*, as the most convenient for giving a tolerably complete survey of the whole.

7. No children's chaises are admitted; but *grown-up invalids* can have permission to visit the Gardens in wheel-chairs, on a written application to the Director, giving name and residence.

More might be said on these heads; but the Director, while bearing willing testimony to the excellent conduct of the many thousands who frequent the Gardens, prefers to rely on the good sense and honourable feelings of the visitors, and the value they must attach to the privileges here afforded, rather than multiply restrictions which may not be absolutely required.

The *Botanic Gardens* are open every week-day from one till sunset: and no person can be admitted at other hours *except on business*. On Sundays they are open from two to seven, or sunset, in winter.

N.B. The *Royal Pleasure-Grounds* or *Arboretum*, sometimes by strangers confounded with the Botanic Gardens, constitute a separate though adjoining portion of ornamental ground, accessible daily from May to Michaelmas, by three gates,—two in the road leading from Kew to Richmond, called the *Lion* or *Pagoda Gate* and the *Unicorn Gate*, and one by the river-side, nearly opposite Brentford Ferry, called the *Brentford Gate*,—besides the gates of communication to and from the Botanic Gardens.

To strangers desirous of presenting Plants or Museum objects from abroad to Kew, we here take leave to mention, that, in despatching packages and parcels, the quickest mode of transit is always the best. When sent by the Queen's ships or the Royal Mail, or the Peninsular and Oriental Company's steamers, the address should be:—

“ To the SECRETARY of the ADMIRALTY,  
 “ For Sir Wm. J. Hooker, “ LONDON.  
 “ Royal Gardens, Kew.”

If by merchant or other vessels, the direction is simply,  
 “ To Sir Wm. J. Hooker,  
 “ Royal Gardens, Kew,  
 “ LONDON.”

# KEW GARDENS.

---

HISTORIC NOTICE	-	-	-	-	-	Page
GUIDE TO THE BOTANIC GARDENS	-	-	-	-	-	6
						13

---

## BRIEF HISTORIC NOTICE.

It is generally known that considerable changes in the Royal Botanic Grounds of Kew were contemplated about the year 1840, when, from being a private garden belonging to the Royal Family, and maintained by funds from the Board of Green Cloth, it was liberally relinquished by her present Majesty, Queen Victoria, and placed under the control of the Commissioners of Her Majesty's Woods and Forests, with the view of rendering it available for the general good. The public, having since been freely admitted to the Gardens under a few needful regulations, must have observed the many alterations and improvements effected under the sanction of the above-mentioned Commission, and cannot fail to desire some information respecting them. It is with a view to satisfy such laudable curiosity, and to increase the interest with which the Gardens are visited, that this **GUIDE** is now compiled.

We shall not here enter into the full and early history of the Royal Gardens of Kew: a few statements are, however, necessary, and we have selected them from the best authorities.

About the middle of the seventeenth century, the spot that now forms the Royal Gardens of Kew, together with a residence called *Kew House*, belonged to R. Bennett, Esq., whose daughter and heiress married Lord Capel. There is a handsome white marble monument to this lady in Kew Church. *Kew House* and Grounds then passed into the hands of Mr. Molyneux, who was secretary to King George II. (when Prince of Wales), and who married Lady Elizabeth Capel. He was well known as a man of literature and an astronomer. With an instrument of Mr. Molyneux's own con-



struction, and in those very grounds, Dr. Bradley made the valuable discoveries relating to the fixed stars, to commemorate which an inscription was placed by the late King William IV. on the pedestal of a sun-dial, which stands on the identical spot which had been occupied by Dr. Bradley's telescope, upon the lawn, opposite to the present palace.

The Prince of Wales, who was son to George II., and father to George III., admiring the situation of *Kew House*, took a long lease of it from the Capel family about the year 1730, and began to form the pleasure-grounds, then containing about 270 acres. They were completed by his widow, Augusta, Princess Dowager of Wales, who delighted in superintending the improvements, then conducted upon a most extensive scale. At this time Sir W. Chambers was employed in decorating the Gardens at Kew with temples, &c., an account of which he published in a large folio work with many plates, (dedicated to the Princess Dowager of Wales,) under the title of "Plans, Elevations, Sections, and Perspective Views of the Gardens and Buildings at Kew, in Surrey, the Seat of H. R. H. the Princess Dowager of Wales."

The Exotic Department of this Garden was commenced by the same Princess, and much favoured by the Earl of Bute, about the middle of the eighteenth century. Many of the finest foreign trees were contributed by Archibald Duke of Argyle (styled by Horace Walpole the Tree-monger), who sent them from his once richly-stored garden at Whitton, near Hounslow.

We find that in the year 1759, Mr. W. Aiton, a pupil of the celebrated Philip Miller, of the Chelsea Physic-Garden, was placed in charge of the Botanical Gardens at Kew,—a gentleman no less distinguished by his private virtues than his knowledge of plants, and great skill in cultivating them. His professional abilities quickly procured him the notice of the late Sir Joseph Banks, and a friendship commenced which subsisted between them for life.

About the year 1789 His Majesty George III. purchased Kew House, which was soon afterwards pulled down, and its furniture removed to an older mansion, since known by the name of *Kew Palace*, and once the property of Sir Hugh Portman, who is mentioned as "the rich gentleman who was knighted by Queen Elizabeth at Kew." This small but picturesque red brick dwelling, which appears to be of the date of King James, or Charles I., was purchased in 1781 for Queen Charlotte (who died there); and it was long the favourite suburban residence of the Royal Family. Her Majesty evinced much interest in the increase of the collection of plants; and justly does the late Sir James E. Smith, President of the Linnæan Society, bear testimony to the Queen's love of botany,

when he says "that the genus *Strelitzia* (so-called by Mr. Aiton) stands on the sure basis of botanical knowledge and zeal, few persons having cherished the study of nature more ardently, or cultivated it so deeply, as Her Majesty." Under such auspices, and aided by the enlightened patronage of Sir Joseph Banks, it was only to be expected that the Gardens of Kew should become celebrated 'all over the world. So early as 1760, the great or old Stove (No. 8. of the Plan), 114 feet long, was built by Sir William Chambers.

In 1761 the noble Orangery (No. 2. of the Plan) was erected also by Sir William Chambers. It measures 145 feet in length, its width is 30 feet, and its height 25 feet. In the same year was added the very elegant Temple of the Sun, as it is called, of the Corinthian order (C. of the Plan); and some young trees were planted near, which are now grown to be among the most beautiful in the Gardens, particularly an *Oriental Plane* and a *Turkey Oak*. Such had been the increase of plants, that, in the year 1788, a greenhouse was built for Cape plants (since demolished), 110 feet long; and another for the vegetable productions of New Holland, nearly the same size (No. 10. of the Plan), was added in 1792. (This latter has been much enlarged and improved under the name of the "Australian House.")

A catalogue of the plants in the Exotic Garden of Kew was published by Dr. Hill in 1768, and a second edition the following year.

A far more elaborate and important work appeared in 3 vols. 8vo., accompanied by some admirable plates, the *Hortus Kewensis* of William Aiton, in 1789, giving an account of the several foreign plants which had been introduced into the English gardens at different times, amounting to 5,600 in number; and so much was it esteemed that the whole impression was sold off within two years. Mr. Aiton did not long survive this publication, for he died in 1793, in the sixty-third year of his age, and lies buried in the churchyard at Kew, near the graves of his distinguished friends, Zoffany, Meyer, and Gainsborough. He was succeeded by his son, W. Townsend Aiton, Esq., who was no less esteemed by King George III. than his father had been, and who, besides conducting the botanical department, and taking charge of the extensive pleasure-grounds, was also employed in the improvement of the other Royal gardens, in all which he displayed great skill and judgment, and an intimate acquaintance with his profession.

The voyage of Captain Cook and Sir Joseph Banks round the world; those of Captain Flinders and Mr. Robert Brown (*Botanicorum Princeps*), and of Mr. Allan Cunningham, to Australia; the expeditions of Bowie and Masson respectively to Brazil and the Cape of Good Hope—all these enriched the Gardens of Kew with the vegetable

productions of the southern hemisphere, to an extent unparalleled before or since: besides which, other collectors were employed abroad during a long period of years in various countries; and the produce of their researches was deposited at Kew. On various occasions, especially during the life of King George III., other houses, stoves and pits were erected, as occasion required; but it must be confessed that, on the demise of that revered monarch and of Sir Joseph Banks, whom His Majesty so much delighted to honour, and who died shortly after the King, the establishment languished and suffered from want of Royal and scientific encouragement. During the reigns of George IV. and William IV., with the exception of a few plants being transmitted by occasionally employed collectors, and one hothouse being erected by the last-mentioned sovereign (and it is but right to add that this conservatory is eminently handsome and ornamental), the Botanic Gardens retrograded rather than flourished; and matters must have been much worse, but for the truly parental affection cherished towards it by Mr. Aiton, and the able exertions of his foreman (now the curator), Mr. John Smith. Throughout the country an opinion existed, which soon began to be loudly expressed, that either the Gardens should be entirely abolished or placed upon a very different footing, and rendered available, as a great popular yet scientific establishment, for the advantage of the public.

Government was, happily, ready to respond to this latter feeling; and in 1838, the Lords of Her Majesty's Treasury appointed a committee to inquire into the management, condition, &c. of the Royal Botanic Gardens. The result was, that in May, 1840, a return was made to the House of Commons, in the shape of a report by Dr. Lindley, who, at the desire of the committee, had surveyed the Gardens, in conjunction with two well-known practical gardeners.

Strangers, or persons not well acquainted with the vicinity of Kew, often entertain very incorrect notions of this establishment; nor can such be wondered at, seeing for how long a time it was the private garden of the Royal Family, and taking also into account its extensive and highly-varied nature. It may be interesting, especially as exhibiting most forcibly the change that has since taken place, to describe in few words the extent and condition of the grounds at the time of this investigation, namely, in 1840. They then consisted of—

1. *The Grounds immediately about the existing Palace of Kew*, which were of small circuit, lying near the river, and consisting mainly of those of the great edifice or Palace\*, begun by Mr. Wyatt in the reign of His Majesty King George III., and soon afterwards pulled down, and the grounds of the present Palace. The boundary

\* The site of this Palace is now, with the sanction of Her Majesty, used as a nursery for the supply of the London Parks.

is the river on the north side, the Pleasure-Grounds on the south and west, and the Botanic Garden on the east.

2. *The Botanic Garden proper*, which contained at the time in question 11 acres, or thereabouts, of very irregular outline; bounded on the north partly by the gardens of those residences, mainly Crown property, which stand on the south side of Kew Green, in part by the Green itself, from which it was separated by a handsome railing, and in part by the gardens of His late Majesty the King of Hanover; westward, by the grounds of the Palace above-mentioned; eastward, by what were then the Royal Kitchen and Forcing-Gardens (now a part of the Botanic Garden); and south by the Pleasure-Ground.

3. *The Royal Kitchen and Forcing-Gardens*, situated between the Botanic Garden and the Richmond road, comprising about fourteen acres. (This portion has been, as just observed, added to the Botanic Garden.)

4. *The Pleasure-Ground or Arboretum*, comprising 270 acres of wood, shrubbery and lawn, lying to the south of the Botanic Garden, and bounded by the Richmond road on one side, and the river on the other. For some years this extensive and beautiful area had been thrown open only twice a week during the summer (now daily during that season, and the public are admitted at three different entrances).

5. South of this, and stretching between the Richmond road and the Thames, almost into the lower part of Richmond, lies *Richmond Old Park*, or the *Old Royal Deer-Park*, as it is sometimes called; a noble extent of pasture, comprising about 400 acres, interspersed with many fine trees; distinguished by the *Observatory* erected by George III., and now liberally granted to the use of the British Association, where that scientific body has carried on an interesting series of experiments on terrestrial magnetism.

The report of Dr. Lindley, mentioned above, has reference only to the second of these divisions, namely, the *Royal Botanic Gardens*, which are stated to "include many fine exotic trees and shrubs, a small collection of herbaceous plants, and numerous specimens of grasses." Ten different stoves and greenhouses then existed; most of which have been either condemned and pulled down as unworthy of the Gardens, or so greatly altered as to be no longer recognizable under Dr. Lindley's description.

It resulted from this investigation, that the whole of the Gardens, Pleasure-Grounds and Park was transferred to the department of the Commissioners of Her Majesty's Woods and Forests. Mr. Aiton, on the eve of the fiftieth anniversary of his holding office, retired from the charge of the Botanic Gardens; and the present Director received instructions from the Board to enter upon his important

duties in the spring of the year 1841, and to prepare, as speedily as possible, a Report of those alterations which were deemed essential for rendering the Gardens useful to the public at home and to our colonies abroad. Many useful suggestions on these heads were offered by Dr. Lindley in the before-mentioned document, especially the following: — “ A national garden ought to be the centre, round which all minor establishments of the same nature should be arranged: they should be all under the control of the chief of that garden, acting in concert with him, and through him with one another, reporting constantly their proceedings, explaining their wants, receiving their supplies, and aiding the mother-country in every thing that is useful in the vegetable kingdom. Medicine, commerce, agriculture, horticulture, and many valuable branches of manufacture, would derive much benefit from the adoption of such a system. From a garden of this kind, government would be able to obtain authentic and official information on points connected with the founding of new colonies: it would afford the plants there required, without its being necessary, as now, to apply to the officers of private establishments for advice and assistance.”

Changes of a highly important character could not fail in suggesting themselves to the Director, on his becoming intimately acquainted with the minutiae of the establishment, many of which it were tedious to narrate in this place.

One of the first was to open the Botanic Gardens for the admittance of the public daily. Not only the Grounds but the Plant-houses and Museum are open to visitors; the number of whom, it is needless to say, is very considerable\*; yet, what is peculiarly gratifying, and contrary to the anticipation of many persons, this privilege has been rarely abused. In the few cases of an opposite line of conduct, the consequent detection (which must be expected where trustworthy men are necessarily dispersed through the Gardens at their various occupations) has proved its own punishment.

Next to the facility and consequent pleasure and instruction to the public, the enlargement of the ground was an important object. The limit of the Garden was not, indeed, exactly defined where it met the precincts of the residence of His Majesty the King of Hanover; but permission was soon obtained to include within the Botanic Garden

\* It may not be uninteresting to our readers to state the gradual increase of visitors, since the Botanic Gardens were thus daily thrown open to the public. The amount of visitors

in 1841 was	-	-	-	9,174	in 1850 was	-	-	-	179,627
1842 "	-	-	-	11,400	1851 "	-	-	-	238,900
1843 "	-	-	-	13,492	1852 "	-	-	-	231,210
1844 "	-	-	-	15,114	1853 "	-	-	-	331,210
1845 "	-	-	-	28,139	1854 "	-	-	-	339,164
1846 "	-	-	-	46,573	1855 "	-	-	-	318,418
1847 "	-	-	-	64,282	1856 "	-	-	-	344,140
1848 "	-	-	-	91,708	1857 "	-	-	-	361,978
1849 "	-	-	-	137,865					

all the ground immediately about the Conservatory and Orangery, which greatly enhanced the beauty of the view, and added between 3 and 4 acres. This augmentation to the limits, however, was, from its small extent, rather to be considered ornamental than useful. Application was made by the Chief Commissioner of Woods and Forests, to the Queen, for a grant of land from the contiguous Pleasure-Ground, which might afford the means of forming a *Pinetum* (or a collection of plants of the Pine-tribe) suited to such an establishment, and also of erecting a Palm-Stove, or tropical house, equally worthy of the place and the nation. Her Majesty was graciously pleased to assent to this request; and a portion of the Pleasure-Ground, comprising about 47 acres, and including a piece of water, was surveyed, and permitted to be enclosed within a light wire fence, which still gives to view the rest of the Pleasure-Ground, and adds to the beauty of the Botanic Gardens, which, thus augmented, contained 60 acres.

Again, in the winter of 1846-7, orders were received for abolishing the Royal Kitchen and Forcing Gardens of Kew, as such, and incorporating them with the Botanic Grounds, which has already been done, thus adding 15 more acres to the scientific portion of the grounds (75 acres in all).

But changes now come to be noticed that have been effected within the above-mentioned *Botanic Garden* grounds; for, in the same ratio that hardy plants required more space, so did the tender plants need increased accommodation; and plans were accordingly given in for those improvements, by which such a transformation is effected in the aspect of the place, that persons who have not visited Kew Gardens for a few years can scarcely recognise the localities. We shall describe, with all possible brevity, the present condition of the Royal Botanic Gardens, and at the same time indicate the objects most worth the attention of a stranger, both in the open ground and in the several plant-houses. There is a separate Guide-Book to the extensive and valuable contents of the two Museums of Economic Botany within the Gardens.

---



## GUIDE TO THE BOTANIC GARDENS.

---

ON approaching the Botanic Gardens by the new entrance at the head of Kew Green, the visitor cannot fail to be struck with the beauty of the richly ornamented gateway, erected in 1845-6, by the late Mr. Walker, of York, from a design of Decimus Burton, Esq. Passing through it, the main walk takes a westerly course, and, besides catching a distant view of Kew Palace, attention will be attracted on the left by the fine trees of the OLD ARBORETUM, a collection of hardy exotic trees and shrubs. On the lawn on the right-hand side of this walk, among other recently planted and recently introduced trees, is the graceful *Cryptomeria Japonica*, a plant of the Pine-kind, native of Northern China and Japan, with other young evergreen trees or shrubs, and a Palm of Northern China, *Chamærops excelsa*, which has been found to bear our climate for some years past with little or no protection; and on the other side of the walk, on the outskirts of the old Arboretum, will be seen good specimens of *Douglas's Pine* (*Abies Douglasii*), *Pinus Sabiana*, &c. The Plant-house, which here comes directly in view, is

### NO. 1. THE CONSERVATORY ;

A handsome stone building, of classical design, sometimes called the ARCHITECTURAL GREEN-HOUSE. This fine structure was removed hither, by order of His Majesty William IV., from Buckingham Palace in 1836. It is one of the three\* Conservatories that had been erected in the gardens there, heated by innumerable coils of small pipes, fixed by Mr. Perkins, and is now filled with an extremely rich collection of Australian trees and shrubs, chiefly *Myrtaceæ*, *Leguminosæ*, *Proteaceæ*; the latter a family of plants, so named in consequence of the very varied character of the stems, leaves, and inflorescence, yet agreeing in the essential character of the flowers and fruit. They are handsome evergreen shrubs, or small trees, constituting much of the so-called "*Scrub*" of New Holland. Among the numerous kinds of this extensive group the *Banksias* and *Dryandras* are the most remarkable, and the handsome *Waratah*

\* The second is still a Conservatory at Buckingham Palace, while the third has been there converted into a Royal Chapel.

(*Telopea speciosissima*, fig. 1.) Their foliage, though harsh and rigid, has something of the Fern character; and the flowers, especially of the *Banksias*, are arranged in bunches or tufts resembling a bottle-brush. It is in the winter and spring season generally that they are in flower. The smaller and younger plants in this house are raised chiefly from Swan River seeds, sent by Mr. Drummond, and are of great rarity and value. Here, too, is placed the curious *Hand Plant* (*Cheirostemon platanoides*, fig. 2.) of Mexico, with leaves resembling those of a Plane-tree; the stamens, resembling the fingers of the human hand, probably recommended this curious plant as an object of worship. At the period of Humboldt's visit, the only tree then known in Mexico was held sacred.



TELOPEA SPECIOSISSIMA.



THE HAND-PLANT.

We are supposed to have entered this conservatory by the eastern door: on quitting it at the west end, the path leads towards the Palace, with a vista in front; of which the view extends past the front of the Palace and across the river to the grounds of Syon House, the mansion of His Grace the Duke of Northumberland. The main walk soon takes a southerly direction a little before coming to a CLOAKROOM, where ladies will always find a place of rest or shelter in wet weather, and where their umbrellas or cloaks can be deposited by those who contemplate a long walk, under the care of an obliging female attendant. Here, on turning to the left, the visitor enters upon the grand and favourite promenade of the Garden. Proceeding, the attention is drawn by a large edifice on the left facing the south, which we still call by its original name,

## No. 2. THE ORANGERY;

Which is used to shelter, in the winter, numerous large and half-hardy trees and shrubs, especially tender *Pines*, many of which are of great rarity and value. The house was erected by Sir William Chambers in 1761\*, and it bears on the front, in two

\* Not 1751, as incorrectly inscribed on the shields in the façade.

shields, the initials of Augusta, Princess Dowager of Wales, who, as already mentioned, took a great interest in the Gardens of Kew, and to whom Sir William Chambers dedicated, in 1763, his "Designs of Her Royal Highness's magnificent Villa at Kew." The two ends of this edifice were altered and furnished with large windows in 1842, and they bear the royal arms and that date accordingly. It was originally destined for, and filled with, orange trees, till 1841, when they were removed to Kensington Palace (with the exception of a few), and their places supplied by a very miscellaneous collection of trees and shrubs, which had become too large for the other greenhouses. The tenderer *Pines* (*Coniferæ*) constitute, perhaps, the most prominent feature in this house, when it has received its inmates for the autumn and winter. Here, at the latter seasons, may be seen the noblest specimens in Europe of the *Norfolk-Island Pine* (*Araucaria excelsa*), remarkable for their beautifully drooping and graceful branches, which almost vie with ostrich plumes;—the *Araucaria columnaris* of New Caledonia, where its stately column-like appearance was noted by the circumnavigator, Captain Cook, under the name of *Cupressus columnaris*; the *Pencil Cedar*, as it is commonly called,—no cedar, indeed, but an American *Juniper* (*Juniperus Bermudiana*);—the *Moreton-Bay Pine* (*A. Cunninghami*), together with another species from Moreton Bay, N. E. Australia, resembling, in its foliage, the Chili Pine (*A. imbricata*), and long the only specimen of the tree in Europe. It was discovered in the high lands, near Moreton Bay, by the late J. G. Bidwill, Esq., and having been by him presented to the Gardens, it justly bears his name (*A. Bidwilli*): its full-grown cones are as large as a child's head; and, as the seeds of the Chili Pine are eaten in South America, so are these eagerly sought for, as an article of food, by the aborigines of Australia, who at the proper season migrate to the pine-woods for the sole purpose of collecting them. The *Brazilian Pine* (*A. Braziliiana*), the *China broad-leaved Pine* (*Cunninghamia lanceolata*, fig. 3.), graceful *Pines* from the Himalaya Mountains, and several others, equally rare, from Mexico and elsewhere, are here; all needing protection during the winter.



CUNNINGHAMIA LANCEOLATA.

In this house some large *Gum-Trees* of Australia (*Eucalyptus*) are easily recognizable, — one kind is the rapidly-growing *Gum-Tree* described by Mr. Backhouse, when he says: "It is the most gigantic tree of Van Diemen's Land, and there called *Stringy Bark*."

Some of the specimens exceed 200 feet, rising almost to the height of the Monument in London before branching: their trunks also will bear comparison with that stately column both for circumference and straightness. Here are unquestionably the finest specimens in Europe of the famous *New Zealand* or *Cowdie* (sometimes called *Cowrie*, or *Kauri*) *Pine* (*Dammara australis*), the gift (with many other rarities) of Admiral Sir William Symonds, R.N., the late Surveyor-General of the Navy; than whom no person was more competent to estimate its value for spars for the British navy. Shiploads are imported to supply the Royal Dockyards. It affords also copiously a valuable gum-resin.

In the same house may be seen the *Camphor-Tree* (fig. 4.) of Japan (*Laurus Camphora* L.); but so miscellaneous is the collection here, and so variable, in consequence of the plants and shrubs being moved in summer to different parts of the lawns and walks, that it is unnecessary to enumerate any more of them. The largest, and the rarest, and the best, especially the Norfolk-Island Pines, will generally be found at that season placed in the vicinity of the Orangery.

The visitor, on quitting this building, will probably be disposed to return to the main path leading to the Palm-house and to the Victoria-House; and he can hardly fail to be struck with the beauty of this noble walk, and with the judgment shown by Mr. Nesfield in the disposition and shape of the beds of shrubs and flowers. Alternating with the large beds are planted two lines of *Deodars*, designed eventually to form an avenue of this stately and graceful tree. Secondary lines are composed of Junipers, Cypressess, and other allied plants. The *Deodar* line is in one place interrupted by a beautiful *Turkey Oak*, too fine a specimen to be sacrificed, even for the sake of perfecting the avenue: the whole vista terminating on the south by the very handsome tower, which, while it performs the duty of a chimney-shaft for the Palm-house, includes a great tank (that receives its supply of water through the means of a steam-engine), by means of which the ornamental water and its jet are supplied, and applicable to the watering of the plants of the whole garden and all the houses. Westward on the lawn may be seen a fine group of *Elms*, known by the name of "the Seven Sisters" (so called in allusion to the daughters of His Majesty George III.), and two noble *Limes*; and in this



CAMPHOR TREE.

direction walks have been recently made (see the Plan) to branch off and conduct through the newly-planted *Pinetum* (collection of *Coniferæ* or *Pines*); by which the visitor may approach the Victoria-House or the western entrance of the Palm-house by the Syon vista, or extend his walk to the tower and ornamental water.

Returning, however, to the principal promenade, and continuing south, we find a handsome piece of water with a jet or small fountain, enlivened by swans, and by other aquatic birds from the Zoological Society of London. The *Canadian Canoe*, formerly moored here in summer (made of the *Paper Birch*, *Betula papyrifera*), became leaky and decayed. A model, made of the same material, is in the New Museum. A branch-walk to the right brings us to the recently finished

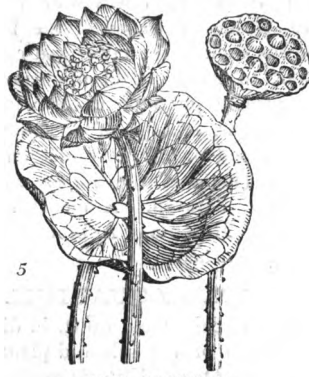
### TROPICAL AQUARIUM.

(L on the Plan), with its circular tank, 36 ft. in diameter, originally intended for the cultivation of the splendid plant which bears the name of our most gracious Queen, *Victoria regia*; an inhabitant of the still waters or Igaripés of tropical America, especially in Guiana, and the tributaries of the Amazon. Our gardens are indebted for the possession of it to Dr. Rodie, and to Mr. Luckie, who sent fresh seeds in phials of water: — “It was on the 1st of January, 1837,” writes Sir Robt. H. Schomburgk, the eminent traveller and recent discoverer of this extraordinary vegetable production, “while ascending the river Berbice, that some object attracted my attention which I could not comprehend; but animating my crew to increase the rate of paddling, we soon came opposite a truly vegetable wonder. All calamities were forgotten. I was a botanist, and felt myself rewarded. Here were gigantic orbicular leaves, floating on the water, five and six feet in diameter, with a broad rim, light-green above and purple-crimson below; while, in character with this wonderful foliage, I saw flowers a foot and a quarter (15 inches) across, fragrant, white, with a pink, at length deep rose-coloured, centre.”\* It was not till 1849, though many attempts had been made previously, that we succeeded in rearing plants from the seeds, which we gladly distributed among our most distinguished horticultural friends. In 1850 our plants came to perfection, and have ripened seed abundantly, so that we shall rarely be without flowering specimens in the summer. In the winter the plant lies nearly dormant.

Other water-plants occupy the different parts of the tank, and

\* See, for a history of this remarkable aquatic, *Botanical Magazine* for 1847, tab. 4275—4278; and for a more full account, see “*Figures and Description of the Victoria Water-Lily*,” published by Messrs. Reeve, in *Imperial folio*. The plant itself being found to succeed best in the Plant-House, No. VI., it is transferred there.

amongst them the beautiful "Sacred Bean" of India (*Nelumbium speciosum*, fig. 5.), *κναιμος* of the ancients, the *Euryale ferox*, the

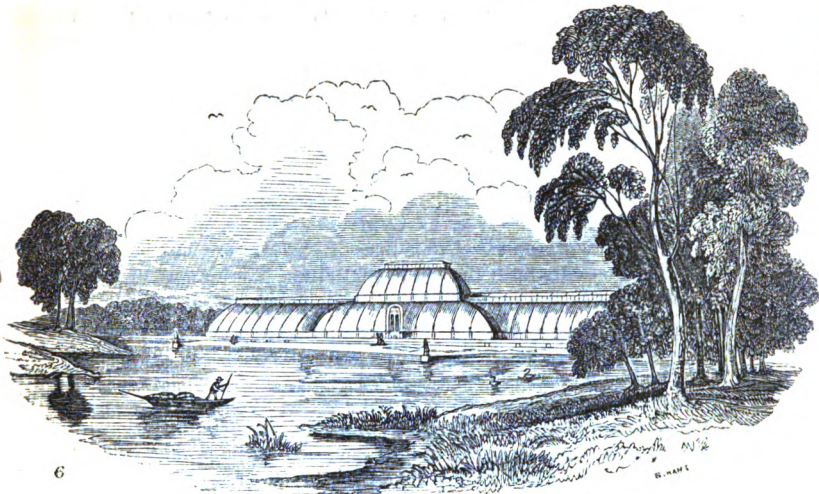


*Papyrus*, large leaved *aroidæ*, &c.  
The adjacent

### PALM-HOUSE, OR PALM-STOVE,

(Fig. 6.), completed in 1848, may be said to be the glory of the Gardens. It is built from the design of Decimus Burton, Esq.; and the iron-work is executed by Mr. Turner, of the Hammersmith Works, Dublin; the brick and stone work by Messrs. Grissell and Peto; and the boilers by Messrs. Burbidge and Healy: all working in concert with the Director and Curator of the establishment, who are responsible for the successful cultivation of the plants. As the public have the opportunity of inspecting this noble stove, we shall content ourselves with remarking, that the shell or external frame consists of a centre and two wings, occupying an area 362 feet in length; the centre is 100 feet wide and 66 feet in height to the summit of the lantern; the wings 50 feet wide and 30 feet high. The whole is of iron, stone, brick, and sheet-glass, the latter slightly tinged with green, at the suggestion of R. Hunt, Esq., of the Geological Survey, in order to temper the too powerful rays of light, which is thus in a measure accomplished. The extent of glass for covering this vast building is about 45,000 square feet. The ribs are inserted in enormous blocks of Cornish granite, placed on the most solid concrete. The central portion of the building (138 feet long and 100 feet wide) has a substantial gallery all round at the height of 30 feet from the floor, ascended and descended by light





PALM-STOVE.

spiral staircases, so as to give the opportunity of viewing the plants from above as well as below by bringing the spectator on a level with the summits of many of the loftiest, and also affording the means of watering the plants from above. The whole interior is heated by hot-water pipes and tanks (the hot-water pipes,  $4\frac{1}{2}$  inches in diameter, are estimated to extend 24,000 feet in length, and the hot-water tanks 1000 feet), also constructed by Mr. Turner, judiciously distributed under the tables and beneath the level of the floor. To avoid the unsightliness of a chimney attached to, or even placed near, so noble a structure, the smoke is conveyed by underground flues, within a brick tunnel 7 feet high (from the underground furnaces, twelve in number), to a distance of 479 feet from the House; where a shaft or ornamental tower is erected, 96 feet in height, so situated and of such a form as to be an architectural object when seen from the main walk. Near the base of the tower, between it and the Richmond road, is the coal-yard, concealed by shrubs; and here too, within the underground tunnel above alluded to, is a railroad, for the purpose of conveying coals to the furnaces, and for bringing away the ashes.

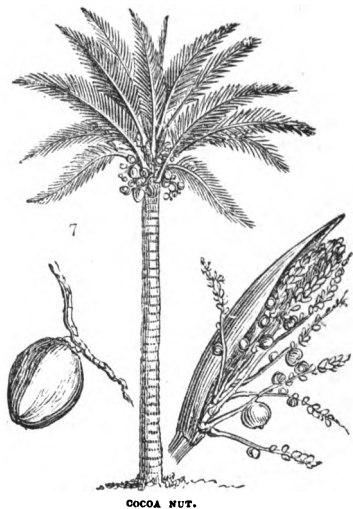
If, before entering, we make the tour of the terrace of the Palm-house, we shall find that the immediate vicinity, at the east and west fronts, is laid out with ornamental parterres for flowers or

shrubs. To the westward is a considerable area, or lawn, of some 25 acres, constituting a PINETUM, where are now seen all the *Coniferous plants* which bear the open air; while from the great western entrance of the Palm-house three vistas radiate at equal distances, commanding views through the Pleasure-Grounds. One, inclining to the south, in the direction of the Pagoda (best seen, perhaps, from the gallery of this Palm-house), is bounded on each side, for a length of 2800 feet, by a line of scarlet Thorns, alternating with spiry Evergreens, as Cypresses, Thujas, and Junipers, constituting a lawn avenue. Outer lines of Deodars are also planted, which will eventually form the permanent vista. The second, or Syon vista, completed in the spring of 1852, and looking west, extends to the river, nearly  $\frac{3}{4}$  of a mile, has a broad gravel walk, and is bordered with Deodars alternating with Limes. The third, looks towards a fine Cedar in the direction of Brentford.

We must now direct attention to some of the numerous objects in the Palm-house, a structure especially intended for the cultivation of those "Princes" of the vegetable kingdom, but by no means wholly confined to them. The Palms constitute, however, a splendid and striking feature of its vast area, and are seen to most advantage from the gallery above. Among the *loftiest* Palms in the House are two kinds of Cocoa-nut, of which one (*Cocos plumosa*) is an old inhabitant of these Gardens, and the other (*Cocos coronata*) was presented by Sir George Staunton, Bart., having been transported, though of so vast size, by railway, from that gentleman's beautiful seat, Leigh Park, Hants, in a case 42 feet in length. These, as does the *common Cocoa-nut*, afford good examples of one numerous group of Palms which have their leaves *pinnated*, or divided like the plume of a feather. The two *stoutest* Palms in the collection, easily recognized by the thickness of their trunks and the great size of the tubs in which they are placed (each single plant, with its earth and tub, being calculated to weigh 17 tons), are the *West Indian* or *Jamaica Fan-Palms* (*Sabal umbraculifera*), a good example of a second extensive group, having *palmate* or *fan-shaped* leaves. The *Caryota urens* may be mentioned as deviating considerably in its foliage from other Palms: each leaf is very much divided, and the ultimate divisions or leaflets resemble in shape the fin of a fish.

We may further mention in this collection the *Date-Palm* (*Phœnix dactylifera*), producing the dates of commerce and of Scripture, and which, together with the *Dwarf-Palm* (*Chamærops humilis*), are the most northern of all Palms (the majority being tropical), extending even into the South of Europe; the *Guinea Oil-Palm* (*Elæis Guineensis*), which produces the African palm-oil; the well-known *Cocoa-nut* (*Cocos nucifera*, fig. 7.), of which the various

uses, as fruit, milk, oil, wine or toddy, wood, fibre, &c., are said to be as numerous as the days in the year; the *Cabbage-Palm* (*Oreodoxa oleracea*), which yields the so-called esculent substance from the crown of its stem; *Seaforthia elegans* and *Corypha Australis* from New Holland; *Livistonia Borbonica*; and *Plectocoma elongata* from Dr. Wallich, which, with its luxuriant foliage, and its singularly spiny stem (the spines being digitate, or united together like the fingers of the hand, or still more resembling the foot of the mole, and admirably formed for strength), can hardly fail to attract the



attention of the passer-by. Its leaves, when full grown, are of vast length, and pinnated like the shaft of a feather, so long, indeed, that they seem, as does the very slender stem, to need support; and nature has provided them with the means; for the rachis, or main-stalk of the leaf, extends, at the end, into a lengthened slender tail, armed all along with strong deflexed hooks, by means of which, while running up among the stems, and catching hold of the branches of other trees, the foliage and stem are propped. A yet more wonderful provision of nature is observed in the young and yet unfolded leaves of this plant, during the period when they insinuate themselves upwards among the branches of the forests, for then these spines are upright, and lie flat against the stalk of the leaf; not becoming reflexed till they are needed as a means of support. Of Arecas are the well-known *Areca Catechu* and *Areca sapida*; — *Sago-Palm* (*Arenga saccharifera*). — *Phoenix sylvestris* is the *Wild Date* of India, which yields palm-wine and sugar; — the *Ivory-Palm* or *Vegetable Ivory* is the *Phytelephas macrocarpa*, an inhabitant of the Magdalena, New Grenada, of which the seeds constitute a substance so exactly like ivory, that they have become a considerable article of commerce, and are used for turning into a vast variety of trinkets and other articles resembling ivory; and the *Wax-Palm* (*Ceroxylon andicola*, fig. 8. p. 22.), of the Andes of New Grenada, discovered by Humboldt, of which the full-grown stem is covered with a waxy substance having the same properties as bees' wax: —

and lastly, we may observe that many kinds will be seen to have a coarse fibre separating from the base of the leaves, so strong indeed, that in the *Attalea funifera*, and other Palms, it forms an extensive article of commerce from Pará, Brazil, for the purpose of making brooms and brushes, as well as for the machines employed in sweeping the streets of London and other cities.

Some or other of the *Bananas* or *Plantains* may always be seen in this House, in a more or less advanced state of flower or fruit, through the whole year, their ample and delicately green foliage overtopping many of the other plants. The clusters of blossoms form a long pendent spike, and the flowers are of two kinds; those which are situated at the base of the spike being destined to become the cucumber-like fruit, while the others, seen at the extremity of the spike, are covered with concave purple scales, that gradually drop off, and permit the escape of the pollen, or fertilizing dust, which, being conveyed by the wind or by insects to the other blossoms, renders them perfect. The *Banana* (fig. 9.) only differs from the *Plantain* (fig. 10.) in the form of the fruit: they are, indeed, considered by Humboldt as mere varieties. Both are of inestimable value to the inhabitants of tropical countries in the Old and New Worlds. A single cluster of fruit often weighs 70 or 80 pounds, even when produced in the stoves of



CEROXYLON ANDICOLA.



BANANA.

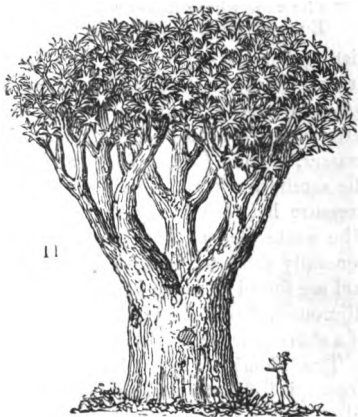


PLANTAIN.

this country. Besides being eaten fresh in their native land, bananas are dried as figs, or reduced to a kind of flour or meal by rasping. One kind, the *Plantain*, is called *Musa paradisiaca*; the *Banana* is *Musa sapientum*. A third and dwarf kind is the Chinese sort, *Musa Chinensis*, often called *M. Cavendishii*. The tender and succulent stems are eaten by various domestic animals: the fibre makes excellent cordage and clothing; and the leaves serve for covering houses. The rare and little known *Ensete* (*Musa Ensete*) of Bruce is another *Musa*, and for the knowledge and possession of it we are indebted to Walter Plowden, Esq., H. B. M. Consul at Mussowah in Abyssinia.

Two tall naked-stemmed plants in this House, with a crown of sword-shaped leaves, are the *Gum-Dragon Tree* (*Dracæna Draco*), which yields an astringent resin called dragon's blood, formerly used in medicine, and now chiefly employed by painters as a red varnish. Large as these specimens are, they are pygmies compared with the stature the tree attains in its native island, Teneriffe.

"The gigantic tree of Orotava," (fig. 11.) says the enlightened traveller, Humboldt, "measures 45 ft. in circumference, a little above the ground." Tradition relates that this particular *Dracæna* was venerated by the Guanchos (the aborigines of Teneriffe), as was the *Elm of Ephesus* by the Greeks, and that in A. D. 1400 it was as large and hollow as it is now! Its growth being extremely slow, we may be sure the *Orotava Tree* is of incalculable age: doubtless it and the *Baobab* are among the oldest vegetable inhabitants of our planet. A noble specimen of a small branch of this tree is placed in the gallery of the Museum.—The classical *Papyrus* (*P. antiquorum*, fig. 12.). This is easily recognizable here by its tall, reed-like, triangular stem. It is crowned with the copious clustered flower-stalks. The stoutest individuals were selected by the ancients, and from the



DRAGON'S-BLOOD TREE.



THE PAPYRUS.

white pith which fills the interior their paper was prepared. On this it is said that most of the old manuscripts are inscribed, especially those which have been brought to light by the excavations at Herculaneum and Pompeii. Specimens of ancient and modern paper made from this material are in the Museum.

The *Sugar-Cane* (fig. 13.), which happily can be no longer denounced, with regard to this country, as

“The cane whose luscious juice supplies Europe's blood-purchased luxuries.”

distinguishes itself by its very large yet grassy character, long and pale-green foliage, and closely jointed stout stem. This latter, contrary to the character of most grasses, is solid (not hollow), and contains the saccharine juice, which is extracted by pressure between heavy rolling cylinders. The waste stems, thus squeezed dry, are generally used for fuel to boil the juice, and are found to be so impregnated with a siliceous or flinty substance, that masses of glassy slag are, in the course of a short time, deposited in the furnaces and require to be removed.

The *Bamboo* (fig. 14.), when fully grown, is infinitely more gigantic than its ally the Sugar-Cane, attaining during one season, in its native wilds, a height exceeding 100 feet: its immense hollow stalks are applied to an infinity of domestic and useful purposes, as may be seen in the Museum.

The *Zamias*, *Cycases*, and *Encephalartus*, in the south wing of this House, are worthy of attention. Four of the finest were presented by Mr. Anderne and Mr. Moxon from the interior of South Africa. They are inhabitants of hot countries, chiefly in the southern hemisphere; and assuredly, within our days at least, nothing like them has ever been seen growing in temperate climates; but similar plants are found fossilized in the oolite formation of England, as at Portland Island, showing that in former ages these strange forms were denizens of this country! Their pinnated leaves are peculiarly harsh and rigid. The *Cycases* (fig. 15.) yield a kind of sago in the East Indies. Here are also

13



THE SUGAR-CANE.

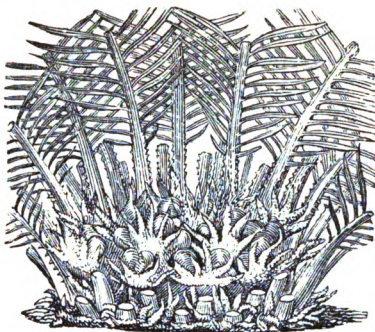
14



THE BAMBOO.



noble specimens of the curious South-African *Elephant's Foot* (*Tesudinaria Elephantipes*); so named from a resemblance in external



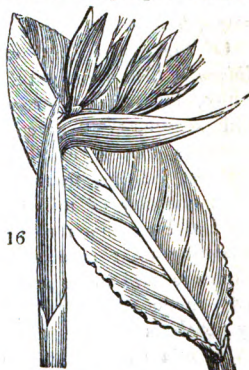
15

CYCAS REVOLUTA.

surface of the gigantic root-stock to the back of a tortoise, or to the foot of an elephant: and by the side of it is a plant greatly resembling it in appearance, from Mexico, but belonging to quite another sort of plant, the *Dioscorea macrostachya*, a kind of yam.

The *Calathea* (formerly called *Maranta*) *zebrina*, or *Zebra-Plant*, is easily known by its large beautifully striped copious foliage: each leaf is banded with shades of velvety green of different hues, and lined, as it were, beneath with purple. It is only by putting some of the leaves a little on one side that the clusters of purple flowers can be perceived. Here are seen two kinds of *Strelitzia*: one is *Strelitzia Regina* (fig. 16.) 4-5 ft. high, showing its truly royal blossoms in winter and early spring; the other is the stately *S. augusta*, which, together with the Traveller's-tree, or *Urania speciosa* of Madagascar, have the most ample leaf-blades of any known plants.

Some very fine specimens of the *Screw-Pine* (*Pandanus*), are here rendered conspicuous by their tall, simple, or branching stem, and tufts of large leaves, somewhat resembling those of the Pine (i. e. *Pine-Apple*), but these spirally arranged; from which two circumstances the English name is derived.



16

STRELITZIA.

They are tropical

Indian plants, and are generally seen growing in Mangrove-swamps, by the sides of rivers influenced by the tides, and whence they would assuredly be washed away, but nature has provided that the stems and branches even should send down stout roots, which act as buttresses, and moor the plants, if I may so say, to their proper locality.

Good plants of the *Papaw* (fig. 17.) and others of the *Chocolate Tree* (fig. 18.) are placed in this Tropical House. The juice of the former is employed in the East and West Indies for rendering tough meat tender; and, having this property, it is, of course, much prized by good housewives in climates where it is necessary to cook all animal food on the day when it is killed. A noble specimen of this, with a branching stem, and generally bearing fruit, has been recently presented to us by His Grace the Duke of Northumberland. From the seeds of the *Chocolate Tree*, as may be inferred from its name, is produced that "drink of the Gods," and also *Cocoa* (a very different thing from the fruit of the Cocoa-nut Palm, and a corruption of the Indian name *Cacao*, whence the botanical name, *Theobroma Cacao*).

Of the genus *Euphorbia*, *E. grandidens* is here seen, with its lofty stout trunk, twelve or fourteen feet high, and sending out spreading whorled branches like a candelabrum. The slightest incision in the bark causes a great quantity of milky juice to flow, which, being of a highly acrid and venomous nature, is employed by the native Africans for poisoning their arrows and assagays. The juice of other allied species is used in various countries for intoxicating fish: a destructive mode of procuring the finny tribe practised in Ireland by poachers in the Shannon. The efficacy of our common *E. helioscopia* (*Wartwort*) in removing warts is well known in England.

Among other valuable trees in this House may be noticed the



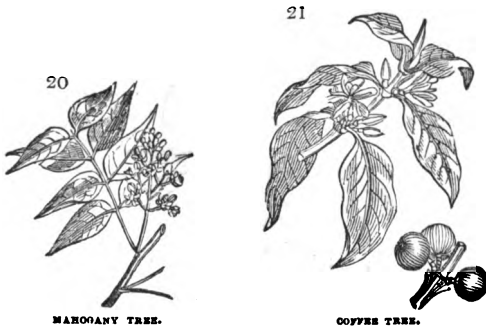
*Mango Tree* (*Mangifera Indica*, fig. 19.) now annually yielding flowers, and sometimes its rare and delicious fruit; the *Silk-Cotton*



19

MANGO TREE.

*Tree* (*Bombax pentandra*); the *Longan* (*Nephelium Longan*); the *Mahogany tree* (*Swietenia Mahogani*, fig. 20.), a native of Honduras and Jamaica; the rapid-growing and thorny-stemmed *Ceiba* (*Bombax*



20

21

MAHOGANY TREE.

COFFEE TREE.

*Ceiba*). Here are the *Coffee-Tree* (*Coffea Arabica*, fig. 21.), seen in one place growing out of the crevices of the bare tufa rock of Bermuda, as obligingly sent by Governor Reid; the *Tanghin* (fig. 22.) or *Poison-Tree* of Madagascar (*Tanghinia veneniflua*), rendered infinitely more fatal than the *Upas* by the execrable laws of the Malagassy kingdom; the *Manihot* (*Jatropha Manihot*, fig. 23.), a most viru-

lent poison, but whose roots (their deadly juices being removed by pressure or dissipated by heat) are made into the well-known *Cassava-Bread* of the West Indies, and into as great a variety of wholesome



TANGHINIA VENENIFLUA.

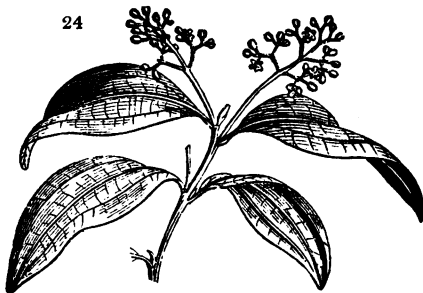
food as can be obtained from wheat; the *Cinnamon* (*Laurus Cinnamomum*, fig. 24.), whose bark constitutes the valuable spice so



JATROPHA MANIHOT.

named; and the *Bastard Cinnamon* (*Laurus Cassia*), of which the bark is said to be often substituted for that of true Cinnamon. Among the numerous kinds of *Figs* there will be found here, near the north entrance, a young plant of the *Banyan* (*Ficus Indica*, fig. 25.), one of the most celebrated trees in tropical India, for the immense stretch of its limbs and the singular mode provided by nature for their support: —

“ Spreading so broad and long, that in the ground  
The bended twigs take root, and daughters grow  
About their mother-tree, a pillar'd shade  
High overarch'd, and echoing walks between.”—



CINNAMON.

These roots or props occupy such a space of ground in their native soil that one, growing on the banks of the Nerbuddah, covers an almost



BANYAN TREE.

25

incredible area, of which the circumference now remaining (for much has been swept away by the floods of that river) is nearly 2000 feet. The overhanging branches, which have not yet thrown down their props or supports, stretch over a much larger space : 320 main trunks may be counted, while the smaller ones exceed 3000, and each of them is continually sending forth branches and pendent roots to form other trunks and become the parents of future progeny. The whole (according to Forbes's "Oriental Memoirs," from which I quote) has been known to shelter 7000 men beneath its wide-spread shade. Our young plant, though it has already sent down many stout roots or props from its spreading branches, can of course give little idea of this famous tree ;

indeed, it is evident that a well-grown one would alone fill the entire Palm-Stove of the Garden. — The *Pepul Tree* (*Ficus religiosa*), from the same country, is remarkable for the tail-like points at the leaves; and these leaves abound so much in closely reticulated tenacious fibre, that the Chinese, by macerating them and removing the pulpy or parenchymatous substance, produce a kind of paper, which, when varnished, is capable of receiving the most beautiful drawings of birds, beasts, insects, flowers, &c. Such leaves, with the drawings, are commonly brought to this country from China, and are easily known to belong to this tree by their heart-shaped outline and the long tail-like point. Another kind of *Fig* in this collection must be here alluded to; for it illustrates a plant of Scripture, the *Sycamine-Tree*, or *Sycamore of Palestine* (fig. 26.), the tree into which *Zaccheus* climbed (*Ficus Sycomorus*): this is the true and original *Sycamore*, its name being derived from *σῦκον*, a *fig*, and *μύρον*, a *mulberry*; meaning a *fig*, whose leaves resemble those of the *mulberry*. “I was no prophet, neither a prophet’s son,” says *Amos*; “but I was an herdsman and a gatherer of *Sycamore fruit* ;” from which, and from other passages in Scripture, it may be inferred that this tree was of very great importance among the Jews, although its fruit is extremely inferior to that of the true *Fig* (*Ficus Carica*), which two are the only eatable ones of 200 known species. The wood is said to be indestructible, and is therefore used for Egyptian mummy-cases. A fourth species of *Fig-tree*, the *Ficus elastica*, with large dark green glossy foliage, affords in its milky juice the *Caoutchouc* of the East Indies.

But we must proceed; and, as space will not permit the mention of a tithe of the interesting plants in this stove, we content ourselves with saying that here may be inspected, flowering at some period or other of the year; a great variety of tropical shrubs and trees; and amongst them the feathery foliage of the *Tamarind-Tree* (*Tamarindus officinalis*), whose preserved fruit is an extensive article of commerce; the *Cotton* (*Gossypium herbaceum*, fig. 27.), the seeds of which are surrounded by that beautiful filamentous substance, and whose flowers resemble those of a *Hibiscus*; *Indigo* (*Indigofera Indica*,



SYCOMORR.



COTTON TREE.



fig. 28.), the leaves of which yield the rich dye so called; and the great strangely-shaped lurid and fetid flowers of the *Aristolochia ornithocephalus*. Lastly, we shall only mention in this stove the numerous climbers planted in the ground at the base of the pillars and of the stair-case, such as *Convolvuluses*, *Passion-flowers*, *Aristolochias*, *Bauhinias*, *Telfairia*, *Poivre*, &c., all remarkable for the beauty of their foliage or flowers, and sometimes of both.

Impossible as it would be to record, in this brief Guide-book, the numerous donors of rare exotics to this Establishment, it is only our duty to state that, of the kinds from the East Indies, in the Palm as well as in other tropical Houses, by far the greater number were sent from the Honourable the E. I. Company's Botanic Garden at Calcutta, by the late distinguished superintendent, our lamented friend Dr. Wallich. The Books of that garden, as proved by a Report now before us, printed at Calcutta in 1840, show that, in the five previous years alone, 9 Cases, with 229 plants\* of the rarest and most valuable description, were transmitted here; and between 1840 and 1845, the period of that gentleman's retirement from his arduous duties, our own Books testify to the arrival of 13 Cases containing 275 plants!

Quitting the Palm-house, we find that, from the south-east angle, the walk extends round the water; and from the opposite side of that piece of water (near the NEW MUSEUM †) the best view of the structure may be obtained, and in calm weather its reflection is seen in the lake. Continuing past a wooded hill, the visitor is recommended to direct his steps north, and he will soon catch sight of a portion of ground recently laid out for the HARDY HERBACEOUS COLLECTION, and containing a small building also fitted up as a MUSEUM, and several stoves and green-houses, hereafter to be briefly noticed. This ground can be visited in this direction and the MUSEUM inspected, and the principal cluster of Plant-houses (Nos. 10, 11, &c.) thus approached; or, if the visitor prefers another route, he may leave the herbaceous ground and the end of a long wall on the right, near which is a fine *Cryptomeria japonica* (first raised from seeds



INDIGO.

\* The same Report further states, that during the same period there were 2107 applicants for plants to the Calcutta Garden, from different parts of the world, who were supplied to the enormous extent of 189,932 individual plants. It is to be regretted that this document, printed at Calcutta, has not been more generally circulated: for it affords valuable information, relative to the introduction as well as distribution of a great number of rare and useful plants, during a small portion only of that gentleman's able directorship.

† See "Museum-Guide," 3rd edit., for a description of the contents of this and of the Old Museum.

sent from China by the late Sir Everard Home), passing a stately *Tulip-Tree* on the left; and, taking the next turn to the right, he will come to a plot of ground now a medical garden. In this quarter, too, he will find two good but young trees of the Paper Mulberry (*Broussonetia papyrifera*), whose bark yields the tapa or clothing of the inhabitants of the South Seas; and the most beautiful and almost gigantic Pampas grass (*Gynerium argenteum*), 11 feet high when flowering in the autumn; its large panicles of flowers very much resemble those of the sugar-cane. Though a native of the Pampas of Buenos Ayres, it is quite hardy. Just beyond is a group of four low Plant-houses; the first is

### NO. III. MESEMBRYANTHEMUM HOUSE,

a small GREENHOUSE, during the winter occupied with a considerable collection of African plants, of the genus *Mesembryanthemum* (or *Fig-Marigold*), but placed in the open air in summer. Many of these are remarkable for the resemblance in their foliage to the jaws of animals, whence some are appropriately named *felinum*, *tigrinum*, *caninum*, *vulpinum*, &c. The capsules of others have the same hygrometric property as the entire plant of the famous *Rose of Jericho*, or the hygrometric *Club-moss* (of all of which examples may be seen in the Museum); for, contrary to the nature of capsules or dry seed-vessels in general, these open in wet weather into segments, resembling the petals of a flower, and close in dry,—a beautiful provision of nature, by which the seeds sow themselves at the only season suited, in those hot sandy deserts, to their germination;—and, after being gathered, they long retain this property, and may be made to open or shut according as they are placed in a wet or dry atmosphere. In the summer these *Fig-Marigolds* are removed to the open air, and the House is then occupied with Fuchsias or other showy and ornamental plants.

### NO. IV. DOUBLE ORCHIDEOUS HOUSE,

is a low double STOVE, chiefly occupied as by Orchideous plants recovering from the effects of a long voyage, or used as a nursery for bringing forward flowering specimens for the more ornamental houses.

## No. V. ORCHIDEOUS HOUSE,

a long *low* STOVE, now wholly occupied as an Orchideous-house ; but as the House No. 4. is also devoted to the same family of plants, and as there is often a necessity, from increased growth or other circumstances, to remove certain kinds from the one house to the other, our notes upon them must include the united collections.

The collection is eminently valuable. Of late years, there have been added to the original collection the extensive one of the late Duke of Bedford, presented by Her Majesty Queen Victoria, and the equally valuable legacy of the late Rev. John Clowes, M.A., of Broughton Hall, Manchester, in the autumn of 1846 ; together with many species, procured by purchase, or from our collectors and friends abroad, and other sources. The tropical *Orchideous Plants* (or *Epiphytes*, as most of them are justly termed, from the fact of their being generally found growing on the trunks and branches of trees) are at this time the greatest favourites among cultivators ; and the prices given for many would surprise any person not individually interested in them. When in flower they are certainly among the most beautiful objects of the vegetable creation, and remarkable for their highly varied and peculiar forms, great delicacy of texture, and often exceedingly brilliant colouring. Happily, too, there is not a month nor a day in the year that some or other is not in blossom ; though the first powerful suns of spring induce the flowering in a very marked degree. Many are here seen attached to branches of wood, or placed in wire baskets with moss and bark, or planted in the husk of cocoa-nuts and suspended from the rafters, living, as it were, and flourishing on heat and moisture. It were an endless task to direct attention to any particular kinds ; for their beauty depends on the presence or absence of blossoms, which, with some exceptions, are generally short-lived. Still we may observe in the collection the "*El Spirito Santo*," (*Peristeria*), *Cattleyas*, *Dendrobia*, *Stanhopeas* (exhaling, as do many others, a most powerful fragrance) ; *Lælia superbiens*, remarkable for the large size of its flowers ; *Phalænopsis amabilis*, or *East Indian Butterfly-Plant*, with its corollas of the purest white ; and *Oncidium Papilio*, or *West Indian Butterfly-Plant*, whose resemblance to an insect is increased by the presence of certain petals, which look like long antennæ, and by the flower being borne on a long slender stalk, far away from the leaves, and which seems to carry the fly into the air. The *Vanilla* (*Vanilla*

*aromatica*, fig. 29.) is one of these tropical *Orchideæ*; its long narrow pods (not unlike those of the Haricot bean, but dark brown in colour, and soft and oily to the touch) afford the fragrant *vanilla* of commerce, much used in the preparation of chocolate, and in various other ways as a condiment, being considered to promote digestion. It is a native of the hot parts of South America, and from Vera Cruz alone the pods of this plant are exported to the amount of 40,000 dollars annually. Our largest specimen of this, however, will be found in House No. 15.; it was presented in 1854, with many other rare plants, by His Grace the Duke of Northumberland. Our species of the East Indian genera *Atrides* and *Saccolabium* are among the most highly prized. At the latter end of winter, the very lovely East Indian kinds of *Cypripedium* are generally in blossom; these, however, with some others, are terrestrial, and planted in pots of soil. Of this terrestrial kind is the *King-Plant* of the Cingalese (*Anæctochilus setaceus*), as rare as its leaves are beautiful: the foliage closely resembles brown-green velvet, with the most exquisite net-work of gold; other kinds (*Physochilus* of Brazil) have green leaves reticulated and spotted with white.



VANILLA AROMATICA.

## No. VI. VICTORIA HOUSE.

Here, in the summer and autumn, will be seen the *Victoria regia*, described at p. 17, and various other water-plants. Two aquatic *floating* plants are worthy of inspection. One resembles bright-green lettuces floating on the surface: it is the *Pistia Stratiotes* of the West Indies, the *Duckweed*, in fact, of tropical countries, resembling green lettuces. The other is distinguished by the leaf-stalks being remarkably inflated, with large air-cells within; these give buoyancy to the plant, which would otherwise sink: it is the *Pontederia crassipes*, and bears a beautiful blue flower. The shelves contain a very choice assortment of plants of hot countries suited to the atmosphere of this House, and many remarkable for the beauty of the flowers: *Ixoras*, scarlet *Clerodendrons*,

*Medinilla magnifica*, and *M. speciosa*, *Torenia asiatica*, *Hoya imperialis*; *Aristolochia grandiflora*, with the huge blossoms of which, Humboldt says, the children adorn the head, in lieu of a hat or bonnet; *Passion flowers*, among them the *Grenadilla*, *Æschynanthuses*, &c.

Here, too, may be seen a group of different plants, especially characterised by the varied colouring or marking of the foliage, often called "painted-plants;" among them the *Caricature Plant* (*Graptophyllum hortense*), many of the spots of whose leaves bear a very accurate resemblance to the human face, more or less divine. The fragrant *Lemon-grass* will be seen here (*Andropogon Schœnanthus*), admirably figured and described in Dr. Wallich's superb "*Plantæ Asiaticæ Rariores*," where the author observes, "This is a favourite herb with the Asiatics both for medicinal and culinary purposes, and is found to afford a drink generally very grateful to the palate in sickness. Dr. Maton, Physician Extraordinary to the late Queen (Charlotte), informed me that he had been repeatedly treated with a dish of Lemon-grass tea by her Majesty, who used to be very fond of it, and was supplied with the plant from the Royal Gardens at Kew." Its fragrance is exactly that of Lemon or *Verbena triphylla*. Here, too, the *Patchouli* or *Pucha-pat* of India (*Pogostemon Patchouli*), the most esteemed perfume of the present day. In a large earthen pan with water, may be seen here one of the most wonderful of all vegetable productions, the *Lace- or Lattice-leaf* of Madagascar (*Ouviranda fenestralis*) recently brought to us, living, by the Rev. W. Ellis. Its leaf is formed of longitudinal and transverse fibres, having no parenchyme or cellular substance in the interstices, which are thus open like the lattice of a window, or a piece of lace.

At the time we write may be found in this stove some rare Malayan Pitcher plants, though not so large as those in stove No. 11. (p. 45.); the beautiful and much rarer *Australian Pitcher-Plant* (*Cephalotus follicularis* of Brown, fig. 30.); and the still more singular *Dionœa muscipula*, or *American fly-trap* (fig. 31.), which has at the end of each leaf, as its name implies, a veritable living trap, consisting of two broad fleshy lobes, jointed in the middle, fringed with long spines, and furnished with two or three hairs on the disk of the



AUSTRALIAN PITCHER PLANT.

lobes. The moment an insect (or any extraneous body) touches the hairs on the disk, the two lobes close firmly, and press the luckless intruder to death: the struggles of the victim only occasioning the lobes to shut more firmly, by which its destruction is hastened.

As soon as the insect ceases to struggle, and dies, the trap opens, ready to continue the work of destruction ; but there is no reason whatever to suppose that the dead insects in any way nourish the plant. Equally remarkable in the structure of the foliage are the *Sarracenias* (fig. 32.), or *Side-saddle flowers*, so called from the form of the stigma : they have tubular leaves containing a fluid, and inverted hairs at the mouth of the tube. Insects, in the native country of these plants especially, and not a few with us, are attracted by the fluid : the inverted hairs hasten the descent of the intruder, which falls into the fluid without chance of escape, and perishes.



AMERICAN FLY-TRAP.

We may now proceed westward ; and observe a fine Hop-hornbeam (*Ostrya vulgaris*) ; further west is a noble tree of the *Sophora Japonica*. We may turn to the right, towards the principal cluster of Plant-houses, and we observe on the left a large harsh, rigid-looking *Pine*, which cannot fail to attract the attention of the visitor : it is the famous *Chili Pine* (*Araucaria imbricata*), brought to England in the year 1792 by Mr. Menzies, the surgeon in Captain Vancouver's voyage : it now frequently bears its curious cones, but they never ripen with us. It is, perhaps, not generally known, that the seeds are eaten for dessert in Chili, as are those of the Stone Pine (*Pinus Pinea*) in Italy, and almonds with us. Westward of the *Araucaria*, upon the same piece of lawn, and forming a striking contrast by its gracefulness, stands a splendid tree of the *Weeping Birch* of Scotland. From this spot we shall find it convenient to enter



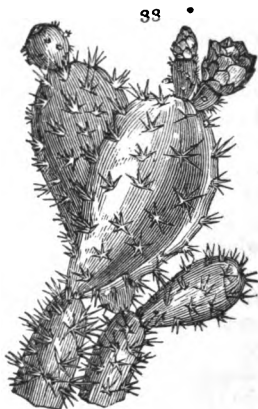
SARRACENIA.

## No. VII. SUCCULENT HOUSE.

This is an excellent house of its kind, 200 feet long and 30 feet wide, recently (in the spring of 1856, completed, and destined for those plants, chiefly from warm (but not quite tropical) and dry countries, which are denominated by horticulturists *Succulent Plants* (*Plantes grasses* of the French). They include *Cactuses*, *Aloes*, *American Aloes*, many *Euphorbias* (*Agaves*), and other *Amaryllis*-

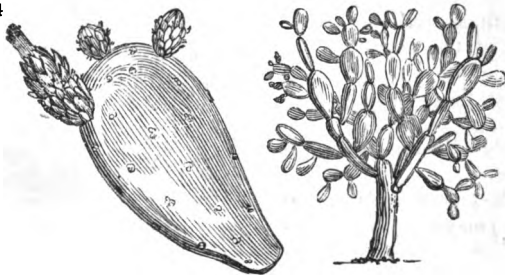
daceous plants, *Crassulas*, *Sempervivums*, *Stapelias*, &c. &c. Many of them are eminently worthy of notice.

1. The collection of *Cactuses* is perhaps unique of its kind, thanks to various friends in the warmer parts of the New World, of which countries they are exclusively natives. If these plants do not possess much grace and beauty (their flowers, however, are often splendid in the extreme), yet they are very remarkable for the strange forms and structure of their, almost invariably, leafless stems and trunks, their deep longitudinal ribs or furrows and sharp angles, the singular vestiture of hairs or spines (or both combined),—the latter, often in countless myriads, are arranged with the most perfect symmetry in stellated or star-shaped clusters, sometimes not thicker than bristles, and scarcely two lines long, or they are broad and transversely banded like lobsters' horns, at other times long and straight, and so strong as to serve the Mexicans to fasten their "ponchos" about their persons. Some species resemble the convolutions of the brain. One set is distinguished by their tall and curiously jointed and flattened stems; they are the *Opuntias* or *Nopals*, some of which yield the fruit much eaten in warm countries, under the name of *Indian Fig* or *Prickly Pear* (*Cactus Tuna*, fig. 33.), and their stems are used for making almost impenetrable fences (these are



CACTUS TUNA.

34



CACTUS COCCINELLIFER.

called *Tunas*), or, as in the *Cactus* (or *Opuntia*) *coccinellifer* (fig. 34.), they are cultivated to an immense extent for the purpose of feeding the

*cochineal insect*, a small kind of meal-bug (seen in this house), reared in such quantities, that, from Mexico alone, Humboldt assures us 32,000 arrobas of cochineal are annually exported, equal to 500,000*l.* sterling. The insect has the power of extracting the juices, and converting them, by a chemical process, into the rich scarlet dye called *Cochineal*; but it is not so generally known that the *fruits* of the *Nopals* secrete the same colour, and excellent cochineal has been obtained from the fruit, as well as from the insect, in the East Indies. Another tribe of *Cactuses* resembles in form and spinous character the Sea-Urchins of our shores (*Echinus*), and is appropriately denominated *Echinocactus*. Here are good specimens of the *Echinocactus Visnaga* so called (*Visnaga* meaning a tooth-pick in Spanish) from the use made of the spines in Mexico; for which we are indebted to Frederick Staines, Esq.\*

Here is a lofty specimen (together with many lesser ones) of the *Old Man's Head Cactus* (or *Cereus senilis*), 14 feet high. This species is called *senilis*, from the quantity of long wiry grey hair which crowns the summit (particularly observable in the younger plants). Unlike the human kind, the old plants are less conspicuous by their grey hair than the young ones. For the means of procuring them we are indebted to John Taylor, Esq., and the Directors of the Real del Monte Company. *Small* plants of this species we know to be twenty and twenty-five years old: from their slowness of growth, as well as from the reports of the inhabitants of Mexico, there is reason to believe that these gigantic individuals are some hundreds (probably a thousand) of years old.

2. The *true* or *African Aloe* (fig. 35.) may next claim atten-



GROUP OF ALOES.

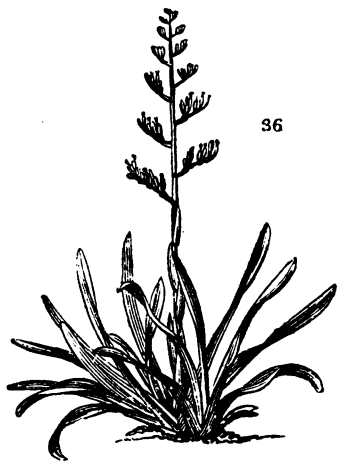
\* Here we are anxious to record that the same gentleman did us the favour, with infinite labour, to send us a much more magnificent plant of this Cactus in 1846, and weighing one ton! It was planted, and looked sound and perfect, and was, for some months, the wonder of the Garden; and it found a place in the "Illustrated London News" of the day, where an excellent representation is given; but it had met with injury during its perilous journey or voyage; a bruise appeared; and decay soon extended through the whole of this enormous mass, tainting the air with its fetid smell



tion, of which more than one kind yields the medicinal *Aloes* of the shops. They are peculiar to Africa, and form a striking feature in the vegetation of South-eastern Africa, one species the *Socotrine Aloe*, extending to the island of Socotra.

Of the same natural family as this true Aloe is the *New Zealand Flax* (*Phormium tenax*, fig. 36.) Its leaves are like those of our *Iris*, or flag, and abound in a strong fibre, which recommends it for an immense variety of purposes where hemp or flax would be used in Europe.

3. Another extensive group of succulents is the *Agave* or *American Aloe Family*. The *Agave Americana* is familiar to most frequenters of gardens. It blossoms, not, as the story goes, only once in a hundred years, but, in reality, more frequently than other kinds, and throws up a flower-stem 20 to 24 feet high. The Plant-house we are now



NEW ZEALAND FLAX.

surveying contains one very large unknown species of *Agave* (marked "*Agave, Mexico*") with huge, sword-shaped, thick, and fleshy leaves: each of these leaves averages 12 pounds in weight. Two ancient specimens of another and not smaller sort, but which, we regret to say, can now only be seen in a young state, blossomed here in 1844, and attracted much attention: we mean the *Agave vivipara* of Linnæus (*Fourcroya gigantea* of modern authors, a name given in compliment to the French chemist, *Fourcroy*). The two plants in question had been in the Royal Gardens, first of Hampton Court and then of Kew, probably from the earliest introduction of the species into Europe, upwards of a century ago (in 1731). On one and the same day, in the summer of 1844, each was seen to produce a flowering-stem, which resembled a gigantic head of asparagus, and grew at first at the astonishing rate of two feet in the twenty-four hours. So precisely did the twin plants keep pace with each other, that at the very time it was found necessary to make an aperture in the glass roof of the house for the emission of one panicle of flowers (26 feet from the ground), a similar release was needed by the other. The rate of growth then most sensibly diminished; still, in two months, the flower-stalks had attained a height of 36 feet!

The flowers were innumerable on the great panicles: they produced no seed, but were succeeded by thousands of young plants, springing from the topmost branches (whence the Linnæan name of *vivipara*); and these continued growing while attached to the stem for a long while after the death of the parent-plants, both of which perished, apparently from exhaustion. Our collection now, therefore, contains young individuals chiefly of this particular *Agave*. All of this family yield fibre for cordage, cloth, &c., and the pulp is fermented and becomes an intoxicating drink.

4. A small collection of *Stapeliæ* or *Carrion-flowers* (fig. 37.) of South Africa, is here seen, whose quadrangular leafless stems bear indeed some similarity to Cactuses, while their flowers resemble star-fish. Their odour is such that flies, attracted by it, lay eggs upon them in great numbers, taking them for putrid meat: the poor larvæ, when hatched, find the difference, for there is nothing for them to feed upon, and they perish in great numbers; thus it would appear that *Stapeliæ* are among the many plants destined by the Author of nature to keep insect-life within due bounds.

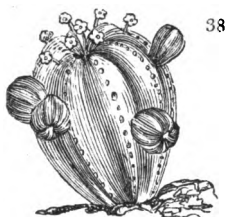


CARRION FLOWERS.

5. Here is a remarkable plant from South Africa, a kind of *Geranium* (or *Monsonia*), remarkable for its resinous quality when dead, the *Monsonia Burmanni* (*Geranium spinosum* of Linnæus), of which the quantity is so great in the burning sands that it has been imported, in the hope of its proving valuable as an article of commerce. This particular plant, on its arrival, and for four years, had been to all appearance perfectly dead, and more than half converted into a gum-resinous substance, exhibiting only a few crooked dead-like branches. Suddenly, in the spring of 1850, it put forth leaves, and is full of life and vigour. (Only one plant has since died, and is preserved in the Museum.)

6. This house contains some leafless (and other) *Euphorbiæ* (figs. 38, 39.), whose forms a good deal resemble those of certain Cactuses, but whose milky juice is eminently poisonous, and extensively employed in South Africa for rendering mortal the wounds of arrows and assagays. *E. splendens* and *E. Bojeri* are distinguished by their vivid scarlet flowers.

7. Some *Sempervivums* of the Canary isles are remarkable for their flattened crown of leaves; and lastly, we can only mention that



EUPHORBIA MELOFORMIS.



EUPHORBIA ANTIQUORUM.

there are some large *Bromeliaceous* and several *Amaryllidaceous* plants allied to the *Agaves* and others, though not very succulent in themselves.

Leaving this House by the western door, and looking north, we see the

### HARDY AQUARIUM

(marked O on the plan), a stone tank of bog and water, containing hardy aquatic plants of England and other cool countries : among the more interesting are a few from the Falkland Islands and Tierra del Fuego, particularly the celebrated *Tussack-Grass* of the Falklands (*Dactylis cæspitosa*), introduced by Sir James Clark Ross and the officers of the Antarctic voyage. It is one of the most valuable coarse agricultural grasses, and, having braved the droughts and cold and heat of England for several years, there is no question that it may, with care and patience, be naturalized. It is slow of growth, and slower to form its great tussacks, whence is derived the name. They, together with the mass of foliage, constitute thickets where wild cattle and more wild runaway sailors find shelter and protection, and both obtain *food* ; for it is related, by the late governor of those islands, that two runaway sailors for a long time subsisted on the raw young shoots of this grass, which are, moreover, brought to table, boiled like asparagus. Indeed the *Tussack-Grass* is now flourishing luxuriantly in the Orkney Islands and Hebrides, especially in Lewes, under the auspices of Sir James Matheson, M.P. ; vicinity to the sea, an equable climate, and cool atmosphere being essential to it. Close to this tank is an entrance, by the western door, to

### NO. VIII. THE NEW ZEALAND AND CONIFEROUS HOUSE.

This venerable structure, erected by Sir W. Chambers in 1760, has

seen its best days, and, judging from the favourite reception lately given to the director's report in the House of Commons, we are warranted in believing that ere long instructions will be given by the Chief Commissioner of Works to replace it with another in the grounds more worthy of this establishment, and more suited to the purpose for which this is now destined, namely, the reception of *Trees and Shrubs of temperate climates*. The present contents in winter\* are mainly *Conifers* and *New Zealand Plants*, but they are by no means confined to them; the collection is miscellaneous, and larger specimens of the same kinds, or some of them, are repeated in the ORANGERY (Plant House No. II.). Here are young plants of the *Cowdie* or *Kauri Pine* (*Dammara australis*), the *Dacrydium cupressinum*, whose feathery boughs perhaps exceed in delicacy and grace those of all other forest-trees; the *Celery-leaved Pine* (*Phyllocladus trichomanoides*); the very rare *Thuja Doniana*, Hook., a most elegant new *Arbor vitæ* of New Zealand; the *Mai* or *Metai* (*Podocarpus spicata*), and the *Miro* or *Mairi* (*P. ferruginea*); the *Mammoth tree* of California, *Wellingtonia gigantea*; together with the singular *Aralia crassifolia*, a kind of ivy, bearing long leaves, of a texture almost resembling whalebone. Here, too, are the *Myrtus bullata* of *New Zealand*, with its blistered leaf; the charming *Metrosideros robusta*, which climbs over other trees like ivy, and adorns their otherwise bare trunks with its large glossy foliage and brilliant scarlet flowers; and the *New Zealand Beech* (*Fagus fusca*).

Here grow the two rare *Beeches* of Tierra del Fuego, *Deciduous Beech* (*Fagus antarctica*), and the *Evergreen Beech* (*Fagus betuloides*), the latter remarkable for its beauty and small evergreen foliage, scarcely larger than that of the broad-leaved myrtle, and for its being the most southern-growing tree in the world; indeed, but little vegetation of any kind exists beyond it. Its size and form, however, in its native region, depend on the place of growth. In sheltered valleys it attains a considerable size, with a trunk 7 feet in diameter, so that Captain Philip King made large boats from one trunk; while on the exposed heights of Hermite Island the trees are so dwarfish and stunted, and the branches so densely compacted, that the traveller is able literally to walk upon the tops of them! (One has been planted in the open lawn, and has stood the winter well; but we fear the summer's drought for it more than the wet or cold of winter.) Near them stands another rare *Evergreen Beech*, the *Fagus Cunninghamii* of Van Diemen's Land, and the still rarer *Huon Pine* (*Dacrydium Franklinii*) of the same country. In the spring and summer a delicious pine-apple like fragrance is often perceived by the visitor at

\* One end of this House is temporarily occupied with a noble *Tree-fern* of New Zealand (*Cyathea medullaris*), recently presented by H. R. H. the Prince Albert.

the west end of this House: it is diffused by the blossoms of the Chinese *Magnolia fuscata*. Young plants of the *Argan* tree (*Argania Sideroxylon*), of Morocco, is placed in this House. It possesses no beauty, but its fruits are very valuable, in the husks for feeding cattle, and in the nut for the copious oil. The wood, too, is beautiful.

Here will be found several South African plants, some *Proteaceæ*\* of the Cape colony, in which plants the Garden was formerly very rich; but they gradually died out; and, strange to say, although the botany of South Africa has been of late years investigated beyond that of every other part of the world, seeds and living plants have been almost wholly neglected; so that in the plants of no country are these and other



CAPE PROTEACEÆ.

European gardens more deficient than in those of South Africa. An idea may be formed from the woodcut (fig. 40.) of the beauty of some that have formerly flourished in this Garden, few now remaining, and of all of which we should be thankful again to receive seeds. The most beautiful of the Cape *Proteaceæ*, namely, *Leucodendron argenteum*, is the common firewood of the colony. *Protea mellifera* and others yield a honey which is boiled down and used in coughs. In Chili, one species, *Quadria heterophylla*, yields an excellent nut, sold in the markets under the name of *Avellano*: and this will be found in the present House.

*Gnaphaliums* and *Xeranthemums*, shrubby *Everlasting-Flowers* (fig. 41.), are so called from the nature of their blossoms, which neither shrivel, nor, for a long time after being gathered, lose their brilliant colours. Not unfrequently, in one part of this House, a powerful foxy odour is perceptible. This arises from several kinds of *Diosma* or *Bucku*, a favourite cosmetic of the Hottentots in S. Africa, who mix it with grease, and smear it over their persons to keep away flies.



GNAPHALIUMS AND XERANTHEMUMS.

\* Now removed to the Conservatory, No. 1.

Quitting this House at the eastern door, and passing an oval bed, filled with the exotic-looking yet hardy *Yuccas* (or *Adam's Needles*), the nearest Plant-house is a low building with a span roof, of which the entrance is at the east end ; viz.

### NO. IX. A PROPAGATING HOUSE,

with a double span roof. Unless it contains, as at some seasons, any thing of peculiar interest, it is kept private, and is now almost entirely occupied with numerous young Palms from various countries, and Ferns, and seedlings of various sorts, aquatics, *Victoria regia*, *Nymphæas*, &c., and young plants of the rare *Doum Palm* (*Hyphæne Thebaica*, from Upper Egypt, sent home by Dr. Hooker), and the still rarer *Hyphæne coriacea*, from South-eastern Africa ; but both kinds are most difficult to rear. Opposite to the door is an entrance to

### NO. X. THE AUSTRALIAN HOUSE,

a cruciform structure of large dimensions and excellent arrangement, is at all times occupied by plants of interest and beauty, and if the visitor happens to come at the latter end of winter, or in early spring, he cannot fail to be struck with the variety and fragrance of the inmates of this building. It is filled at those seasons with an unique collection of plants of Australia.



NEW HOLLAND ACACIAS.

42

The *Leguminosæ* are in perfection during the early spring months; then the fragrant *Acacias* (fig. 42.) are eminently worthy of a visit. The *New Holland Acacias*, as is well known to naturalists, exhibit a remarkable conformation of foliage. In other countries their leaves are perfect, having the normal character, more or less compound and

pinnate, with numerous leaflets: but in the innumerable species from Australia (with some exceptions) the seed-leaves only are compound; as they advance in age they cast off the leaflets, and at length the plant produces only *leaf-stalks*, which widen, and have the appearance, and perform the functions of, true leaves. These leaf-stalks (called *phyllodia*) are easily recognised by their position: it is not the *flat* surface, but one of the *edges*, which is vertical, or directed to the zenith.

In the summer, these Australian plants are removed to the open air, the House is filled with various plants of a still more ornamental character, and of the greatest floral beauty.

### NO. XI. THE TROPICAL FERN HOUSE,

is situated due north of, and close to, the Australian House. It is hence most conveniently approached from the east. Passing through a small porch, a span-house is entered, 90 feet long and 28 feet wide, glazed with sheet-glass, having a double slate staging in the middle, facing north and south, with a walk through the centre, and another walk on the outside and around the staging, with stone shelving under the walls. This fine area is occupied with *Ferns* to which the heat and moisture of this place are suited. The *Ferns* constitute a very valuable collection, and nothing can exceed the variety, beauty, and elegance of the leaves or fronds. Some of the smaller and finely-divided kinds are clothed on the underside with a delicate yellow pulverulent substance, others with a white powder. The "*Great Stag's Horn Fern*" (*Platycerium grande*) is one of the most remarkable in appearance and form, together with *P. stemmaria* and the well known *Pl. alcornice*, or *Common Stag's Horn Fern*. The first (*Pl. grande*), a native of Australia, where it grows on the trunks of trees. The *young* stage of it is a small green leaf or frond lying flat against the soil, lobed and divided at the margin something like a stag's horn. It thickens with every succeeding growth of leaf, and this addition is alternately right and left over the older leaves, which die and contribute to the nourishment of the plant. These are the sterile fronds. The plant bears another kind of frond, projecting and even drooping, narrowed at the base, broad and two-lobed above, and *beneath* bearing a great brown spot of fructifications. This rare plant was presented to us by the late Mr. Bidwill. A second plant he sent over was purchased by the late Duke of Northumberland for twenty-five guineas. Larger, and especially "*Tree*" *Ferns*, which cannot be accommodated in this House, will be found in the adjacent one, No. 12., which communicates with it.

In this tropical FERN-HOUSE, as admirably promoting their health and vigour, are our finest and oldest specimens of *Pitcher-Plants*, the *Nepenthes distillatoria* (fig. 43.), and the infinitely rarer *N. Rafflesiana*: the latter was successfully brought home from Singapore in a Ward's-case by Captain Bethune, R.N., and by him presented to the Royal Gardens. Both species are more or less scandent. The leaves are terminated with an appendage exactly resembling a pitcher, of considerable size, having a lid at the top. When young, the lid is firmly closed, yet, even at that period, it contains a considerable quantity of fluid, distilled, as it were, by the plant (whence is derived the name of the species in more general cultivation): after a time the lid opens, and continues firmly attached at the back of the orifice by a hinge, and never again closes. With us in the summer season, and in its native Malayan islands at all seasons, insects visit the pitchers in great numbers to get to the liquor, fall in, and from the difficulty of escape are drowned, sometimes filling the entire cavity. — Other lesser species of *Pitcher-plant* are seen in House No. 6.



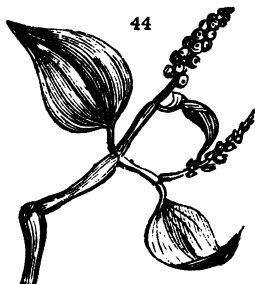
## No. XII. AMHERSTIA HOUSE.

So called because it contains the noble specimen of *Amherstia nobilis* (presented by the late Mrs. Lawrence), of which younger plants are here also. It is occupied by a miscellaneous collection of tropical plants, and among them our finest *Ferns* occupy a conspicuous place, especially (though young) *Tree Ferns*, which are among the rarest and most valuable; of all plants they are the most difficult to import alive, except while very young. In our country, *Ferns* are of humble stature, their leaves, or fronds, emerging directly from the ground; but in the *tropics*, and even in the more temperate parts of the southern hemisphere, these fronds, 15 to 20 feet long, are elevated on unbranched trunks (resembling Palms), 20 to 40 and 50 feet high. Here are splendid specimens of the rare Fern *Angiopteris evecta*, with its gigantic foliage, and curiously knotted short trunk.

A portion of the side-shelves in one part of the House is occupied with an extensive collection of the genus *Begonia*, whose highly ornamental foliage preserves, "amid a hundred modifications," its



peculiar character of obliquity, whence the plants are not inaptly named *Elephant's Ears*; the species, too, possess a great recommendation in producing their delicate pink, or white, or even crimson blossoms at different seasons; so that one or other kind may be seen in blossom all the year round. Another portion of the side shelves contains the different plants of the *Pepper kind*, among which will be remarked the true Pepper Plant of our tables (*Piper nigrum*, fig. 44.), and the valuable styptic *Piper angustifolium*, Ruiz and Pav., called *Matico* by the Peruvians, and the *Cubeb* (*Piper Cubeba*).



PEPPER PLANT.

Due south of the Stove No. 12. we have just been describing, we can, at the northern door, enter a rather small House in the form of a T, a double span-roofed structure;

#### Nos. XIII., XIV. THE HEATH HOUSE.

No. 13. the *northern wing*, and No. 14. the *transverse portion*.

This is, in part, occupied by a collection of *Cape Heaths* (fig. 45.). Here are several species of the beautiful genus *Epacris*, which



CAPE HEATHS.

may be called the Heaths of Australia, being nearly allied to the *Ericææ*, and perhaps of superior beauty. Even on the outside of this House are some attractive objects.

For example, on the east and west sides of No. 13. are FRAMES containing a miscellaneous collection. That on the east side, in summer, exhibits a noble specimen of *Erythrina laurifolia*, with large coral-coloured papilionaceous flowers; in summer one of the most striking of our half-hardy shrubs. On the west side the frame contains *Cape Bulbs*. On the outside again, in a narrow bed immediately under the front of this house (facing the south), with other tender plants, are the three kinds of Tea, much cultivated by the Chinese, the *Black Tea* (*Thea Bohea*, fig. 46.), the *Green Tea* (*Thea viridis*), and the *Sasanqua Tea* (*Thea*, or *Camellia*, *Sasanqua*, fig. 47.).\* The last



BLACK TEA.



SASANQUA TEA.

seems only to be grown in China for the sake of the oil; while from the Green and the Black Tea Shrubs of botanists it is generally acknowledged that the Chinese make the green or black tea of commerce indifferently, according to the modes of preparation. In mild winters they may be seen blossoming in the open air so late as Christmas.

Opposite, that is, on the other side of the walk, west of the Heath-house, are two or three interesting hardy trees or shrubs. Sheltered by the old Stove, No. 8., and at its eastern end, stands a fine shrub of the Japanese *Photinia serrulata*, a charming evergreen, seldom bearing flower in this climate. Climbing above it, on the east and north side of the walls of the stove, is a noble plant of the old *Glycine* (now called *Wistaria*) *Sinensis*, whose innumerable clusters of blue flowers



SALISBURIA ADIANTIFOLIA.

\* These Tea plants have been recently removed to a south wall, facing the Old Museum.

(in shape like those of *Laburnum*) are very striking in the early spring, before the leaves are unfolded. Next to that (proceeding north) is a very aged trunk of the singular Japanese "Ginkgo," or *Salisburia adiantifolia* (fig. 48.), whose leaves are shaped like a fan, with a deep notch at the top; and next to that again is the *Terebinth Tree* (*Pistacia Terebinthus*, fig. 49.), considered by some commentators the *El-Elah* of Scripture (generally translated *Oak*): it yields the Scian turpentine, a rare gum, mostly consumed in the Levant.



49

PISTACIA TEREBINTHUS.

It will be desirable to retrace our steps a little if we wish to visit some objects in the portion of ground formerly the Royal Kitchen and Forcing-Grounds, and we shall find a walk on the east side of the Succulent House (No. 7.), which conducts the stranger in an easterly direction into the HERBACEOUS GROUND, or general collection of *hardy exotic herbaceous plants*, including *Grasses*, systematically arranged and intermixed with shrubs and ornamental trees upon the lawn. The same piece of ground contains several Plant-houses, also a building, formerly a fruit-house to the Kitchen-Garden, but converted into a

### • MUSEUM,

destined to receive specimens of *Fruits* and *Seeds* (dried or preserved in pyroligneous acid, or alcohol), *Gums*, *Resins*, *Drugs*, *Dye-stuffs*, *Sections of Wood* — in short, all interesting vegetable *products*, particularly those that are useful to mankind, in the *Arts*, in *Medicine*, and in *Domestic Economy*; substances which neither the living plants nor the Hortus Siccus can exhibit. But as there is a separate little book published, a Guide to the Objects in this and the NEW MUSEUM, we shall omit the mention of them here, and proceed to

### NO. XV. MUSEUM STOVE,

situated at the back, or south side, of the Museum, filled with a choice miscellaneous collection of tropical plants, and climbers trained to the back of the wall and rafters. In this House are several, both of an useful as well as ornamental character. Here are the *Nutmeg* (*Myristica officinalis*, fig. 50. page 50.), which yields both nutmeg and mace, spices, of which the consumption is so great, that, according to Stavorinus, of the former 250,000 lb., and of the latter (mace) 90,000 lb., were sold annually in Europe alone; the *Clove* (*Cary-*

*ophyllus aromaticus*, fig. 51.), which valued spice is the flower-bud, in shape resembling a nail, whence the Spaniards, who discovered the tree, called it Clava, the French Clou, the English Clove; the best *Caoutchouc Tree* (*Siphonia elastica*), from Pará; the *Upas* or *Poison-Tree of Java* (*Antiaris toxicodendron*), to whose well-authenticated virulence it has been the pleasure of poets and travellers to add many a horrifying imaginary incident\*; the famous *Cow Tree*, or *Palo de Vaca* (*Galactodendron utile* of Humboldt), native of the Caraccas, abounding in a milky juice, which is drawn into gourds by tapping, and given to children as we give them cow's milk; the *Xanthochymus pictorius* of Roxburgh, the fruits of which ripen even with us, and yield, on puncturing, a juice which concretes into one kind of *Gamboge*, the most powerful of drastic medicines, and affording the brightest and best known of yellow colours; the rare *Napoleonea imperialis*, and the very beautiful *Gardenia Stanleyana* from Sierra Leone, of which still finer plants are in the Palm-stove; the singular *Lace Bark Tree* (*Lagetta lintearia*) from Jamaica, whose layers of inner bark (there are as many as the portion of the tree yielding it is years old) resemble, without any artificial preparation, exquisite lace; the *Indian Teak* (*Tectona grandis*), extensively used in ship-building, and the equally useful and much rarer *African Teak*, or *African Oak* (*Oldfieldia Africana*); the celebrated *Gutta Percha* plant (*Isonandra Gutta*), kindly sent by Dr. Oxley, from Singapore; *Bitter Quassia* (*Quassia amara*); the *Vanilla* plant; the



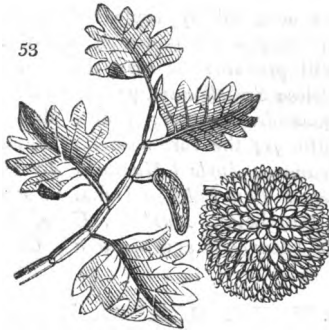
\* In addition to the injurious property of this plant, it is known to grow in low valleys of the island, rendered unwholesome by an excess of carbonic acid gas, which escapes from crevices in the ground. In this atmosphere man and beast who unwarily enter, and birds that attempt to fly over (for the gas is said to reach a height of 18 feet from the ground), fall down dead, and the bottoms of such situations are often strewn with the carcasses of various animals which have perished thus, and not from the effects of the Upas.

Malayan *Mangostan* (*Garcinia Mangostana*, fig. 52.), the rich fruit of which we vainly strive to bring to perfection in our stoves. Here also may be seen the *Bread-Fruit* of the Pacific Isles (*Artocarpus incisa*, fig. 53.).

Perhaps the greatest rarity in this House is the famous *Rice-paper Plant* of the Chinese, from the island of Formosa, with great difficulty procured for us by Sir John Bowring. A Case in the Museum explains the nature of the beautiful and well-known papyraceous substance. Two kinds of *moving plants* are here (on the front shelf) well worthy of notice in the summer months; one the *Humble-Plant*, *Mimosa*



MANGOSTAN.



BREAD-FRUIT TREE.

*pubica* (often, though incorrectly, called the *Sensitive* plant, which is *Mimosa sensitiva*):

“ Weak with nice sense the chaste *Mimosa* stands,  
 From each rude touch withdraws her timid hands:  
 Oft as light clouds o'erpass the summer glade,  
 Alarm'd, she trembles at the moving shade,  
 And feels, alive through all her tender form,  
 The whisper'd murmurs of the gathering storm,  
 Shuts her sweet eyelids to approaching night,  
 And hails with freshen'd charms the rising light.”

The best way to exhibit the sensitive properties, so called, of the

leaves, is to cut off suddenly and cautiously the tip of one of the terminal leaflets, when all the other leaflets on that stalk will close, *a pair at a time*, from above downwards; thence the impulse is continued to the adjoining stalks and to the leaflets from below upwards; and then the whole leaf will fall. The other is the *Desmodium gyrans*, usually called the *Moving Plant*; in Bengal the *Telegraph Plant*. Here the movement is voluntary, so to say, not influenced by touch, only requiring a calm, warm atmosphere. The leaves consist of three leaflets, one large terminal one, and two *small lateral* ones. The latter alone are endowed with this wonderful property. There are some or other of them always in motion, by jerks and in circles, or gyrations, in one direction, so as to return to the same point.

### Nos. XVI. & XVII. MISCELLANEOUS TROPICAL HOUSES.

A double stove now occupied by tropical plants, having a bark-pit for rearing certain tropical plants which will not bear too much moisture. Here will probably be seen the *Double-Cocoa-Nut* of the Seychelles (*Lodoicea Sechellarum*, presented by Professor Bojer), *Gutta Percha* (*Isonandra Gutta*); young plants of *Mangostan*, *Xanthochymus*, *Nutmegs*; the rare medicinal *Bark* (*Cinchona Calisaya*), Wedd.; *Mammea Apple* (*Mammea Americana*), *Borassus flabelliformis*, or *Great Fan-Palm* of India, most difficult to rear; the *Cow-Tree* of Humboldt, *Durians*, *Upas*, &c.; and on the rafters *Dipladenias* (*Harrisii* and *speciosa*), *Combretums*, *Hoyas*, &c.

### No. XVIII. AZALEA HOUSE.

Besides Azaleas, other miscellaneous plants are placed here in summer and autumn.

### No. XIX. AROIDEOUS HOUSE,

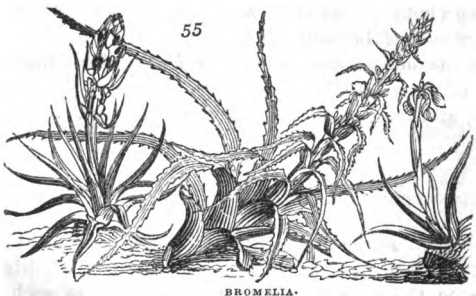
so called because it is mainly occupied with this family of plants, many of which are remarkable for their *esculent* properties, combined with a powerful *poison*. The tropics abound with them; and even England yields one kind (our *Arum* or *Wake-Robin*), which, both in appearance and qualities, may be considered a type of the rest. It is characteristic of the family that the juices are poisonous, often eminently so; but those juices being removed by cooking, the foliage and farinaceous tubers become esculent and wholesome:

the former is eaten boiled in India under the name of *Indian Kale*, the latter in various warm countries as a substitute for bread; the *Arum Colocasia*, or *Egyptian Arum* (fig. 54.), for example, in Egypt and the East, and the *Arum esculentum* in the West Indies. Our own *Arum maculatum* is commonly collected in the South of England, especially in Portland Island, and the roots made into pastry or used as *Arrow-root*. *Caladium Seguinum* is the *Dumb Cane* of the West Indies; so called because a small quantity of its juice, dropped upon the tongue, causes that organ to swell violently, and prevents the power of speech. A peculiar aspect is exhibited by all the individuals of the *Aroideæ*, independent of botanical character. Hence the importance of seeing in a garden, plants grouped according to their *natural affinities*, as illustrative of their properties; and this we have attempted to do in many instances in the vast collections of this garden.



EGYPTIAN ARUM.

Besides the Aroideous plants, which we have now briefly noticed, we have here several of these *Bromeliaceous* and the *Scitamineous plants*, both containing many useful properties. Of the first of these the

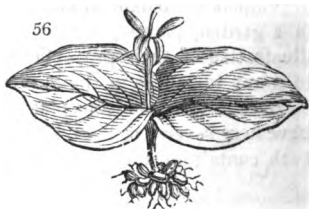


BROMELIA.

*Bromeliaceæ* or *Pine-Apple family* (fig. 55.), the larger kinds have leaves pre-eminently adapted to the purpose which the plant serves in Mexico and the warm parts of South America, that of making fences. Each leaf, long and sword-shaped, may be seen to have its edges armed with exceedingly sharp hooked spines; those on the upper half of the leaf curve towards the intruder, as if to forbid approach in that direction; while, if he has unfortunately penetrated some way in

spite of these innumerable and formidable opponents, the downward curve (towards the centre of the plant) of the remainder of the spines will prevent his egress, except at the sacrifice of the skin and flesh by these strong hooks. The kind which yields the well-known esculent fruit is the *Bromelia Ananas*. Allied to the true *Bromelias* are the *Tillandsias*, which we often receive from tropical countries, and they succeed well with us, attached to truncheons of wood (for they are Epiphytes, like the *Orchideæ*), until the flowering is past, and then they almost invariably wither: we need, therefore, a frequent importation of them. The leaves of many are singularly hollowed at the base, and in the driest weather filled with water, which often proves serviceable to man and animals. Some larger kinds of *Bromeliaceæ* are in the Palm-house, and some in the Aloe-house.

The *Scitamineæ*, contained in this House, include a good many *Spices* and *Medicinal Plants*. Among them we may specify the well-known *Galangale* (*Kæmpferia Galanga*, fig. 56.), the *Arrow-root* (*Maranta arundinacea*), the various kinds of *Indian Shot* (*Canna*), *Phrynium*, and *Hedychium*, with their large and fragrant flowers, *Alpinia*, *Ginger* (the tuberous roots of *Zinziber officinale*), *Turmeric* and *Zedoary* (both species of *Curcuma*), *Cardamoms* (*Amomum*), &c.



KÆMPFERIA GALANGA.

Some of the smaller kinds of *Screw-Pines* (*Pandanus*), and fine specimens of the genus *Carludovica*, are here also, the lesser kinds of *Strelitzias*, and some other monocotyledonous plants.

## No. XX. TEMPERATE FERNERY,

stored with such Ferns as do not require the tropical heat of those of the Houses Nos. 11, 12. The north aspect of this House is favourable to the growth of these plants, and to such kinds that are natives of temperate climates, Madeira, South Africa, Australia, New Zealand, &c., &c. The House has a few other kinds of plants, among them the rare and handsome-flowered *Lapageria rosea*, from South Chili.



## No. XXI. RHODODENDRON AND CAMELLIA HOUSE ;

occupied by many tender *Rhododendrons*, including Dr. Hooker's Sikhim Himalayan ones, *Camellias*, *Oranges*, and a very mixed collection of plants of temperate climates, such as tender *Mahonias*, the *green*, *black* and *Assam Teas*, *Paraguay Tea* (*Ilex Paraguensis*, fig. 57.), no *Tea* indeed, but, as its scientific name implies, a kind of *Holly*; yet, under the name of *Maté*, it affords a beverage almost as extensively used in South America as *Bohea*, *Souchong*, or *Hyson* are in Europe.



ILEX PARAGUENSIS.

## No. XXII. DOUBLE PROPAGATING HOUSE,

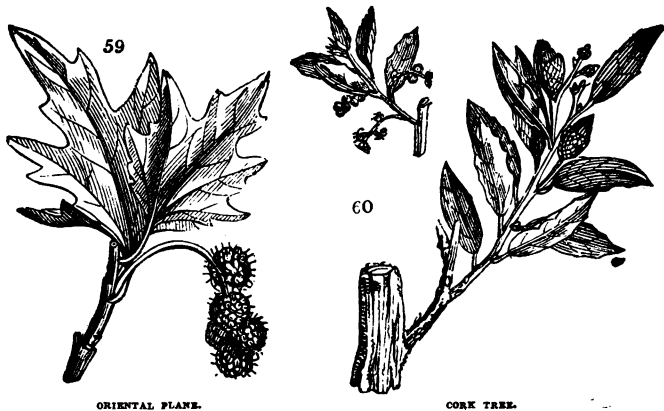
kept private; chiefly occupied by numerous young plants reared from seeds, cuttings for striking, and newly-imported plants.

And now it may be well to return in a westerly direction, past the Houses 11 and 12, where we can enter the OLD ARBORETUM, near a handsome architectural building, *The Temple of the Sun*. This is a nearly circular piece of ground (see the Plan), consisting of about five acres, crowded with hardy trees of much interest and value, more than can possibly be here enumerated. Close by the Temple of the Sun are noble specimens of the *Turkey Oak* (*Quercus Cerris*), a *Cedar of Lebanon* (*Cedrus Libani*, fig. 58.), the *Oriental Plane* (*Platanus orientalis*, fig. 59.), a very large *Locust Tree* (*Robinia Pseudacacia*), a *Lotus* of North America (*Diospyros Virginiana*), a fragrant *Sassafras* (*Laurus Sassafras*), and a healthy though young *Cork Tree* (*Quercus Suber*, fig. 60.), two very large trees of this were blown down in a gale during George III.'s reign; a large *Koelreuteria*, &c. This Arboretum is circumscribed by a walk: by taking that which leads us past the temple, we approach the east end of the



CEDAR.

Orangery on the way to the principal entrance, among good exotic trees, *American Limes*, *Oaks*, *Hickories*, *Red* and *Yellow-flowered Horse-chestnuts*, &c.



ORIENTAL PLANE.

CORK TREE.

In the other direction, due north from Stove No. 12., we pass several interesting trees of another description. To the right is a fine *Woolly-fruited Maple* of North America (*Acer eriocarpum*): a little further, and near a private walk leading to the residence of Her Royal Highness the Duchess of Cambridge, and to the Directors' rooms, stands conspicuously a *Weeping Willow* (*Salix Babylo-nica*), derived from the original tree now destroyed, at Napoleon's tomb, St. Helena; the *Red Maple* of the United States (*Acer rubrum*), the *Manna Ash* (*Fraxinus Ornus*), from which exudes the *Manna* of the shops; the *Glastonbury Thorn*, a variety of the common Thorn (*Cratægus Oxyacantha*), of which the origin was said to be a staff from the Thorn used for crowning our Saviour, which Joseph of Arimathea stuck into the ground at Glastonbury, when it immediately sent forth leaves and flowers! Be that as it may, this tree is remarkable for bearing foliage almost throughout the year, and it flowers, if the season be mild, in winter as well as in spring. There is also a beautiful young tree of the *Deciduous Cypress* of Mexico and the Southern United States (*Taxodium distichum*), which, in its native country, attains to an enormous size, 90 feet in the girth of its trunk, and to a great age: the identical tree at Chapultepec, under which Montezuma was accustomed to sit previously to the conquest of Mexico, is yet living, and known as the *Cypress of Montezuma*. Here, on the left, are fine old *Celtises*, and the *Paper Birch* of

North America (*Betula papyrifera*). Proceeding towards the entrance gate, we pass the ruin of a stately *Cedar*, of which the main portion was carried away by a gale in 1841, and now completely destroyed (while in a sickly state) by the severe spring of 1854; so that nothing remains but the majestic trunk, which we propose to preserve and clothe with ivy; its age is estimated at about 130 years; and many rare *Pines* from different countries, in various stages of growth. Among them the *Deodar* (*Cedrus Deodara*) ranks pre-eminent, a tree rivalling if not excelling in beauty the *Common Cedar*, and equally hardy, from the mountains of Northern India: this specimen is among the very first reared in Europe, from seeds brought home and presented to the Garden by the late Honourable W. Henry Melville. As the gates of Solomon's Temple at Jerusalem, and those of St. Peter's at Rome, are said to have been made of the *Cedar of Lebanon*, so it has been ascertained, and I believe on sure authority, that the gates of the Temple of Somnauth are constructed of the *Indian Cedar* or *Deodar*. *Abies Webbiana*, *Smithii*, *Douglasii*; the *Stone Pine* (*Pinus Pinea*), which is the Pine of Claude Lorraine's Italian landscapes; a very fine Corsican Pine (*P. Laricio*), and the much rarer species, *P. Coulteri*, *macrocarpa*, and *Sabiniana* from the Pacific side of North America, also find place here.

After the inspection of these, the visitor will find himself returned to the gate on the Green by which he had entered.

# INDEX.

	Page		Page		Page
<i>Abies</i> - - - - -	57	<i>Attalea funifera</i> - - - - -	22	Caricature plant - - - - -	35
— <i>Webbiana</i> - - - - -	57	<i>Augusta, Princess Dowager</i>	7	<i>Carludovica</i> - - - - -	54
— <i>Smithii</i> - - - - -	57	of Wales - - - - -	14	<i>Carpinus Betulus</i> - - - - -	36
— <i>Douglasii</i> - - - - -	13, 57	<i>Australian Heaths</i> - - - - -	47	Carriou-flowers (fig. 37.) - - - - -	40
<i>Acacias</i> of New Holland	44	<i>Australian House</i> - - - - -	44	<i>Caryota urens</i> - - - - -	29
(fig. 42.) - - - - -	44	<i>Australian Leguminosæ</i> - - - - -	44	<i>Caryophyllus aromaticus</i>	49, 59
— peculiarity of their foliage - - - - -	44	<i>Avellano, fruit of Quadria heterophylla</i> - - - - -	43	(fig. 51.) - - - - -	28
<i>Acer eriocarpum</i> - - - - -	56	<i>Azalea House</i> - - - - -	52	<i>Cassava-bread</i> - - - - -	33
— <i>rubrum</i> - - - - -	56	<i>Azaleas</i> - - - - -	52	<i>Cattleyas</i> - - - - -	55
<i>Adam's Needles</i> - - - - -	43	<i>Backhouse, Mr., describes a gigantic Stringy Bark</i> - - - - -	15	<i>Cedar of Lebanon</i> (fig. 58.) - - - - -	55
<i>Admission to Gardens, rules concerning</i> - - - - -	4	<i>Bamboo</i> (fig. 14.) - - - - -	24	<i>Cedrus Libani</i> (fig. 58.) - - - - -	55
<i>Aërides</i> - - - - -	34	<i>Bananas</i> (fig. 9.) - - - - -	22	— <i>Deodara</i> - - - - -	57
<i>Æschynanthus</i> - - - - -	35	<i>Banyan tree</i> (fig. 25.) - - - - -	29	<i>Cela</i> - - - - -	42
<i>African Oak, or Teak</i> - - - - -	50	<i>Banks, Sir Joseph, patron-isee Kew Gardens</i> - - - - -	7, 8	<i>Celery-leaved Pine</i> - - - - -	42
<i>African palm oil</i> - - - - -	30	— his voyage with Capt. Cook - - - - -	8	<i>Celices</i> - - - - -	56
<i>African plants</i> - - - - -	38	<i>Banksias</i> - - - - -	13	<i>Cephalotus follicularis</i> (fig. 30.) - - - - -	35
<i>Agaves</i> - - - - -	36	<i>Banksias</i> - - - - -	8	<i>Cereus senilis</i> - - - - -	38
<i>Agave Americana</i> - - - - -	39	<i>Baobab tree</i> - - - - -	23, 50	<i>Ceroxylon andicola</i> (fig. 8.) - - - - -	21, 22
— <i>Mexican</i> - - - - -	39	<i>Bark (Cinchona Calisaya)</i> - - - - -	52	<i>Chambers, Sir Wm.</i> 7, 8, 14, 41	13
— <i>vivipara</i> , its wonderful growth - - - - -	39	<i>Bastard Cinnamon</i> - - - - -	28	<i>Chamærops excelsa</i> - - - - -	20
<i>Aiton, Mr. Wm., has charge of Kew Gardens</i> - - - - -	7, 8	<i>Bates, Joshua, Esq.</i> - - - - -	17	— <i>humilis</i> - - - - -	20
— <i>Wm. Townsend, Esq. succeeds to charge of Kew Gardens</i> - - - - -	8	<i>Bauhinias</i> - - - - -	31	<i>Cheirostemon platanifolia</i> (fig. 2.) - - - - -	14
<i>Aloes, American</i> - - - - -	36, 39	<i>Beech, Evergreen and Deciduous of Fuego</i> - - - - -	42	<i>Chili, or Banksian, Pine</i> 15, 36	16
— <i>S. African</i> (fig. 35.) - - - - -	38	<i>Begonias</i> - - - - -	46	<i>China broad-leaved Pine</i> - - - - -	15
<i>Amarylhidaceæ</i> - - - - -	41	<i>Bennett, R., Esq., proprietor of Kew House</i> - - - - -	6	<i>Chocolate tree</i> (fig. 18.) - - - - -	26
<i>Amentaceæ</i> - - - - -	53	<i>Betula papyrifera</i> - - - - -	17, 56	<i>Cinchona Calisaya</i> - - - - -	53
<i>American Aloes</i> - - - - -	36	<i>Bidwill Pine</i> - - - - -	15	<i>Cinnamon tree</i> (fig. 24.) - - - - -	28, 29
— <i>Flytrap</i> (fig. 31.) - - - - -	35, 36	<i>Birch, paper</i> - - - - -	56	<i>Clerodendrons</i> - - - - -	34
— <i>Juniper</i> - - - - -	15	— <i>weeping</i> - - - - -	36	<i>Cloak-room</i> - - - - -	14
<i>Amherstia House</i> - - - - -	46	<i>Black Tea</i> (fig. 46.) - - - - -	48, 55	<i>Clove</i> (fig. 49.) - - - - -	32
<i>Amherstia nobilis</i> - - - - -	46	<i>Bombax pentandra</i> - - - - -	27	<i>Club moss</i> - - - - -	32
<i>Amomum</i> - - - - -	54	— <i>Ceiba</i> - - - - -	27	<i>Cochineal insect</i> - - - - -	36
<i>Andropogon Schœnanthus</i> - - - - -	55	<i>Borassus flabelliformis</i> - - - - -	52	— <i>dye</i> - - - - -	36
<i>Angiopteris evecta</i> - - - - -	46	<i>Botanic Garden</i> - - - - -	9	— <i>plant</i> (fig. 34.) - - - - -	37, 38
<i>Anetochilus setaceus</i> - - - - -	34	<i>Bowie, his expedition</i> - - - - -	8	<i>Cocos nucifera</i> (fig. 7.) - - - - -	21
<i>Antiaris Toxicodendron</i> - - - - -	50	<i>Bradley, Dr., his telescope</i> - - - - -	7	— <i>coronata</i> - - - - -	20
<i>Aquarium, tropical</i> - - - - -	34	<i>Brazilian Pine</i> - - - - -	15	— <i>plumosa</i> - - - - -	20
— <i>hardy</i> - - - - -	47	<i>Breadfruit</i> (fig. 53.) - - - - -	51	<i>Coccol-nut</i> (fig. 7.) - - - - -	21
<i>Aquatic birds</i> - - - - -	11	<i>Bromeliaceæ</i> (fig. 55.) - - - - -	40, 53	<i>Coccol, drink so called</i> - - - - -	26
<i>Aralla crassifolia</i> - - - - -	42	<i>Bromelia Ananas</i> - - - - -	54	<i>Coccol Arabica</i> (fig. 21.) - - - - -	27
<i>Araucaria columnaris</i> - - - - -	15	<i>Broussonetia papyrifera</i> - - - - -	32	<i>Coccol tree</i> (fig. 21.) - - - - -	27
— <i>Braziliana</i> - - - - -	15	<i>Brown, Robt., Esq. (Botanicorum princeps) his voyage</i> - - - - -	8	<i>Combretums</i> - - - - -	52
— <i>Bidwillii</i> - - - - -	15	<i>Bucko or Diosma</i> - - - - -	43	<i>Coniferae</i> - - - - -	17, 42
— <i>Cunninghami</i> - - - - -	15	<i>Burbridge and Healy</i> - - - - -	18	<i>Coniferous plants, hardy</i> - - - - -	20
— <i>excelsa</i> - - - - -	15	<i>Burton, Decimus, Esq.</i> 13, 18	18	<i>Conservatory</i> - - - - -	13
— <i>imbricata</i> - - - - -	15, 36	<i>Bute, Earl of, favours Kew Gardens</i> - - - - -	36, 37	<i>Convolvulaceæ</i> - - - - -	31
<i>Arbor Vite, New Zealand</i> - - - - -	42	<i>Butterfly-plant, E. Indian</i> - - - - -	7	<i>Cook, Capt., his voyage</i> - - - - -	8
<i>Arboretum, the Old</i> 13, 55	13	— <i>W. Indian</i> - - - - -	33	<i>Cork tree</i> (fig. 60.) - - - - -	55, 56
<i>Architectural Greenhouse</i> - - - - -	13	<i>Cabbage-palm</i> - - - - -	33	<i>Corypha australis</i> - - - - -	21
<i>Areca Catechu</i> - - - - -	21	<i>Cactuses</i> - - - - -	36, 37	<i>Cotton tree</i> (fig. 27.) - - - - -	30
— <i>sapida</i> - - - - -	21	<i>Cactus tribe</i> - - - - -	36, 37	<i>Cow tree</i> - - - - -	50, 53
<i>Arenga saccharifera</i> - - - - -	42	— <i>species of</i> - - - - -	36, 37	<i>Cowdie, or Kauri Pine</i> 16, 43	43
<i>Argan tree of Morocco</i> - - - - -	42	— <i>coccinellifer</i> (fig. 34.) - - - - -	37, 38	<i>Crassulæ</i> - - - - -	56
<i>Argania Sideroxylon</i> - - - - -	42	— <i>Tuna</i> (fig. 33.) - - - - -	37	<i>Cratægus Oxyacantha</i> - - - - -	37
<i>Argyle, Archibald, Duke of, sends plants to Kew Gardens</i> - - - - -	7	<i>Caladium seguinum</i> - - - - -	53	<i>Cryptomeria japonica</i> - - - - -	18, 21
<i>Aristolochias</i> - - - - -	31	<i>Calathea zebrina</i> - - - - -	25	<i>Cubeb</i> - - - - -	47
<i>Aristolochia ornithocephala</i> - - - - -	31	<i>Camallia, or Thea, Sasanqua</i> (fig. 47.) - - - - -	48	<i>Cunningham, Allan, his expedition</i> - - - - -	8
— <i>grandiflora</i> - - - - -	35	<i>Camellias</i> - - - - -	55	<i>Cunninghamia lanceolata</i> (fig. 3.) - - - - -	15
<i>Aroidææ</i> - - - - -	52, 53	<i>Camphor tree</i> (fig. 4.) - - - - -	16	<i>Cupressus columnaris</i> - - - - -	15
<i>Aroideous House</i> - - - - -	52	<i>Canadian canoe, the</i> - - - - -	17	<i>Curcuma</i> - - - - -	54
<i>Arrow-root</i> - - - - -	53, 54	<i>Canna</i> - - - - -	54	<i>Cycasæ</i> - - - - -	24
<i>Artocarpus incisa</i> (fig. 53.) - - - - -	51	<i>Caoutchouc</i> - - - - -	30	<i>Cycas revoluta</i> (fig. 15.) - - - - -	25
<i>Arum</i> - - - - -	52	<i>Caoutchouc tree</i> - - - - -	50	<i>Cypress, deciduous</i> - - - - -	56
— <i>Colocasia</i> (fig. 53.) - - - - -	53	<i>Cape Bulbe</i> - - - - -	48	<i>Cyprædæ</i> - - - - -	16
— <i>esculentum</i> - - - - -	53	<i>Cape Proteacææ</i> (fig. 40.) - - - - -	43	<i>Cypripedium</i> - - - - -	34
— <i>maculatum</i> - - - - -	53	<i>Cape Heaths</i> (fig. 44.) - - - - -	47	<i>Dacrydium cupressinum</i> - - - - -	42
<i>Assam Tea</i> - - - - -	56	<i>Cardamoms</i> - - - - -	54	— <i>Franklinii</i> - - - - -	42
				<i>Dactylis cæspitosa, the Tussock Grass</i> - - - - -	41
				<i>Dammara australis</i> - - - - -	16, 42
				<i>Date Palm</i> - - - - -	20

	Page		Page		Page
Deciduous Cypress, Mexico	56	George III. purchases Kew	7	Laurus Camphora (fig. 4.)	16
— Beech, from Fuego	42	— Palace	9	— Cassia	28
Dendrobia	33	George IV.	40	— Cinnamomum (fig. 24.)	28
Deodars	16, 37	Geranium spinosum	54	— Sassafras	55
Desmodium gyrans	52	Ginger	49	Leguminosæ	13, 44
Dionaea muscipula (fig. 31.)	35, 36	Ginkgo tree (fig. 48.)	56	Lemon-grass	35
Dioscoreaceæ	53	Glastonbury Thora	48	Leucodendron argenteum	43
Dioscorea macrostachya	25	Glycine Sinensis	43	Limes	16
Diosma or Bucky	43	Gnaphalium and Xeranthemums (fig. 41.)	30	Lime-trees, American	56
Diospyros Virginiana	52	Gossypium herbaceum (fig. 27.)	35	Lindley, Dr., his Report concerning Kew Gardens	9
Dipladenia Harisii	52	Graptophyllum hortense	49	Livistonia Borbonica	21
— speciosa	52	Grasses	45	Locust tree	55
Double Cocoa-nut	13	Great Stag's Horn Fern	35	Lodoicea Sechellarum	52
Double Propagating-house	44	Grenadilla	13	Longan	27
Douglas's Pine	23	Greenhouse, Architectural	48	Lotus of North America	55
Doum Palm	23	Green Tea	18	Magnolia fuscata	42
Dracena Draco (fig. 11.)	11	Grissell and Peto, Messrs.	20	Mahogany tree (fig. 20.)	37
Dragon's Blood tree (fig. 11.)	13	Guinea Oil Palm	23	Mai, or Metai	42
Dryandras	34	Gum-Dragon tree (fig. 11.)	40	Mammea Americana	52
Duckweed of tropical countries	53	Gum-resin, from a Geranium	15	Mammea apple	52
Dumb Cane	20	Gum trees of Australia	50, 52	Mammoth tree of California	42
Durians	38	Gutta-Percha Plant	32	Mangifera Indica (fig. 19.)	27
Dwarf Palm	38	Gynerium argenteum	2	Mango tree (fig. 19.)	27
Echinocactus	38	Hand-plant of Mexico (fig. 2.)	14	Mangostan (fig. 52.)	51, 52
— Visnaga	53	Hardy aquarium	47	Manihot (fig. 23.)	27, 28
Egyptian Arum (fig. 54.)	49	Heath House	54	Manna of the shops	56
El Elah of Scripture	20	Hedychium	31, 49	Manna-Ash	56
El Spirito Santo	24	Herbaceous ground	56	Maple, woolly-fruited	56
Elais Guineensis	23	— collection, hardy	56	— Red	56
Elephant's Ear	16	Hickories	8	Maranta arundinacea	54
Elephant's Foot	24	Hill, Dr., his plants of Kew	15	— zebрина	25
Elm of Ephesus, the	24	Himalaya mountain pines	8	Mason, his voyage	8
Elms, Seven Sisters, so called	24	Horsechestnut, red and yellow flowered	56	Maté, or Paraguay Tea	55
Encephalartus	23	Hortus Kewensis, by Mr. Aiton	35, 52	Matico	47
Ensete	47	Hoya imperialis	51	Medicinal plants	54
Epacris	33	Humble Plant	18	Medinilla magnifica	53
Epiphytes	47	Hunt, R., Esq., recommends green-stained glass	42	— speciosa	35
Ericæ	48	Huon Pine	44	Mesembryanthemums	32
Erythrina laurifolia	15	Hyphane Thebaica	44	Metrosideros robusta	42
Eucalyptus, or Gum tree	40, 41	— coriacea	55	Mimosa pudica	51
Euphorbia (fig. 38, 39.)	41	Ilex Paraguensis (fig. 57)	52	— sensitiva	51
— antiquorum (fig. 39.)	26	Indian Azaleas	57	Miro, or Mairi	42
— Bojeri	26	— Cedar	37	Molyneux, Mr., proprietor of Kew House	6
— grandidens	26	— Fig (fig. 33.)	53	Monsonia Burmanni	40
— helioscopia	26	— Kale	54	Monster Cactus	38, and note
— meloformis (fig. 38.)	40	— Shot	50	Moreton Bay Pine	15
— splendens	36	— Teak	30, 31	Moving plants	51, 52
Euphorbiaceæ	18	Indigo (fig. 28.)	30, 31	Musa Chinensis	23
Euryale ferox	42	Indigofera Indica (fig. 28.)	30, 31	— Cavendishii	23
Evergreen Beech and Deciduous do.	7	Isonandra Gutta	21	— Ensete	23
Everlasting flowers (fig. 41.)	42	Ivory Palm	24	— paradisiaca (fig. 10.)	22, 23
Exotic department	42	Ixoras	20	— sapientum (fig. 9.)	22, 23
Fagus antarctica	42	Jamaica Fan Palm	28	Museum stove	49
— betuloides	42	Jatropha Manihot (fig. 22.)	15	Museum	49
— fusca	42	Juniperus Bermudiana	56	Museum, new	31
— Cunninghamii	52	Kæmpferia Galanga (fig. 56.)	16, 43	Myristica officinalis (fig. 50.)	49
Fan Palms	45, 47	Kauri, or Cowdie Pine	6	Myrtacææ	13, 51
Ferns	54	Kew Gardens, rise and progress, and early history of, transferred to the Office of Woods and Forests	10	Myrtus bullata	42
Fernery, temperate	30	Kew House, R. Bennett's, Esq.	6	Napoleonea imperialis	50
Ficus carica	30	— Lord Capel's	6	Nelumbium speciosum (fig. 5.)	18
— elastica	28, 29	— Mr. Molyneux's	7	Nepenthes distillatoria (fig. 43.)	46
— Indica (fig. 25.)	30	— Prince of Wales's	7	— Rafflesiana	46
— religiosa	30	— George III.'s Palace	7	Nephelium Longan	27
— Sycomorus (fig. 26.)	32	King of Hanover's grounds	9	Nesfield, Mr.	16
Fig-Marigold	28	King-Plant of Ceylon	12	New Holland Acacias (fig. 42.)	44
Figs	8	Kitchen Ground, Royal	55	New Zealand House	41
Flinders, Captain, his voyage	12	Koeleruteria	54	— Beech of	42
Floating plants	39	Κυαμας, of the ancients	18	— plants of	42
Forcing Ground, Royal	56	Laburnum	49	— Flax (fig. 36.)	39
Fourcroya gigantea, its wonderful growth	7	Lace, or Lattice-leaf of Madagascar	35	— Pine	16
Fraxinus Ornus	50	Lace-Bark tree of Jamaica	30	Nopals	37
Frederick, Prince of Wales takes a lease of Kew House	50	Lælia superbens	33	Norfolk Island Pine	15
Galactodendron utile	51	Lagetta lintearia	50	Nutmegs	52
Galangale	54	Lapagea rosea	54	Nymphaeas	44
Gamboge tree	51			Oaks, American	56
Garcinia Mangostana (fig. 52.)	50			— African	50
Gardenia Stanleyana	7			— Turkey	8, 16, 55
George III. purchases Kew House	50			Oil, palm	20
				Old man's head Cactus	30
				Old Stove built by Sir William Chambers	8
				Oldfieldia Africana	50

	Page		Page		Page
Oncidium Papilio	33	p. 53; No. 18, p. 52; No.		Symonds, Sir W.	16
Opuntia	37	19, p. 52; No. 20, p. 54; No.		Syon vista, the	14, 17
— coccinellifer (fig. 31.)	37, 38	21, p. 55; No. 22, p. 55.		Tamarind officinalis	30
Orangery	8, 14	Platanus orientalis (fig. 59.)	55	Tamarind tree	30
— built by Sir William		Plectocoma elongata	21	Tanghin or Poison tree of	
Chambers	8	Plowden, Walter, Esq.	23	Madagascar (fig. 22.)	27, 28
Orchidea	33	Podocarpus ferruginea	42	Tanghinia veneniflua (fig.	
— collection of, presented		— spicata	42	22.)	27, 28
by H. M. Queen Victoria	33	Poison tree of Java	27, 30, 52	Tapa of the South Seas	32
— bequeathed by Rev.		— Do. of Madagascar (fig.	27, 28	Taxodium distichum	56
John Clowes	33	22.)	27, 28	Tea plants	56
Orchideous House	32, 33	Pogostemon Patchouli	35	Tea, Assam	56
Oreodoxa oleracea	21	Polvrea	31	— Bohea or Black (fig. 46.)	48, 55
Oriental Plane (fig. 59.)	55	Pontederia crassipes	34	— Green	46
Orotava tree	23	Portman, Sir Hugh	7	Tea, Sasanqua (fig. 47.)	48
Ostrya vulgaris	36	Prickly Pear (fig. 33.)	37	Teak tree of India	50
Ouvrandra fenestralis	35	Propagating-house	44, 55	— of Africa	50
Pagoda	20	Protocæceæ	13, 43	Tectonia grandis	50
Palace Grounds	9	— of the Cape (fig. 40.)	43	Telegraph plant	52
Palms	20	Protea mellifera	43	Telfairia	31
Palm Stove, or Palm House		Pucha-pat of India	35	Telopea speciosissima (fig. 1.)	14
(fig. 6.)	12, 19	Quadria heterophylla	43	Temple of the Sun	8, 56
Palm Oil	20	Quassia	50	Terebinth tree (fig. 48.)	49
Palo de Vaca	50, 52	Queen Charlotte, her love		Tetradinaria elephantipes	24
Pampas grass	32	for plants	7	Thea Assamica	56
Pandanus	25	Quercus Cerris	35	— Bohea (fig. 46.)	48
Papaw tree (fig. 17.)	26	— Suber (fig. 60.)	55	— viridis	48
Paper, Birch	17, 56	Rhododendrons	55	— or Camellia Sasanqua	
— Mulberry	32	— Sikkim Himalayan	55	(fig. 47.)	48
Paper of the Ancients	23	Rice-paper plant	51	Theobroma Cacao (fig. 17.)	26
Papyrus, or Paper-reed (fig.		Richmond Old Park	10	Thuja Doniana	42
12.)	23	Robinia Pseudacacia	55	Tillandsias	54
Paraguay Tea (fig. 57.)	55	Rose of Jericho	32	Torenia Asiatica	35
Park, the Old Deer	10	Sabal umbraculifera	20	Traveller's Tree	25
— the Old Richmond	10	Saccolabium	33	Tropical aquarium	17
Passion flowers	31, 35	Sacred Bean of India (fig.		— fern house	45
Patchouli or Pucha-pat	35	5.)	18	— houses	59
Pencil cedar	15	Sago of the Cycas	24	Tree Ferns	45, 47
Pepper plant (fig. 44.)	47	Sago palm	21	Turkey Oak	8, 16, 55
Peristeria	33	Salisburia adiantifolia (fig.		Turmeric	54
Perkins, Mr.	13	48.)	49	Turner, Mr.	18
Phalenopsis amabilis	13	Salix Babylonica	56	Tussack grass	41
Phenix dactylifera	20	Sarracenis (fig. 32.)	36	Uvas tree	27, 50, 52
— sylvestris	31	Sasanqua Tea (fig. 47.)	48	Urania speciosa	25
Phormium tenax (fig. 36.)	39	Sassafras	55	Vanilla aromatica (fig. 29.)	33,
Photinia serrulata	49	Screw Pine (Pandanus)	25, 51	34, 50.	
Phrynium	54	Scitamineæ	53, 54	Vegetable Ivory Palm	31
Phyllocladus trichomanoides	42	Scrub, the, of New Holland,	13	Verbena triphylla	35
Physurus of Brazil	34	Seaforthia elegans	21	Victoria Water-Lily, (Vic-	
Phytalephas macrocarpa	22	Sempervivum	37, 40	toria regia),	17, 34, 44
Pine-Apple Tribe	53	Sensitive plant	51	Victoria House	34
Pines	57	Seven Sisters	16	Visitors, number of	11
— tender kinds	14, 15	Side-saddle flowers (fig. 32.)	36	Vista, Brentford	20
Pinetum	12, 16, 20	Sikkim Himalayan Rhodo-		— Cedar	20
Pinus Laricio	57	dendrons	55	— Syon	20
— Coulteri	57	Silk Cotton tree	27	Wake-Robin	53
— pines	57	Siphonia elastica	59	Wallich, Dr.	21, 31
— Sabiniana	13, 57	Smith, Sir, J. E.	7	Waratah	13
Piper nigrum (fig. 44.)	13, 47	Smith, Mr. John, Curator	9	Wartwort	26
— Cubeba	47	Sonhora Japonica	36	Water-lilies	33
— angustifolium	47	Spices	54	Water-Lily, Victoria	17, 34, 44
Pistacia Terebinthus (fig.		Stag's-horn Fern	45	Wax-Palm (fig. 8.)	22
48.)	49	Stanhopea	33	Weeping Birch	36
Pistia Stratiotes	34	Stapelia (fig. 37.)	37, 40	— Willow, from Napo-	
Pitcher-plants (fig. 43.)	46	Stauton, Sir G.	30	leon's Tomb	56
Pitcher-plants, Australian		Stone Pine	36, 57	Wellingtonia gigantea	43
(fig. 43.)	35, 45, 46	Stove, the great, or old,	8	West India Palm	42
Plane, Oriental (fig. 59.)	8, 55	Streitzia Regina (fig. 16.)	25, 54	Wild date of India	21
Plantains (fig. 10.)	22	— augusta	25	William IV.	9, 13
Plant-houses, viz.		Stringy Bark tree	15	Wistaria Sinensis	48
No. 1, p. 13; No. 2, p. 14;		Succulent plants	36	Wyatt, Mr.	9
No. 3, p. 32; No. 4, p. 32;		Sugar-Cane (fig. 13.)	24	Xanthochymus pictorius	50, 52
No. 5, p. 33; No. 6, p. 34;		Swan River seedlings sent		Xeranthemums (fig. 41.)	43
No. 7, p. 36; No. 8, p. 41;		by Mr. Drummond	14	Yuccas	43
No. 9, p. 54; No. 10, p. 44;		Swietenia Mahogoni (fig. 30.)	27	Zamia	24
No. 11, p. 45; No. 12, p. 46;		Sycamore tree (fig. 26.)	30	Zebra plant	25
Nos. 13 and 14, p. 47; No.		Sycamore of Scripture (fig.	30	Zedoary	54
15, p. 49; Nos. 16, and 17,		36.)		Zinzier officinale	54

THE END.

16 JY 58