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JOURNAL  
OF THE  
KEW GUILD

AN ASSOCIATION OF  
MEMBERS OF THE KEW STAFF  
PAST AND PRESENT

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„ 1942-43 :—A. J. Brooks, F.C.S., F.L.S.

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## EDITORIAL.

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The delay in all overseas correspondence and the uncertainty of the safe arrival of mails are responsible for this issue of the *Journal* being again largely a "Home" Number. Several letters were addressed to Members in the Dominions and Colonies asking for contributions for publication, but no replies have been received. The present Number covers the period ending December 31st, 1942.

The year 1943 marks the Jubilee of the Kew Guild. Since 1893 the Membership has greatly increased, many new interests are involved and Kew as a National Institution has grown greatly in importance. In view of these facts the opinion has been expressed that the scope of the Guild's activities should be re-considered with the object of enlarging its functions and increasing its usefulness. Suggestions from Members would be welcomed by the Committee.

As the Number promised to be a small one the approval of the Committee was sought to include an article on "The Cambridge Cottage Garden" and to insert it as a Supplement. In this form it can be reprinted without change of pagination. The expense of printing the article has been largely borne by the author as it was realised that so detailed an account would only interest a small number of Members.

The Editor desires to express his thanks to Mr. Gerald Atkinson for his expert help in taking several of the photographs and in preparing others for publication, to the Acting Librarian Mr. H. S. Marshall for assistance in proof-reading, and to Mr. E. G. Dunk for help with regard to advertisements.

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## WILLIAM LAWRENCE LAVENDER.

Our President for 1941-42 was born on September 6, 1875, at Eastcote, Middlesex, where his father was a farmer. Before entering Kew he received training in two very well known gardens near his home. The first was at Haydon Hall, Eastcote, noted in those days for the cultivation of tropical fruits and of orchids. In 1897 a move to Bentley Priory Gardens, Stanmore, and a stay there of two years, was no doubt responsible for our President's knowledge and love for greenhouse flowers, for who in the late Victorian days had not heard of the beautiful and well kept Bentley Priory Conservatory under the direction of that well-known gardener William Taylor.

It was on Whit Monday, 1899, that young Lavender entered Kew. There was a vacancy in the Decorative Department, then in charge of Mr. Frank Garrett. He had as colleagues in the department several men with names since famous in horticulture, namely: William Hales, A.L.S. of Chelsea Physic Gardens, Ernest Gill, Penryn Rhododendron Nurseries, John T. Marks, Hampstead Garden City, John Coutts, V.M.H., Herman Spooner and others. I think I am right in saying that he spent the whole of his two years at Kew in the Decorative Department being successively employed in the Flower Garden, No. 4, and in the Decorative Pits.

When nearing the completion of the then rigid two-year course, not wishing to move far from Kew, he accepted a post as foreman across the Thames at Grove Park where another Kewite "Billie" Walters was Head Gardener. The stay there could not have been long, for the next we heard of friend Lavender was that he had taken charge of the outdoor garden at Chardwar, Bourton-on-the-Water, Glos, and the *Kew Guild Journal* for 1903 chronicled the "Wedding Bells" of Mr. W. L. Lavender and Miss K. Barrett at Ottery St. Mary, Devon, May 19, 1902. After two years in Gloucestershire our President was appointed Head Gardener to R. H. Gosling, Esq., the Manor House, Waltham-St.-Lawrence, Berkshire, where he remained for six years.

In 1910 Messrs. Sutton & Sons, Reading, were asked by Her Serene Highness the Princess of Monaco to find a Head Gardener for the extensive gardens at Haut Buisson, Laferte Bernard, France, one who could lay out, plant and maintain a garden in the English style with extensive herbaceous borders and flower beds. Mr. Lavender was invited to take the post and from the letters which subsequently passed between the Princess and Messrs. Sutton he gave more than satisfaction and provided her with a garden beautiful beyond all her expectations. During his stay in France he came in contact with the French intensive methods of growing salads to secure all-the-year-round supplies and also with different methods of growing vegetables, knowledge which has proved invaluable to him in his work for Messrs. Carters and very especially during the present war.

On the outbreak of the 1914-18 war Mr. and Mrs. Lavender with their daughter returned to England. Hearing of this the Curator

of Kew (Mr. W. Watson) invited him to take charge of the Temperate House Department during the temporary absence of Mr. Raffill in the Army, and his return to Kew was welcomed by many of his old friends. On the latter's return in 1919 Mr. Lavender made another important move, going to Raynes Park to be responsible for the Trial Grounds for Messrs. James Carter. Subsequently he was transferred to the Advisory Department and it is in that responsible position that he has become so widely known to old Kewites throughout the British Isles. I feel quite safe in saying that no one man outside the Gardens is acquainted with so many old Kewites or has done more for Guild members than our President. I personally know of many examples of Kew men looking for a post, or anxious to improve their position, who have received a helping hand from him. When there is any difficulty in answering an enquiry regarding a Guild member "Telephone Mr. Lavender" has become almost a byword at the Curator's Office.

Our President has for some years been in frequent demand as a lecturer at Horticultural and Allotment Association Meetings. In pre-war days Annuals were his favourite subject and since the outbreak of war vegetables and salads have of course been the most prominent, and if there is one subject more than another about which his knowledge has been widely sought, it is with regard to the cultivation of Haricot Beans and particularly the best varieties to dry for winter use.

Since they returned from France in 1914 Mr. and Mrs. Lavender have lived at Grena Road, Richmond. Outside official business our President has become well known in Richmond for his readiness to help in good causes and he is a pillar of strength to the Methodist Church in Kew Road in which work he is ably and enthusiastically supported by Mrs. Lavender.

A.O.

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## ARCHIBALD J. BROOKS, F.C.S., F.L.S.

Our President for the year 1942 has spent most of his time in the tropics. He brings to the Guild a long experience of Colonial life and a great enthusiasm for tropical plants and tropical agriculture. He served first in various islands of the West Indies and secondly in West Africa. In both spheres he was successful and it is not therefore surprising that he is anxious to see Kew men go abroad and take up horticultural or agricultural posts in the tropics. The secret of his success has been a natural gift for organisation coupled with hard work, and unbounded enthusiasm.

Archibald Brooks was born at Bromham, a village in Wiltshire, on January 18th, 1881. He was educated at the local Church of England School and at the Technical College, Swindon. But the railway engines of that "city of locomotives" did not attract him as they have so many other boys. He was a lover of nature and he took an active part in field excursions of the College and soon began to contribute articles to the "Swindonian," the College magazine. For five years he occupied the post of Chief Laboratory Assistant. His gift for organisation showed itself early, for as a young man of 18 he founded "The Jefferies Club" (named after Richard Jefferies the famous Wiltshire naturalist), a college natural history society, and became its first Secretary. The Club still flourishes and has a large membership.

In 1901 Mr. Brooks decided to take up horticulture as a profession and after an interview with Messrs. James Veitch, he entered the Royal Exotic Nursery in King's Road, Chelsea, as deputy foreman in the Trees and Shrubs Department. A year later, on the personal recommendation of James Veitch, he came to Kew as a student gardener and served under Walter Irving and William Hackett in the herbaceous and tropical departments respectively.

His overseas career began in May, 1903, at the age of 22 when he was appointed Officer in Charge of the Agricultural School, Dominica, West Indies, under Sir Daniel Morris, the Imperial Commissioner for Agriculture and former Assistant Director of Kew. This school was founded by the British Government for the training of native boys so that they could manage the estates which they would in due course inherit. The training extended over 5 years during which time the students were in residence. Mornings were devoted to practical work and afternoons to lectures on tropical agriculture and allied subjects including botany, chemistry and physics.

In January, 1911, Mr. Brooks moved to St. Lucia being appointed Assistant Agricultural Superintendent and Land Officer and two years later he became Officer in Charge of the Reunion Sugar Cane Estate and Land Settlement and was promoted to be Agricultural Superintendent and Curator of the Botanic Gardens in 1913. This work necessitated constant travelling throughout the Colony to visit estates for the purpose of advising upon their management and for the control of plant diseases and pests. Owing to the mountainous

nature of the country most of his time each day was spent in the saddle.

During all these years he contributed numerous articles on agricultural and horticultural subjects to the West Indian Bulletin and other journals. He took great interest in public affairs and was an original member of the Dominican Mounted Defence Force and won the Lady Sweet-Escott Challenge Shield and several gold medals for rifle shooting. He was, moreover, appointed a Justice of the Peace for St. Lucia in 1916.

It was in 1923 that Mr. Brooks was transferred from the West Indies to West Africa. He was appointed Director of Agriculture for the Gambia and served in this Crown Colony and Protectorate until his retirement in 1933. His first task was to build up a Department of Agriculture. One achievement of which he is particularly proud was that the authorities at the Colonial Office permitted him to select his own staff and that in spite of keen competition from Universities he was able to secure Kew men. For this purpose he visited Kew and from among the student gardeners selected three of the four officers required, namely: J. Pirie, T. R. Hayes and J. Sparrow. These were the first Agricultural Superintendents in the Gambia. Later on another Kew man, F. W. Hall, joined the staff as Deputy Director. The entire European staff of the Department of Agriculture in the Gambia for a time consisted of Kew-trained men.

Being a great believer in education and realising to the full that Kew could not give all the training that was necessary he was successful in obtaining sanction to send some of these officers for special training at Government expense. One went for twelve months to the Imperial College of Tropical Agriculture, Trinidad, where he was awarded an Associateship. Another was sent to India and Ceylon to study rice cultivation, irrigation and native methods of ploughing, and yet others took refresher courses at Cambridge and the Plant Breeding Station, University College, Aberystwyth.

The principal export crop of the Gambia is Groundnut (*Arachis hypogea*) and though the trade had its ups and downs and the crop suffered from the Virus disease known as Rosette, by dint of careful cultivation and the selection of resistant strains, a very flourishing industry was maintained and Mr. Brooks left the Department in a prosperous condition.

In 1927 Mr. Brooks attended the Imperial Agricultural Conference in London and two years later the Imperial Mycological Society's Conference, and the Imperial Meteorological Conference. He joined the Linnean Society in 1912 and was elected a Fellow of the Chemical Society about the same time.

The President tells us that the red-letter day of his official career in the West Indies " was in February, 1913, when I was the guest for the night of Admiral Aubrey-Smith, on board H.M.S. Cumberland. After dinner the whole ship's company, including all the Officers and Prince Albert (our present King) who was then a Naval Cadet, assembled on the Quarter Deck to listen to a lecture

by me on 'Interesting Plants of the Tropics.' This lecture was given by request of the Admiral as it was Prince Albert's first visit to the Tropics."

It was at a dinner held during the Imperial Agricultural Conference in 1927 that I first became personally acquainted with our President and though we discussed various topics I well remember being impressed by the interest and affection he retained for Kew even after 24 years' absence. With the late Director he kept up a regular and active correspondence and two subjects which specially interested us were strains of *Arachis* resistant to Rosette, and the training of Kew men for Colonial posts. Indeed throughout his career Mr. Brooks has always recognised the value of certain aspects of Kew experience to young men going to the tropics and has been ever ready to foster it.

It is particularly fortunate, therefore, that at this juncture, when new developments in tropical horticulture may be expected, he has renewed his links with Kew in an even more intimate way than before. During his year of Presidentship of the Guild he has taken exceptional interest in its welfare and that of its members and has expressed his willingness to give advice to any young men going abroad and to use any influence he may possess in assisting them to gain posts.

A.D.C.

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## ARTHUR W. HILL, K.C.M.G.\*

## MEMORIAL NOTICE.

The lamented death of Sir Arthur Hill on November 3, 1941, was mentioned in the Editorial paragraphs of the *Journal* for that year. Since then several notices of his life have appeared. In most of these the emphasis is upon his academic career, his contributions to botanical science and his official associations with Government Departments and other important bodies. A very full account is given by Prof. F. T. Brooks in a notice of deceased Fellows of the Royal Society. Most of these accounts can be readily consulted, and all can be seen in the Kew Library.

The present notice is not chronologically arranged and is somewhat unusual in form. It was thought that a sketch of Sir Arthur's life written from the point of view of his various activities as Director of Kew would be appreciated by all members of the Guild, in whatever direction their chief interest lies, and that it would serve to remind us all of the wide scope of Kew's functions and spheres of service. In some respects, moreover, it forms a chapter in the history of the establishment.

Arthur William Hill was the only son of Daniel Hill and was born at Watford on October 11, 1875. He was not strong as a youth, and in 1890 was sent to Marlborough College, usually considered somewhat Spartan, but the bracing air of the Wiltshire Downs "made" him as it has many others, and throughout the whole of his life he was singularly free from illness. It was at Marlborough that he began his botanical studies. There were no biology classes in those days, but as the notebooks which he retained show, Hill collected industriously, studied the local flora and made careful drawings of the more interesting species, especially Orchids. In 1893 he sat for an entrance scholarship at Cambridge and was awarded an exhibition at King's College, his botanical knowledge, it was said, showing exceptional promise. He took his B.A. in 1898 having obtained a First Class in both Part 1 and Part 2 of the Natural Science Tripos, and later the degrees of M.A. and Sc.D. He became University Demonstrator in Botany in 1899 and was Lecturer from 1904-07. In 1907 he was elected Dean of his College. His travels began early: in 1900 he visited Iceland, and in 1903 he took part in an expedition to South America in order to study the flora of the High Andes of Peru and Bolivia. This mountain flora made a great impression on his mind, and in after life he returned again and again to the systematic study of various high Andine genera which he had seen and collected.

In the year 1907 the great opportunity came and Hill took the most important step of his career. He was offered and accepted the post of Assistant Director of the Royal Botanic Gardens, Kew, under the recently appointed Director, Lieut.-Col. Prain (later Sir David Prain),

\* We are indebted to *The Daily Sketch* for the accompanying portrait.

formerly the Director of the Botanical Survey of India, and Superintendent of the Royal Botanic Garden, Calcutta. With his deep love for the University, his College and Cambridge life generally, it could not have been easy for him to come to a decision, but as Prof. Brooks says, when once he came to Kew, he threw himself heart and soul into his activities. His association with Sir David Prain, which lasted for 15 years, was particularly happy.

Two personal references to those early days may be excused. My first acquaintance with our late Director was in 1905 and 1906 (whilst he was still at Cambridge) when he paid visits to the Herbarium during the long vacations. We used to lunch together at Newens and as these visits were of several weeks' duration I got to know him fairly well. There were great days. Dr. D. H. Scott was at the height of his vigour and being perhaps the leading plant-anatomist of his day and certainly the leading fossil botanist, he attracted many visitors to the Jodrell Laboratory—Newell Arber and David Gwynne-Vaughan being amongst the paleobotanists. We all met at lunch and Hill also brought friends, so the party was often lively. I was impressed with Hill's knowledge of many branches of botany and his acquaintance with most of the leading botanists of the day.

Another occasion stands out in memory, namely, a joint visit to Ireland in July, 1910, during a Natural History Survey on Clare Island. My group was the Marine Algae, and Hill came as a visitor. Our headquarters were at the local inn, and a large shed formed the laboratory. We all slept out and Hill and I shared a small and simple room in a cottage. He was always methodical and punctual, even in the early morning plunge from the rocks into the beautiful deep water—the recognised start of the day's proceedings. We all worked hard at our respective jobs, whether fungi, lichens, mosses, flowering plants, peat-deposits, geology or one of the many and varied groups of the animal kingdom, collecting, preparing, naming, mapping and charting. Hill was in his element, helping everywhere and everybody and adding his quota of mirth and stories to the general fund. If at Kew his botanical and academic distinctions impressed me, on Clare Island I appreciated fully his charm of manner and his ease in making friends. I naturally saw more of him after this association, but our paths gradually diverged and then came the Great War. It was not indeed until 1922 when he became Director and I returned from Harpenden that regular contact was resumed, including of course the daily visit to the office.

As Assistant Director, Hill's interest in the Gardens and staff developed at once, and many Student Gardeners and others will recall his regular visits and friendly talks of those early days. On the botanical side he published a number of papers, including revisions of genera and important contributions on families for the great African Floras. On behalf of the Director he also acted as Editor of the "Kew Bulletin." The new period of vigour and usefulness which commenced under Sir David's regime may be judged by the greatly increased size of the volumes and the actual scope of the



articles. Hill discharged the editorial duties with care and thoroughness.

During the Great War he was appointed Horticultural Adviser to the Imperial War Graves Commission, holding the military rank of Captain, and he continued to act as Adviser until the time of his death. He spent much time in Flanders and elsewhere and during this period his work at Kew was largely interrupted. He was twice mentioned in dispatches. The design and beauty of the cemeteries which have been so much admired were due in part to Hill's expert advice and counsel.

In 1922 Sir David Prain retired. Mention cannot be omitted here of the great progress which had been made at Kew under his Directorship. A writer in the "Guild Journal" expressing gratitude to Sir David for his great and many labours in the field of science and on behalf of the staff concluded with the words "our debt to him is immeasurable." Dr. Arthur Hill, as he was then, was appointed Director on March 1, 1922.

The functions of the Director of Kew are manifold. The most obvious is the administration of the Gardens, but in addition there are other important spheres of service, particularly the furtherance of general horticulture, the advancement of the science of botany and the promotion of agricultural development in the Dominions and Colonies. In each of these Sir Arthur excelled. He was fond and proud of the Gardens; he was genuinely interested in horticulture; he was a good all-round botanist, and he was singularly fortunate in being able to obtain an unrivalled first-hand acquaintance with botanical and agricultural problems of the Empire. We may consider his career under each of these four headings.

#### THE GARDENS.

From the point of view of the Gardens' administration Sir Arthur was a noteworthy Director. He was familiar with the general principles of gardening. He admired beautiful gardens and knew a surprising number of plants. He was interested in the plants which were grown at Kew, in the lay-out of the grounds, and in the esteem in which the Gardens were held by those competent to judge. On the aesthetic side his artistic sense both as to colour and form was invaluable. He discussed, for instance, and personally approved all the summer bedding schemes, and many will remember his weekly tour of No. 4, which was no mere visit but an expert inspection. His quick eye detected at once if any colours did not harmonise or if any plants were out of keeping with the surroundings. The Temperate House, the T range, particularly the Orchid houses, also claimed his special attention.

It was not, of course, the artistic side alone which attracted him; he was ever alert for plants which were new or of interest or which showed points of botanical importance. His interest in seedling morphology perhaps explained his great love for the Tropical Pits. The Ferneries was another range of houses which specially appealed

to him, and he had in fact unusual knowledge of the *Pteridophyta*. He kept, moreover, a watchful eye on the rich collections of young trees and shrubs in the Arboretum Nursery which were linked with named specimens in the Herbarium and were not infrequently new to cultivation.

One of his special interests was the origin of cultivated varieties of decorative plants, for example, *Cyclamen*, *Petunia*, *Begonia*, *Primula* and *Pelargonium*, and the discovery or re-discovery of the original wild species. Examples of these with their modern derivatives were frequently on show in House No. 14C as "Objects of Special Interest."

Even in the smallest gardens removals, modifications and re-planning are needful. In a large garden such alterations are as necessary and more important. Indeed, after a lapse of time very considerable changes may be required. The late Director personally directed, in conjunction with the four Curators\* who held office successively during his sway, the alterations at Kew and carried out many, both large and small, most of which were at once recognised by all as great improvements. He was very particular as to continuity of line, and harmonious grouping, and numerous adjustments of paths and the removal of superfluous beds were effected under his instructions. In the thinning out and felling of trees, so necessary to prevent a crowded appearance or to open up the view, he also took a great personal interest.

The adverse effect of London smoke on the collection of Conifers at Kew had been a source of grave concern to successive Directors. In 1923 Hill succeeded in arranging with the Forestry Commission for the establishment of a new National Pinetum on ground owned by the Commission at Bedgebury in Kent, where trees could be grown in a pure atmosphere. Many fine old conifers existed on the site, other trees were sent from Kew or presented by generous friends, so that the collection of species now in existence in this arboretum, for which Kew is responsible, is unrivalled in the south-east of England.

The design of the enlarged rock garden with its two types of rock was left largely to the Assistant Curator, Mr. A. Edwards, but the entire scheme was personally supervised and approved by the Director himself. In the important alterations connected with the approach to the Palace and the planting of the Irish Yew trees so appropriate to the situation, he naturally took a special interest and studied them beforehand with great care. A further instance of his thoroughness and attention to detail was evidenced in connection with the Sherman Hoyt House. I well remember a discussion at lunch when he vigorously maintained that if the scheme was to be carried out at all it was to be "first class," and he never rested until he had his way, and until he eventually discovered (at Dunster) a rock of exactly the right colour. The arrangement of the individual pieces of rock with regard to the perspective of the picture was also considered with the

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\* Messrs. W. J. Bean, W. T. Taylor, J. Coutts, and W. M. Campbell.

utmost care.\* Four years later the same thoroughness was exercised with regard to the new African Succulent House, and the Curator (Mr. Coutts) was again sent about the country to make the final selection of stone. For this house the rock came from Cheshire.

One of the most important improvements which he effected was that inside the main entrance, the planting of the double row of Irish Yews and of *Aesculus indica* (those on the left side are still necessarily incomplete). With one of George III's Walnut trees as a focal point the striking effect of the alteration was immediately obvious, and it provided a simple and yet dignified opening which was eminently in keeping with a great Garden with imposing Gates and a broad main walk. But the most striking alteration of all will not be obvious for many years, namely, when a stately avenue of Tulip trees will have grown up and will be one of the principal features of the Gardens (see p. 183).

#### HORTICULTURE.

Sir Arthur played his part in the horticultural world. He was naturally very closely linked with the Royal Horticultural Society, being a member of many committees and having sat on the Council. As a member of the Wisley Committee he took a special interest in that garden. Apart from the scientific work carried out in the Laboratory he was interested in the various trials and in the collections of plants and fruit trees, and as Dr. Tincker has reminded us, he much appreciated an epicurean discussion on the virtues and failings of apples both old and new. He was also a member of the Council of the John Innes Horticultural Institution.

He carried out a considerable amount of research on garden genera, notably on *Primula* (his papers on *P. obconica* and *P. malacoides* being published in the "Journal of Genetics"), *Pelargonium*, *Oxalis* and *Gaultheria*. His scientific training allowed him to take interest in all lines of investigation which had a bearing on horticulture, for example, the Dutch work on auxines, and to initiate research on physiological problems such as prevention of fog-damage, growth-substances (hormones) and the effect of various kinds of light on plants, all of which concerned Kew. The Jodrell Laboratory staff have indeed carried out many investigations as a result of his interest in plant physiology, and when these were in progress he would sometimes bring his friends—experts of the day in chemistry and physics—to inspect the work which was on hand.

But besides having scientific friends Hill knew all the leading amateur gardeners in the country, and these were constantly entertained at his house, either as individuals or in parties, and it was a great pleasure to him to be able to show them round. The converse naturally held good. Such friendships stood Kew in good stead leading to an exchange of ideas as well as of plants and seeds and giving the Director a first-hand knowledge of all the good gardens in Britain. They reacted favourably also on the cultured and skilled

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\*Unfortunately the panorama is now faded so that the full artistic effect is not obtained.

amateurs who naturally looked to Kew for help. His familiarity with many of the botanic gardens on the Continent and in the Colonies and in America, their lay-out, the scope of the collections and the investigations in progress, helped, moreover, to give him exceptional knowledge and breadth of vision. At important botanical congresses abroad or elsewhere I have known him go out of his way to enquire into researches which had a bearing on scientific horticulture.

Horticulture passes gradually into arboriculture. Hill was interested in trees, and his opinion was often consulted with regard to planting in roads or other public places. As a member of the Forestry Commission's Advisory Committee on Research he was confronted with many tree problems where his scientific training and good taste served him well. He took an active interest in the Commission's experimental plots in various parts of the country, and in the different species of trees which were being tested.

Sir Arthur was Editor of the "Botanical Magazine," a scientific journal now published by the R.H.S. which brings horticulture and botany very closely together, the exquisite plates being drawn from garden plants, often supplied by Fellows of the Society, whilst the identifications and descriptions are prepared by botanists and often involve a considerable amount of scientific research. The artistic side of the magazine also appealed to him, and certainly no better Editor could have been found.

#### BOTANY.

Only a sketch of Hill's botanical work and writings can be attempted. Probably his most important research was carried out before he became Director. His very early histological papers on protoplasmic connections were outstanding both from the excellence of the technique employed and the interesting results obtained. One of his favourite fields of research was plant-morphology, a subject not now in vogue but an interesting and tempting one when the wealth of material growing in the Gardens is considered. His papers on seed-germination, on the various methods of escape of the young plant from hard stony shells, on the geophilous habit, on pseudomono-cotyledonous plants, such as *Cyclamen* and *Streptocarpus*, and on resupinate flowers and petioles may be cited as examples.

But although Kew is interested in many aspects of botanical science, and the Directors and staffs have always laboured in various fields of research, it is the systematic, geographical and economic branches which have been its special spheres of interest. As a botanical centre there can be no doubt that it is the systematic work initiated and carried out by the giants of the past—monographs, great floras, and perhaps more than anything else the *Genera Plantarum*—that gives Kew its unrivalled position, whilst the very title "*Index Kewensis*," set a seal to its prestige. The vastness of the systematic field when the entire flora of the world has to be considered is perhaps not realised by any who have not worked in a large herbarium. On the purely taxonomic side there is the routine work of identification and the description of new species, and as genera increase

in size the preparation of critical revisions and monographs which only sound judgment born of experience can satisfactorily undertake. On the floristic side there is the preparation of lists, local floras, floras of countries, floras of larger areas and indeed floras of whole continents. All this work requires examination of the floras of neighbouring countries often belonging to other Powers and of published work by botanists in other institutions and in other lands, and to obtain any finality the original specimens (especially in the case of the older species) have to be consulted. Last, but not least, there are the problems of nomenclature, a subject so vast and intricate that it has become a study in itself. All this is part of the great heritage of Kew, and over it all Sir Arthur presided with skill, wisdom and sympathetic interest, and by his energy and personality he did much to foster the development of systematic botany. A paper which he read at the Imperial Botanical Congress, 1924, entitled "The best means of promoting a complete botanical survey in the different parts of the Empire" stimulated much interest in the study and collection of the native floras. Throughout his career he himself contributed much and published revisions of genera both South American and African, the latter being contributions to the great African floras: the "Flora Capensis" and "The Flora of Tropical Africa." He initiated the production of "The Flora of West Tropical Africa," which was commenced and completed during the time of his directorate; he also promoted work on the "Flora of Trinidad and Tobago" and the "Flora of Madras."

An important advance which came about during his period of office was a material increase in the scientific staff of the Herbarium. This was first made possible through the help of the Empire Marketing Board and was undertaken with the object of dealing with arrears of work and with the great influx of new material arriving from the Colonies. Most of these new posts subsequently became permanent. A further and very noticeable achievement (after years of effort) was the provision of an additional wing to the Herbarium. The new building was opened in 1932.

Sound taxonomy is the basis of economic botany, which at Kew has ranked only second to the systematic side and is cared for by the Museum Staff. Though from some points of view less vast and less spectacular it is of fundamental and vital importance not only to the Empire, which it is Kew's privilege to serve, but to the whole human race; indeed it will be remembered that the Kew official periodical, the "Bulletin," was originally planned in order to disseminate information of economic value to the Empire. The economic aspect of Kew work received a powerful stimulus from the Director's world tours and thanks to the Empire Marketing Board's assistance, reference to which is made later, he was able to strengthen the Kew staff by the addition of a tropical agriculturist to undertake overseas missions. A valuable contribution to economic botany was the Inventory of Tropical and Sub-tropical Crop Plants of British Empire, published in the "Kew Bulletin" (Add. Ser. XII).

Hill's promotion of physiological research has already been mentioned. He was equally ready to support another great branch of botany, namely plant-anatomy, and sponsored a movement to bring out a new work to replace Boodle and Fritsch's translation of Solereder's classic "Systematic Anatomy of Dicotyledons." The preparation of this new treatise has been in progress at the Jodrell Laboratory for some years.

His broad interests and love of scientific accuracy led him to initiate and, jointly with the British Ecological Society, to support the Transplant Experiments carried out at Potterne in Wiltshire over a long term of years. He showed a deep and critical interest in the wide series of experiments conducted at Kew and Potterne, in which taxonomy, genetics and ecology were combined as subjects of detailed experimental and statistical analyses.

Finally, the responsibility of editing three important botanical works must be mentioned. As Director of Kew Sir Arthur was Editor of the "Kew Bulletin," the "Icones Plantarum" and the quinquennial Supplements to the "Index Kewensis." He also took much interest in the compilation of the "Index Londinensis" which was carried out at Kew for the R.H.S.

#### WORLD TOURS AND COLONIAL WORK.

Facilities for extensive travel had, on the whole, been denied to previous Directors of Kew, but Sir Arthur enjoyed opportunities for visiting the Dominions and Colonies to an unprecedented degree. He was successful in obtaining from the Empire Marketing Board a series of substantial financial grants mainly for the purposes of travel and the collection of material. Two paragraphs from the Board's Report for 1927 may be quoted :

"The best service that can be done to the Empire producer is to place freely at his disposal the resources of science and economic investigation."

"The grant has been devoted partly to the employment of an Economic Botanist at Kew, who will be available either to visit the Dominions and Colonies from time to time or to set free a superior officer of the Kew staff to undertake oversea missions. It will also be used in part for sending botanical collectors to various parts of the world."

The immediate response of the Dominions in requesting a visit from the Director of Kew was most striking, and indicated that the need for close contact with Kew was fully realised. The first Economic Botanist, Mr. H. C. Sampson (formerly Director of Agriculture, Madras), was appointed in 1927. He visited West Africa, British Guiana, Trinidad and later Honduras, the Bahamas, Florida and Kenya, where he brought expert knowledge to bear upon the various crops. But the Director took a wide view and the grants were made available to many members of the staff. One of the first recipients was the Assistant Curator in charge of the Tropical Department, Mr. W. T.

Taylor, who visited the Far East, particularly Malaya and Java. No more valuable experience for him could be imagined. From the Museums staff Dr. F. N. Howes went also to Malaya, Java, Siam and Burma, the special object of his visit being to acquire new strains of Banana for breeding purposes. The Assistant Director, Dr. T. F. Chipp, went to the Sudan and later to Algeria to advise on various problems, whilst five members of the Herbarium staff went abroad, the most important tours being those of Dr. J. Hutchinson in South Africa and Rhodesia, and Mr. C. E. Hubbard, who spent a year in Australia (the latter tour being carried out on an exchange basis, a botanist from Queensland coming to work at Kew). The botanists were naturally at work in the field, and were engaged in the study of the native flora rather than of crops. The Director's own tours were official visits concerned with matters of policy and with fostering closer co-operation between Kew and the Agricultural, Forestry and Botanical Departments of the Dominions and Colonies. Links with the teaching staffs of Universities were also strengthened.

It was his many and world-wide tours which gave Sir Arthur Hill his unique experience in the fields of exotic botany, horticulture and agriculture. Details will be found elsewhere, suffice it to say that during his career he visited the West Indies several times, Canada and the United States, including California and the Pacific coast, apart from his pre-Kew visit to South America. As Assistant Director he visited West Africa, including the Cameroons, Nigeria and the Gold Coast, and in 1927-28 he toured the Australian States and New Zealand and returned home by the Dutch East Indies, Malaya and Ceylon. Another very extensive tour covered South Africa, Rhodesia, Tanganyika, Kenya and Uganda. He also visited Algeria during his earlier days, and quite recently Tripoli. His last great tour was as one of the delegates of the British Association to the jubilee meeting of the Indian Science Congress at Calcutta, when he took the opportunity of visiting Dehra Dun in the north and Hyderabad and Mysore in the South and seeing something of the work in progress.

Though such tours are enjoyable and of absorbing interest, they are far from being mere joy-rides. Constant travelling by day and night, sometimes in great heat, numberless visits and endless inspections are often tedious and fatiguing, but Hill took all these duties conscientiously and never spared himself. He usually kept a full diary of every day's work. He was indeed remarkably "tough" under these conditions. He had not only to absorb a mass of unfamiliar matter but was sometimes called upon to advise on problems quite new to him. From information I have personally received from highly placed authorities I can say how helpful and appropriate some of his proposals were and how greatly the advice given was appreciated. His proffered help led to the establishment of new friendships and new links with Kew, and his visits were a great help in cheering and stimulating isolated workers in a new and vast country. During these tours systematic and economic botany and the development of the natural resources of the countries concerned were naturally the main objects in view, but minor opportunities of usefulness were not neglected, such as the study of the hybrid-swarm phenomenon in



New Zealand (which has a wide bearing on systematic botany), transplant experiments in California, quarantine regulations against disease, the laying out of a new botanic garden, or the planning of a nature reserve to protect the native flora. His visits were always welcome, and as Professor Brooks says, he was the "botanical ambassador par excellence."

All this Colonial experience rendered his advice invaluable to Government Departments at home. As Director of Kew he was Botanical Adviser to the Secretary of State for the Colonies; he was also a member of the Colonial Advisory Council of Agriculture and one of the original Governors of the Imperial College of Tropical Agriculture and served on many other important bodies. International Conferences on Botany, Horticulture and Agriculture, and meetings such as those of the British Association and of various scientific societies also made heavy claims on his busy life.

He received many honours and distinctions. He took the degree of Sc.D.(Cantab.) in 1919 and was awarded the honorary degree of D.Sc. by the University of Adelaide. He was elected a Fellow of the Royal Society in 1920 at the early age of 44 and was also an Honorary Member of the Royal Society of New Zealand. He was made C.M.G. in 1926, and the news of the conferment of his K.C.M.G. in 1931 reached him whilst he was on tour in South Africa.

Leaving the outside world we return to Kew. In his early days especially, Hill was intimately associated with the Gardens' staff and knew all personally and by name. He was much concerned as to the educational facilities provided for the Student Gardeners and laboured hard to bring about improvements in the lecture courses. To the "Mutual" also he gave active support and never failed to give a lecture year by year. These were very popular with the men, since, however technical the theme, he always managed to bring in a humorous touch, and from the titles announced, such as "Gold, Frankincense and Myrrh," "Cabbages and Kings," "The Evasion of Death Duties," no one knew what to expect.

Hill was a man of very rigid principles and a devout Churchman. He had intense interest in Church architecture and was a generous benefactor to the Church he regularly attended. He enjoyed entertaining and the liberal hospitality of his official residence was known to botanists and others from all parts of the world.

Although very reserved he was truly sympathetic and kind-hearted. His practice of visiting members of the staff when they were in hospital was familiar to all, and his numberless deeds of kindness will never be known. I experienced many instances of his concern for those in trouble and also came across several cases of his generosity—sometimes when considerable sums (running into three figures) were involved. His intimate friends held him in deep regard and affection. At the same time others found him somewhat impatient and difficult of approach.

There is no doubt that the death of his sister who kept house so devotedly for him came as a completely unexpected and crushing



shock, and that the present war, which to the very last moment he was convinced would be averted, told more than many realised on his sensitive nature.

In spite of the difficulties of post-war years, the period of Sir Arthur's directorate was one of great activity and prosperity for Kew. This was in large measure due to his personality. He had a youthful enthusiasm which was infectious and helped him to obtain funds for new undertakings. This, combined with his initiative, energy and careful administration did much to enhance the prestige of the establishment both at home and abroad.

A.D.C.

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### ANNUAL GENERAL MEETING, 1942.\*

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The Annual General Meeting was held in the Lecture Room at Kew on July 14, 1942, the President, Mr. W. L. Lavender, occupying the Chair and twenty-one members signing the attendance roll.

The Secretary read the Annual Report of the Committee which stressed the loss the Guild has suffered through the death of Sir Arthur Hill.

The Hon. Treasurer presented the Accounts and submitted his report and stated that the balance was much more favourable than could have been expected a year ago. This was largely due to subscriptions and donations which had been received from members in the U.S.A. and South Africa.

Mr. E. F. Coward again raised the question of Life Subscriptions (see Report of Annual General Meeting for 1941). After some discussion it was agreed that in future all life subscriptions should be invested and the interest only paid into the general account.

#### SIR ARTHUR HILL'S BEQUEST.

The President explained that the £500 left to the Guild by the late Director was invested on receipt in 3 per cent. Savings Bonds and that the Committee were of opinion that it was unnecessary to institute a special fund. The capital would be left intact and the interest paid into the current account. The view of the Committee was endorsed.

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The President pointed out that it had been proposed by the Committee that a new Rule should be drafted with regard to the appointment of Trustees and that this should be brought up and voted upon at the Annual General Meeting and that notice to this effect had been circulated. The Secretary explained that since the Committee had met and had made a draft of the proposed Rule, he had had an interview with the Bank Manager who informed him that the wording proposed was not satisfactory and that it would

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\* The account of the Annual General Meeting is much abridged in order to save space.

be advisable to communicate with the Bank of England and obtain appropriate forms. As long as it was clearly understood that the Trustees should be the Director and Curator for the time being, he thought that the Guild could proceed as hitherto and should not become involved in legal technicalities. This was agreed to and the proposed new Rule was dropped.

It was agreed that the trustees should be *ex-officio* members of all committees.

#### ELECTION OF OFFICERS AND COMMITTEE.

The following Officers were elected for the forthcoming year :

*President* : Mr. A. J. Brooks. *Hon. Treasurer* : Mr. L. Stenning. *Hon. Secretary and Editor*: Mr. A. D. Cotton. Messrs. E. G. Dunk, F. G. Preston, E. F. Coward and J. A. Robertshaw were elected members of the Committee in place of Messrs. C. P. Raffill, F. G. Cousins, W. Franklin and A. W. Maynard who were due to retire.

#### PRESENTATION TO MR. E. G. DUNK.

The President explained that in 1939 it was decided to make a presentation to Mr. Dunk in appreciation of his services to the Guild for a period of 15 years during which time he had acted as *Hon. Secretary* of the Guild and as *Editor* of the *Journal*. A fund was opened and subscriptions were limited to a maximum of 2/6d. The fund had been open for over two years and had now been closed. The Committee thought it would be best to invest the amount collected and they decided on National Savings Certificates. The certificates, amounting to £19, were handed to Mr. Dunk who expressed his thanks to all members of the Guild.

#### PRISONERS OF WAR FUND.

Mr. Dunk drew attention to the fact that a Prisoners of War Fund existed during the last war and he suggested that a similar fund might be opened now and that some of the balance from the Benevolent Fund might be used as a nucleus. The opening of the fund was agreed to. After some discussion it was proposed by Mr. Osborn that £10 should be allocated from the Benevolent Fund to form a nucleus for a Prisoners of War Fund and that an appeal should be sent out with the *Journal* for subscriptions to the fund. This was carried.

#### SUMMER MEETING.

Mr. F. S. Sillitoe suggested that as there was no dinner and no Presidential speech, a meeting might be held at Kew when the President could meet members of the Guild and perhaps give an account of his experiences in the West Indies or West Africa. This was unanimously agreed to and a tea previous to the meeting was suggested. It was agreed that Saturday afternoon would be the most convenient time to hold the meeting. The Tennis Courts being in use it was decided to ask Sir Geoffrey Evans if he would allow the Guild to use the Director's Office garden. The date fixed was Saturday, August 22, and it was agreed that the Mecca Cafés Ltd. (in charge of the Refreshment Pavilion at Kew) should be asked to provide the refreshments. Further arrangements were left to the Officers.

**KEW GUILD GENERAL ACCOUNT**  
(For Financial Year ending 31st December, 1941)

RECEIPTS.				EXPENDITURE.			
	£	s.	d.		£	s.	d.
Balance from 1940 account ...	176	8	3	Printing 1939-40 Journal, blocks and authors' corrections, etc.	148	14	2
Annual subscriptions and arrears ...	23	17	7	Postages on 1939-40 Journal ...	10	14	3
Life subscriptions ...	12	4	0	Hon. Treasurer's Postages and incidentals ...	9	6	
Donations ...	4	16	0	Insurance of Proudlock Tennis Cups ...	7	6	
Advertisements in 1939-40 Journal ...	20	11	9	Donation to the Royal Gardeners' Orphan Fund 1940-41	2	2	0
Dividends on £300 3 per cent. New South Wales 1955-58, (less Income Tax deductions)	4	10	0	Balance in Bank...	83	4	8
Dividends on £26 6s. 3d. 3½ per cent. War Stock ...		18	4				
Interest on Post Office Savings Bank deposit ...	2	6	2				
	<u>£245</u>	<u>12</u>	<u>1</u>		<u>£245</u>	<u>12</u>	<u>1</u>

**CAPITAL ACCOUNT**

LIABILITIES.				ASSETS.			
	£	s.	d.		£	s.	d.
201 Life Subscribers at £1 at half rate ...	100	10	0	£300 3 per cent. New South Wales Stock at par ...	300	0	0
269 Life Subscribers at £2 at half rate ...	269	0	0	£26 6s. 3d. 3½ per cent. War Stock at par ...	26	6	3
Assets exceed Liabilities ...	59	0	11	Valuation of Journals in Stock	15	0	0
				Valuation of Typewriter ...	4	0	0
	<u>£428</u>	<u>10</u>	<u>11</u>	Balance in Bank ...	83	4	8
					<u>£428</u>	<u>10</u>	<u>11</u>

**WATSON MEMORIAL EDUCATIONAL FUND**

RECEIPTS.				EXPENDITURE.			
	£	s.	d.		£	s.	d.
Balance from 1940 account ...	105	19	6	Nil.			
Subscriptions ...		1	6				
Dividends on £100 at 3½ per cent. War Stock ...	3	10	0				
Interest on Post Office Savings Bank ...	2	10	6	Balance in Bank ...	112	1	6
	<u>£112</u>	<u>1</u>	<u>6</u>		<u>£112</u>	<u>1</u>	<u>6</u>

(Assets £100 3½ per cent. War Stock at par and Balance in Bank £112 1s. 6d.  
Liabilities Nil.)

## DUMMER MEMORIAL PRIZE FUND

RECEIPTS.			EXPENDITURE.		
	£	s. d.		£	s. d.
Balance from 1940 account ...	9	12 4	Nil		
Dividend on £70 4 per cent. Funding Loan ...	2	16 0			
Interest in Post Office Savings Bank ... ..	5	1	Balance in Bank ... ..	12	13 5
	<u>£12</u>	<u>13 5</u>		<u>£12</u>	<u>13 5</u>

(Assets £70 4 per cent. Funding Loan at par and Balance in Bank £12 13s. 5d.  
Liabilities Nil.)

## MATILDA SMITH MEMORIAL PRIZE FUND

RECEIPTS.			EXPENDITURE.		
	£	s. d.		£	s. d.
Balance from 1940 account ...	9	16 10	Nil.		
Dividend on £50 L.C.C. 5 per cent. Stock half-year... ..	1	5 0			
Dividend on £50 3 per cent. Savings Bonds ... ..	6	11			
Interest on Post Office Savings Bank ... ..	5	2	Balance in Bank ... ..	11	13 11
	<u>£11</u>	<u>13 11</u>		<u>£11</u>	<u>13 11</u>

(Assets £50 3 per cent. Savings Bonds 1955-65, and Balance in Bank £11 13s. 11d.  
Liabilities Nil.)

## THE BENEVOLENT FUND

RECEIPTS.			EXPENDITURE.		
	£	s. d.		£	s. d.
Balance from 1940 account ...	86	7 4	Nil.		
Donations, Mrs. A. C. Hartless	1	0 0			
Interest on Post Office Savings Bank ... ..	2	2 7	Balance in Bank ... ..	89	9 11
	<u>£89</u>	<u>9 11</u>		<u>£89</u>	<u>9 11</u>

## THE PROUDLOCK PRIZE FUND

RECEIPTS.			EXPENDITURE.		
	£	s. d.		£	s. d.
Balance from 1940 account ...	1	2 6	Nil.		
Dividend on £25 4 per cent. Funding Loan ... ..	1	0 0			
Interest on Post Office Savings Bank ... ..	7		Balance in Bank ... ..	2	3 1
	<u>£2</u>	<u>3 1</u>		<u>£2</u>	<u>3 1</u>

(Assets £25 4 per cent. Funding Loan and Balance in Bank £2 3s. 1d. Liabilities Nil.)

## ECONOMIC BOTANY AT KEW IN WAR TIME.

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By Sir Geoffrey Evans, C.I.E.

One of the effects of the war has been to bring economic botany into special prominence and this branch of the Gardens' activities has therefore been involved in a good deal of additional work. It may not be inopportune to emphasise that Kew, in its earlier days, took a prominent part in the establishment of some of the most important planting enterprises concerned with human affairs. The connection of the Gardens with such far reaching projects as the introduction of the Hevea rubber plant from its home in the Amazon Valley first to Ceylon and then to the Malayan region and the establishment of Cinchona, the source of quinine the great antidote for malaria, in India and Java are examples.

Indeed throughout its long history Kew has always been interested in economic plants, although in the present century with the development of the Colonial agricultural services throughout the Empire many of its functions have been taken over by the various modern Agricultural Departments which are now well equipped and have their own staffs of trained men. The scope for introducing new crops of economic importance is therefore naturally less than it was in the days of Hooker when the world was in process of being explored and colonial development was in its infancy. Even now, however, an occasional opportunity arises for the introduction of some useful crop and an example is that of Tung oil, a product of trees of the genus *Aleurites*, a native of China, which has been established in one or two Territories of which Nyasaland has perhaps been the most successful.

In periods of crisis, a special call is always made on the economic side of a scientific institution for advice and assistance. This was the case in the so-called Great War of 1914-18 and history is repeating itself in the present War, which is greater still, and which, since we have temporarily lost the exports of certain far eastern colonies, presents even more difficult problems of substitution and supplementation.

In the early years of the present conflict, particular attention was drawn to the shortage of certain drugs, which we were accustomed to import from abroad. Reference was also made to nutritional requirements, and particularly to the use of vitamin containing foods, as alternatives to the quantities of fruits and vegetables that are normally brought from overseas in peace time.

As the war progressed and the demands on available shipping became more and more acute, the problem of providing the actual food supply of the inhabitants of this island became of increasing importance, and Kew has helped in a modest way by ploughing up some of its lawns, providing allotments, and demonstrating the best methods of cultivation. Finally, with the entry of the Japanese into the war and the fall of Malaya, the Dutch East Indies and Burma,

the Allied Nations lost their main supplies of certain vital commodities such as rubber, sisal, and Manila hemp, quinine, kapok, palm oil, tapioca, rice and derris. This again has involved demands on our staff at Kew.

It may be of interest to give some details of the work that has been undertaken in these various categories. Dr. R. Melville has represented Kew on the Vegetable Food and Drugs Committee, which was set up by Government at the beginning of the war, and he has been able to provide considerable assistance to their deliberations. His work on the vitamin C content of rose hips, in conjunction with another scientist, led to the conclusion, after an investigation of the various races of wild roses growing in these Islands, that there is a correlation between latitude and the vitamin C content—those roses growing in the north having a higher vitamin content than those in the southern parts. It has also been shown that the ascorbic acid content is a constitutional character in the species. The practical outcome of this piece of work was the manufacture of Rose Hip Syrup which is now on sale to the public all over the country. Further investigations as to vitamins have elicited the fact that green walnuts contain an equally high percentage of vitamin C, and methods of rendering it available for consumption in the form of pickles or marmalade have been elaborated.

A list of the drugs of pharmaceutical importance which were formerly imported, although capable of being grown in this country, was drawn up and arrangements made to stimulate their production. With some of them such as foxglove, which produces digitalin and Autumn crocus (*Colchicum*) this was chiefly a matter of organising their collection, drying and dispatch, for they grow wild. Others such as the deadly nightshade (*Atropa belladonna*) though native are scarce and had to be cultivated. A plot was successfully grown at Kew and a rational method of cultivation adopted which has incidentally resulted in highly profitable crops. Two other medicinal plants, viz., Coriander and Dill, were also grown in demonstration plots in the Gardens. Other plants which have been the cause of much correspondence were Valerian, Buckthorn (*Rhamnus Frangula*) and Stramonium. Apart from this the number of enquiries about all manner of drugs and herbs has greatly increased and many samples have been received for identification. For example *Stevia Rebaudiana* was investigated. Its leaves have a sweet taste when chewed and it was suggested that it might prove a substitute for sugar in tea. It is, however, only semi-hardy in this country and its extended cultivation is not therefore to be recommended.

Other enquiries concerned the search for a British substitute for senna tea leaves (*Cassia acutifolia*); *Duboisia* as a source of hycscyamine and whether it would be possible to grow Maté (*Ilex paraguensis*) as a substitute for tea in this country. Many of the suggestions received were, of course, not practical politics but they showed where the needs lay.

As the war progressed and food regulations were tightened up many enquiries were received from seed and grain merchants with

regard to stray seeds and screenings and their use as cattle or poultry food. It was strange to note the varied collection of seeds and nuts which came in for identification, accompanied by a request to be informed whether the sample was poisonous or could be incorporated with safety into cattle or poultry food. Some of these specimens were difficult to recognise and often consisted of fragments which afforded little chance of identification. It says much for the skill of the Museum staff and for the value of the collection of specimens which have been accumulated with such care over so many years, that in no single instance has a satisfactory solution proved impossible. It will be only possible to mention a few cases. Thus a collection of screenings from a consignment of Palm Kernels from West Africa contained the following fragments :—

- (a) *Mucuna urens*—a climbing legume.
- (b) *Dioclea reflexa*—the Marble Vine.
- (c) *Terminalia Chebula* seeds rich in tannin and known as Myrabolans.
- (d) *Shorea* sp., the Illipe nut.

In another case the specimen proved to be Aduwa seed (*Balanites aegyptiaca*) also known as the Soapberry or desert date.

Poultry food substitutes were a frequent cause of enquiry. Specimens of grass such as the creeping bent (*Agrostis*) were identified and several times advice was sought as to the best way of growing seed grains such as *Setaria italica* or buckwheat for poultry. In other cases enquiries were made into the possibility of utilising acorns, horse-chestnuts and similar fruits. Some correspondents had to be warned against the use of lupin seed and Negro coffee (*Cassia occidentalis*).

With the fall of the East Indies the Allies became threatened with a rubber shortage, and the Government, perhaps mindful of Kew's historic connection with this product, sought our counsel as to alternative sources of supply. A list of the wild rubber plants of Africa giving detailed accounts of the various rubber producing species such as the Landolphias and Funtumias, with their localities and native names was therefore prepared and copies sent to all the British Colonies in Africa and also to the territories of allied countries in Africa which were potential producers. It must be remembered that before Hevea plantations in the Far East knocked out all other competitors about twenty years ago, considerable quantities of "wild" rubber from the two genera mentioned were annually exported, and it is believed that their further exploitation now will do something towards filling the existing gap in supply.

At the same time the attention of Government had been drawn to the success that has attended the Russian efforts to obtain rubber from certain short term plants mainly belonging to the Compositae. The chief of these is a plant not unlike the British dandelion named

Kok-saghyz (*Taraxacum kok-saghyz*). Two other plants are also being cultivated in Russia on an extended scale namely, Krim-saghyz (*Taraxacum megalorrhizon*) and Tau-saghyz (*Scorzonera tau-saghyz*). Seed of these plants was obtained from Russia by the Ministry of Supply, and the Director of Kew was requested to arrange for the distribution of the seed. In view of the fact that these plants come from regions with a climate very dissimilar to that of these Islands, it was considered wisest to distribute the limited amount of seed available to Agricultural and Horticultural Stations only, and not to the general public. Twenty such stations have agreed to carry out trials and to record results. They are situated in various parts of the Kingdom extending from Scotland to the south and south-west of England and between them represent a variety of soils and climate. On the result of these trials future developments will depend, for much further information is obviously necessary before we can embark on a campaign to advocate these plants for commercial cultivation. It will be necessary in the first place to see whether the crop will grow under our conditions and what yields of rubber it is capable of giving. It may not survive our damp winters; on the other hand it may thrive and become a troublesome weed. If it seems likely to succeed under our conditions, then the question of utilising the roots and the methods of processing the crop will need consideration and it might be necessary to offer a guaranteed price for any area planted. These are a few of the problems that will have to be faced once the crop has proved itself. But it must not be forgotten that under the circumstances existing during wartime, land in the British Isles is precious. We cannot afford to waste an acre and the growing of problematical crops cannot be encouraged.

The rubber crisis has nevertheless fired the imagination of many people and numerous enquiries and suggestions have been received as to the possibility of discovering crops that might produce rubber under temperate conditions. Dr. Howes is dealing especially with these questions and in the meantime the staff at the Jodrell Laboratory under Dr. Metcalfe are carrying out preliminary investigations on different plants which seem to hold out prospects as rubber producers. These include a number of varieties of British *Taraxacums* that had been collected together by Dr. Turrill some time ago (for an entirely different purpose) and which he has kindly made available for analysis. Other plants on the list are *Asclepias*, *Solidago*, salsify and so on. Already it is obvious that some of these do not hold out any prospect of commercial exploitation. Meanwhile a number of specimens have been sent in by the public for identification, especially the caper spurge and other native Euphorbias. Evidently it is not generally realised that because a plant is latex-bearing it is not necessarily of use as a rubber producer. But it is obvious that there are physiological problems waiting to be solved, as both the quality and the quantity of the rubber present in a plant vary considerably with the season of the year and the same applies to the particular parts of the plant which are used for rubber storage.



Dr. Metcalfe's services also have been in request for wood identification as the shortage of timber has caused a greatly increased exploitation of home grown forest trees.

One of the most interesting pieces of work has been the work on nettles carried out at the Jodrell. The economic possibilities of this plant are realised in Germany but have not been properly appreciated in this country. Investigations by Metcalfe have proved that the bast fibre which is used as a textile on the continent, makes a high class paper especially suitable for electrical insulation and other technical purposes. The stems are capable of being made into a useful paper while the chlorophyll of the leaves provides a pigment now in great demand and all of which was imported before the war.

Turning now to the Gardens, reference has already been made to the ploughing up of the lawns and the cultivation of crops. Owing to the large number of visitors it was felt that Kew offered an admirable centre for demonstrating improved methods and the cropping programme has accordingly been designed to help the amateur gardener and interest the general public in the "Grow more food" campaign. A model allotment on the lines recommended by the Ministry of Agriculture has been laid down on the Palace lawn, an account of which is given elsewhere in this issue (see photograph p. 174).\* The programme for 1943 has been expanded and will include plots of the more uncommon vegetables and a small model fruit plot suitable for the amateur gardener. This will demonstrate the cultivation of cordon pears and apples and also strawberries and bush fruits of suitable kinds.

As the food and seed-supply changes with the war situation endeavours are made to keep the public aware of the coming needs by actual demonstrations. Thus the need for home grown seed of certain vegetables was demonstrated by a plot of carrots grown for seed, a sight that created much interest to visitors (see photograph p. 147).\*

These efforts to keep the public up to date with the needs of the changing situation have been amply backed up by the Museums. The scarcity of certain commodities such as kapok, tobacco, and others have been brought home by suitable exhibits and have attracted much attention. In the greenhouses also an attempt has been made to bring certain economic specimens into prominence, the plants producing rubber, quinine, drugs, dyes, and spices and so on were for instance brought out and re-arranged in the T Range.

Space has only permitted me to mention some of the activities of Kew but enough has been said to indicate that the Royal Botanic Gardens is alive to the needs of the situation and is making every endeavour to help in the war effort.

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\*Reproduced through the courtesy of Gardeners' Chronicle.

## MEMBERS OF THE KEW GUILD SERVING IN H.M. FORCES.

## FOREMEN AND STUDENT GARDENERS.

P. L. Benton, Royal Artillery.  
 E. Bird, Royal Artillery.  
 A. H. Blowfield, Royal Army Service Corps.  
 E. H. Bournier, East Berkshire Regiment.  
 J. J. Boyle, Queen's Own Royal West Kent Regiment.  
 L. R. Brown, Royal Armoured Corps.  
 J. Clark, Royal Air Force.  
 G. G. H. Cook, East Surrey Regiment.  
 P. W. C. Davies, Royal Artillery.  
 D. A. Downs, Royal Engineers.  
 A. J. Eaton, Royal Air Force.  
 F. J. Ford, Royal Marines.  
 F. J. Hebden, Royal Engineers.  
 D. C. Hollis, Royal Air Force.  
 R. A. Hudson, Royal Artillery.  
 K. H. James, Devonshire Regiment.  
 G. S. Joy, Worcester Regiment.  
 D. C. Mackenzie, New Zealand Anti-Tank Unit.  
 H. Mason, East Surrey Regiment.  
 L. F. McElroy, Royal Artillery.  
 J. Middleton.  
 R. F. Miles, Royal Air Force.  
 J. L. Norris, Royal Navy.  
 B. L. Perkins, Royal Air Force.  
 A. H. Pettigrew, Royal Engineers.  
 C. E. Puddle, Royal Engineers.  
 S. W. Rawlings, Royal Artillery.  
 T. W. Rayment, Royal Air Force.  
 J. Redman, Royal Air Force.  
 D. W. Sayers, King's Royal Rifle Corps.  
 F. G. Selby, Royal Air Force.  
 W. J. Slade, Royal Air Force.  
 F. B. Stevens, East Surrey Regiment.  
 J. W. E. Stott, Auxiliary Military Pioneer Corps.  
 A. G. K. Will, Royal Army Service Corps.  
 E. J. S. Willett, Royal Artillery.  
 C. J. Wilmot, Duke of Wellington's Regiment.

## HERBARIUM STAFF.

A. A. Bullock, Royal Air Force.  
 B. L. Burt, Royal Army Ordnance Corps.  
 D. G. Collett, South African Forces.  
 A. K. Jackson, Royal Air Force.  
 E. Milne-Redhead, Royal Artillery.

## CONSTABLES.

G. E. Dixon, Royal Artillery.  
 T. Elvin, Royal Navy.  
 A. C. Johnson, Royal Engineers.  
 W. F. Leaver, Royal Fusiliers.  
 I. Sinclair, Royal Navy.  
 C. A. Sullivan, Royal Navy.  
 A. J. Topping, Royal Artillery.  
 C. G. Topping, Royal Fusiliers.  
 A. F. Waters, Royal Navy.  
 G. Maunder, Middlesex Regiment.

## LABOURERS, STOKERS AND OTHERS.

G. E. Appleby, Royal Artillery.  
 G. Clark, Royal Navy.  
 L. C. Golding, Royal Air Force.  
 H. J. King, Queen's Royal Regiment.  
 V. Smith, Royal Marines.  
 H. Tindall.  
 F. Tweedale.

## PAST KEWITES SERVING IN ALLIED FORCES.

J. Aves, South African Forces.  
 R. Balch, Royal Artillery.  
 Eileen A. Bruce, A.T.S.  
 Mary A. Canning, W.A.A.F.  
 G. E. Carr.  
 F. Clarke, Suffolk Regiment.  
 J. D. Coales.  
 H. R. Cocker, Royal Air Force.  
 C. J. Collins, U.S.A. Army.  
 J. D. W. Cramer, Royal Netherlands Brigade.  
 L. B. Creasy, South African Forces.  
 S. Cutting, U.S.A. Army.  
 G. Davis, South African Tank Corps.  
 G. Dean.  
 W. Everitt, South African Forces.  
 J. E. Farmer, Royal Artillery.  
 J. Fisher, Royal Air Force.  
 J. L. Glasheen, Royal Air Force.  
 J. G. Gordon, Royal Canadian Air Force.  
 F. B. Grinham.  
 A. Findlay Gunn, South African Air Force.  
 H. Hall.  
 F. Hazelwood, Australian Army.  
 J. R. Hibbert, Royal Army Ordnance Corps.

E. G. Hooper, Gibraltar Garrison Fire Service.  
 Diana A. Hutchinson, W.R.N.S.  
 R. H. Keith, Royal Canadian Air Force.  
 G. C. Last, South African Medical Corps.  
 G. J. Leith.  
 F. R. Long, South African Air Force.  
 N. Lothian, Australian Army.  
 D. C. Mackenzie, New Zealand Expeditionary Force.  
 J. G. C. Mackenzie, New Zealand Expeditionary Force.  
 P. F. McCormack, Royal Artillery.  
 P. W. Mansell, Royal Air Force.  
 B. P. Mansfield, New Zealand Expeditionary Force.  
 J. E. May, Royal Air Force.  
 A. B. Melles.  
 A. T. Mullins, Royal Armoured Corps.  
 R. E. Purrott, New Zealand Expeditionary Force.  
 L. G. Riley, Royal Canadian Air Force.  
 F. L. Simmons, Royal Artillery.  
 W. J. Slade, Royal Air Force.  
 J. M. Sparrow, Royal Air Force.  
 M. Stanley, Royal Artillery.  
 J. W. Sutch, Royal Armoured Corps.  
 H. W. Swift, U.S.A. Army.  
 Mollie W. Tanner, A.T.S.  
 G. Urton, South African Forces.  
 B. B. Wass, Royal Artillery.  
 D. P. Watson, U.S.A. Army.  
 R. H. Wildy, Royal Air Force.  
 H. H. Willis, Royal Air Force.  
 G. Wolstenholme, Maritime Anti-Aircraft Regiment.  
 F. H. Wright, Royal Air Force.  
 G. T. F. Wynham, Royal Air Force.

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### PRISONERS OF WAR FUND.

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Contributions to the Prisoners of War Fund (which it was decided at the Annual General Meeting to open) have been coming in well. At the end of 1942 there was a balance in hand of about £27. So far only F. Flippance and Dennis Sayers are known to be prisoners. Several parcels of cigarettes have been sent.\*

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\*As we go to press it is learned that A. Birkinshaw, Roy Hudson, J. N. Milsum and J. G. Watson are prisoners of war in Malaya.

PERSONAL.

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The Committee of the Kew Guild desire to extend their sympathy to Sir David Prain in his bereavement. Lady Prain passed away in July, 1942, after a long and trying illness.

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We greatly regret to record that Eric E. Smith who was in the Libyan campaign and was referred to as "Missing" in the last Number of the *Journal* has now been reported "Presumed killed in action" on November 23, 1941. (Obituary p. 202).

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In the 1941 number of the *Journal* we reported that one of the student gardeners, Sergeant R. F. Miles, who was in the R.A.F., was missing. We now regret to have to record that he was drowned off the west of Scotland when his plane crashed and that his body was identified four months after he was reported as "Missing." (Obituary p.198).

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We have also to record with deep regret the death on June 14, 1942, of Flight Sergeant T. W. Rayment of Sydney, New South Wales, during a raid over Essen. He was buried on June 20, at the Military Cemetery at Avesnes near Maubeuge, France (Obituary p. 201).

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We regret to record the passing of Mr. J. A. Mingay, for many years porter in the Jodrell Laboratory. He served under Dr. D. H. Scott, for many years Honorary Keeper of the Laboratory, and also under his successor the late Mr. L. A. Boodle. Mingay was a "character" and was very popular with the Gardens' staff. He had an endless stock of stories, largely connected with the South African war. He died on November 1, 1942, and was buried in Richmond.

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We have been informed that it was announced by the Tokyo wireless that Mr. R. E. Holttum, Director of the Botanic Gardens at Singapore, has been interned and that a Japanese botanist is in charge of the Gardens. Mrs. Holttum is in Australia.

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No definite news has been received of Mr. E. J. H. Corner the Assistant Director of the Singapore Botanic Garden. Mr. C. F. Symington, however, writes: "Corner was working incredibly hard at innumerable jobs at the time of the invasion of Malaya but I believe he was 'safe' when Singapore fell." Mrs. Corner got away to Australia and has now joined her mother in America.

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Botanists will be interested and relieved to hear that Mr. C. F. Symington, Senior Conservator of Forests, Malaya, escaped in a Chinese junk from Singapore the night before capitulation and eventually reached Australia. The following information has been received from the Colonial Office: "Mr. C. F. Symington left Australia for South Africa on the 25th October en route for Nigeria

to which Colony he has been seconded for employment as an Assistant Conservator of forests." Mr. Symington has spent many long periods of leave working in the Kew Herbarium.

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We are informed by the Colonial Office that Mr. H. G. Keith of the Malayan Forest Service, who is a most active investigator of the botany and forest flora of British North Borneo and a regular correspondent at Kew, is "officially reported to be interned in North Borneo."

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No news has been received of Mr. J. N. Milsum, F.L.S., who left Kew in 1913 and was Senior Agricultural Officer stationed at Taiping, Perak, F.M.S., but in a list of names published in *British Malaya* for August, 1942, Mrs. Milsum is recorded as having reached Durban, S. Africa.

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Friends of Mr. I. H. Burkill, for many years Director of the Botanic Gardens at Singapore and a Life Member of the Kew Guild, will be relieved to learn that his son, Mr. Humphrey Burkill, who was in Malaya at the time of the fall of Singapore, has been reported a Prisoner of War in Japanese hands. He had joined up and held the rank of Second-Lieutenant.

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On a Prisoner of War card dated October 21, 1942, Captain M. Ogilvie Grant, who has been a prisoner in Italy for upwards of two years, sends "Best wishes to all my friends at Kew." Though not a Kewite Captain Grant has worked as a volunteer at the Herbarium and takes great interest in the Gardens.

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Enquiries are often received as to Captain Kingdon Ward who was believed to be in the Far East when Japan invaded Malaya and Burma. The following extract is reprinted from *The Gardeners' Chronicle* for January 9, 1943:—"Our readers will be pleased to learn that Captain Kingdon Ward — — — is well. In a letter sent from Calcutta he expresses the wish that he was trekking into Burma again. He sends kind regards to 'all my friends.'"

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News was received at the end of 1942 that George J. D. Cousin and Salvino Zammit of Malta, former Student Gardeners at Kew, had come through the ordeals suffered by the Island Fortress and were both well and active.

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Monsieur A. E. M. van Bellingham of Louvain, Belgium, who left Kew in 1939 is reported to be in Lisbon, Portugal.

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We note with pleasure that the name of Mr. F. M. Rogers, Superintendent of Plantations at the East African Agricultural Research Station, Amani, occurs in the list of New Year Honours (1943) as having received the award of the O.B.E. Mr. Rogers went from

Kew to Amani in October, 1920, and helped to set the Station on its feet when it came under British control after the Great War. Amani has had no more loyal worker than F. M. Rogers.

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Mr. George H. Pring, the Superintendent of the Missouri Botanical Garden, St. Louis, has been presented with the Thomas Roland Award of the Massachusetts Horticultural Society for his work on Plant Breeding. Mr. Pring left Kew for St. Louis 36 years ago and is now one of the leading horticulturists in America being particularly well known as a raiser of hybrid water-lilies.

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Several of the Kew staff entered for the Royal Horticultural Society's National Diploma in Horticulture in 1942. Mr. F. J. Selby and two of the women gardeners, Miss V. E. Paine and Miss M. Lancaster, were successful in the final examination, and two others, Miss F. A. Sharps and Miss O. Horder, in the preliminary examination.

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Mr. F. Hawkins, formerly of Malaya, later Horticultural Instructor at Leeds University and more recently Advisory representative of Messrs. Carters (Tested Seeds) has accepted a post as Seed Specialist attached to the Department of Agriculture, Kenya. His headquarters will be at Nairobi and his duties will concern the growing of vegetable seeds for use in East African territories.

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Mr. E. A. Braybon has left the Ministry of Supply and is now engaged in the Argentine Republic on behalf of Messrs. R. W. Gunson & Co. Ltd., Seed & Grain Brokers. He hopes to proceed to Chile and later to South Africa.

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Mr. J. W. Ewart, who left Kew in August, 1937, and has since been Assistant Curator at the Penang Botanic Garden and later at the Singapore Botanic Gardens, was on leave at his home in New Zealand when Singapore fell. He has recently been in England and has been appointed Inspector of Plants & Products in the Gold Coast.

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Mr. N. Y. Sandwith, the specialist on the Herbarium staff for South American and West Indian plants, has been seconded to the Foreign Office.

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Mr. A. Hearn, lately higher grade Clerk in the Curator's Office, left Kew in July, 1942, on promotion, and is now in charge of the Local Organisation of War-Time Allotments under the Ministry of Agriculture & Fisheries.

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Mr. W. Franklin, who was an acting temporary foreman in the Tropical Pits, left Kew in October to take a post in the Parks Department, Coventry.

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Miss B. Tarver, N.D.H., resigned her position in Hyde Park in September, 1942. She has accepted a post in the Midland Agricul-

tural College, Sutton Bonington, nr. Loughborough, Leicestershire, where she is engaged as assistant lecturer in horticulture.

Mr. Fraser MacCartney of the New York Botanic Garden, who was a Student Gardener at Kew in 1939, has recently returned to England from Turkey. He now has a post in Messrs. L. R. Russell & Sons nurseries at Sunningdale.

Mr. R. L. Proudlock, the donor of the Proudlock Tennis Cup, paid a visit to Kew just after his 80th birthday. Mr. Proudlock was a student gardener at Kew in 1888 and as a comparatively young man was appointed Curator of the Calcutta Botanic Gardens and later held several important positions in India. But in spite of his 29 years in India and Burma he still looks young for his age. There appears to be genetic "linkage" between horticultural ability and qualifying for Army promotion for each of Mr. Proudlock's three sons, who are in the Army, hold the acting rank of Lieut.-Colonel.

Miss D. A. Hutchinson (formerly of Studley) left Kew in February, 1942, and joined the W.R.N.S. in which she is a Dispatch Rider.

Miss M. A. Canning (formerly of Swanley) left Kew in March, 1942, in order to join the W.A.A.F.

Miss Mollie W. Tanner who had been employed for 6 years in the Herbarium, during which time she was engaged in technical and library duties, resigned her position in the Civil Service in March, 1942, to take up service as a British Land Worker. Later she joined the A.T.S.

Miss Constance Bell, B.Sc. (formerly of Reading University) left Kew in May, 1942, to take up an appointment as a County Instructor under the Dorset War Agricultural Committee with headquarters at the Shire Hall, Dorchester.

Miss Eileen Plummer (formerly of Swanley) left Kew in May, 1942, and is now holding a post in the firm of Messrs. Charles Sharpe & Co. Ltd., Wholesale Seed Merchants of Sleaford, Lincs.

Miss M. G. Flew, a clerical officer in the Ministry of Agriculture & Fisheries and lately working in the Curator's Office, resigned her position in the Civil Service in June, 1942, in order to take up nursing at St. Bartholomew's Hospital.

Mr. F. A. MacKinnon, a student gardener, left Kew in August, 1942, to take a post under the Parks Department, Heston & Isleworth, Middlesex.



Miss Margaret Lancaster, N.D.H. (formerly of Studley) left Kew in September to succeed Miss Tarver as Demonstrator at the Hyde Park Demonstration Plot under the Ministry of Agriculture & Fisheries.

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Mr. F. G. Maunder left Kew in December, 1942, to take a position in the Parks Department, Bury, Lancs.

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The presentation to Mr. E. G. Dunk for his services to the Guild during the past 15 years was made at the Annual General Meeting (see p. 140).

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### EXTRACTS FROM LETTERS.

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"I received the *Journal* on Christmas Eve and did not go to bed until I had skipped right through it, since then I have read it threadbare and shall do so many times over. It is always a pleasure to receive the little green journal, but a pleasure tinged with sadness as year after year time takes a toll on those we have known . . . . Gaut and I lodged together at Kew. He was very well informed on British botany which he never gave up, and, as very few know, he was a fine violinist."

(From W. S. Sharp. 28.12.1942.)

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"I was most thankful to learn that Kew had not suffered from raids nearly as much as our papers had led us to believe . . . . According to reports the Herbarium had practically gone . . . . After months of the most devastating drought we have had three days continuous downpour. . . . For the last 15 months we have been forbidden to water anything even with a can, but by dint of hard work and much tilling I have managed to save the hardier shrubs and herbaceous things. Bath-water and dish-water barely kept a few annuals."

(From a Kew Correspondent, P. Messmer, Sydney, N.S.W.  
1.10.1942.)

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"My wife and I are temporarily absent from our home in Nice, but are hoping and longing to resume at no distant date—when this whirlpool of world-war will have terminated—our happy sojourn on the sunny shores of the Mediterranean sea. . . . We escaped from France on a coalboat when the French capitulated in June, 1940."

(From Hugh A. Pettigrew, Guildford. 26.11.1942.)

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"At the moment I am in Egypt, although I have been through the wire twice, I have seen all of Libya that I ever want to! The eastern end of Cyrenaica is not very interesting although there were quite a lot of flowers within a mile of the sea after the winter rains, especially in the wadies where the moisture is held for a fairly long time. It was like re-capturing the past to see so many plants typical of the northern hemisphere—particularly *Lotus corniculatus*!

"At present things are fairly quiet in our sector. We were in the Bardia show, but nothing really exciting has happened to us since Halfaya fell into our hands. There is little to grumble about but I am longing to get back to civilian life—to plants, and to my scribblings."

(From L. B. Creasey of Cape Town, April, 1942.)

"This island is of course windswept and very barren. The only trees are those introduced and they are nearly all in the grounds of Lewis Castle which are sheltered. There are lovely evergreens, masses of *Rhododendron* and a lot of *Cotoneaster horizontalis* running wild and yellow fruited *Rubus*, probably *R. spectabilis*."

(From Diana A. Hutchinson, W.R.N.S., Stornoway, Lewis, Outer Hebrides.)

"I am sorry to say that during the Baedaker Raids on Bath I had my greenhouses severely damaged and owing to shortage of labour have not been able to have them repaired before the winter. I have therefore volunteered for the R.A.F. and I am being sent to S. Wales next week."

(From P. W. Mansell, November, 1942.)

"Even when I was in Tobruk I managed to find a tremendous variety of flowers though I was far too busy to be able to paint them. However, when this business is over I shall be arriving at the Herbarium and asking you to name them for me."

(From a Kew correspondent, Mrs. Jocelyn Russell—Hospital Unit M.E.F.)

"I enlisted with the New Zealand Anti-Tank Battery in London in September, 1939. I have served as a gun and troop sergeant in Greece, Crete and Libya, being wounded in the fighting in Libya on December 1, 1941. Unfortunately the leg took a little while to heal so I was invalided home and have now resumed botanic gardens work here as it may be some time before I am fit for service again.

"I was very sorry to hear of the death of Sir Arthur Hill. By a strange coincidence I received a letter from him when I was out on manoeuvres in the Western Desert and when I returned to camp that evening I read of his death.

"I have two brothers at present in England, Anden, a Lieutenant in the Somerset Light Infantry, while Donald (just turned 21) is a

Squadron-Leader in the R.A.F. My eldest brother Angus has been recently reported missing over Essen. He was a Captain in a Halifax bomber."

(From Dugald C. Mackenzie, c/o Botanical Gardens, Wellington, N.Z., November, 1942.)

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"I saw the Gardens at Singapore on February 14th just before I left (capitulation was on the 15th). It was then a military area and deserted except for troops. Batteries and transports were parked everywhere and had made a frightful mess but I saw no signs of bombs having hit anything important. The herbarium and offices were intact."

(Letter from C. F. Symington to Mr. I. H. Burkill.)

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"Very many thanks for your letter of October 22nd. Mails between India and England are terribly slow, and I am afraid that quite a number never arrive at all. I should very much like to write the article you suggest for the *Journal* and hope I shall be able to do so for some future issue. At present am rather out in the wilds; we are living in tents and leading a very simple kind of life. Apart from my work, I find much to interest me in the local flora—the *Bombax malabaricum* trees are now in full bloom and are making a glorious display of colour; I never realised they reached such noble proportions. The weather is moderately cool, with a few showers, but in another month or so it will begin to get really hot. I hope you are keeping fit and that all goes well at Kew."

(From Pilot Officer H. R. Cocker, R.A.F. Indian Command.)

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## NOTES AND GLEANINGS.

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It was made known some time ago that a vast quantity of Government stationery was destroyed in a warehouse during the night of the great London fire on December 30, 1940. This included almost the entire stock of the "*Kew Bulletin*," the "*Kew Hand-Lists*" and also various publications of the Ministry of Agriculture and Fisheries. The only stock of Kew publications now available is a very small supply which is housed at the Director's office.

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Kew has benefited considerably by the addition of books from the late Director's library. All Sir Arthur's books were left to his cousin, Mrs. Rothera (better known to Kewites as Miss Armorer Hardenberg) with the exception of volumes which might be desired by Kew. It was found that several books were unrepresented in the

Main Kew Library, and in quite a number of cases that additional copies would be welcome for the Gardens and Museums libraries. In accordance with Mrs. Rothera's wishes all the remainder of the botanical portion of Sir Arthur's library is being kept at Kew until after the war is over, when it will be presented to a botanical institute at home or abroad which has been destroyed by enemy action. The choice of the institute is to be left to the Director of the Gardens at the time.

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Following the above excellent example the Trustees of the Bentham-Moxon Fund (a small private fund devoted to the furtherance of Botany) have recently purchased a number of volumes which have been offered for sale. Sets of the "Kew Bulletin" have been acquired and also important reference works on systematic botany. The Trustees have specially in view the future needs of countries now overrun by the enemy.

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Older generations of botanists used to pore over the little green volume entitled "Lessons in Elementary Botany," written at Kew in 1864 by the late Professor Daniel Oliver, the first Keeper of the Herbarium and Library. Later generations have sat at the feet of his son, Professor F. W. Oliver of University College, London, and have read and re-read "Kerner & Oliver," as the F. W. Oliver translation of Kerner's great work "A Natural History of Plants," is usually termed. The Captain of H.M.S. "Hermione," which was torpedoed in the Mediterranean in July, 1942, was Geoffrey N. Oliver, D.S.O., R.N., the son of the second Professor Oliver. Members of the Guild will be glad to know that Captain Oliver, together with most of the crew, was rescued and that on landing he was able to visit his father who is residing in Egypt, and is engaged in botanical work on behalf of the Egyptian Government.

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The outdoor display made by Fuchsias during late autumn was a feature of 1942. There was no frost at all at Kew in October and Fuchsias in full flower could be seen in many gardens in the Kew and Richmond neighbourhood up to the first week in November. A well grown row of these plants bordering the path outside Mr. Osborn's house at the Lion Gate looked as well on Guy Fawkes' day as it did any week throughout the summer. Armistice Day (November 11), however, brought a bad fog which removed the leaves wholesale and also many of the flowers.

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It was a new sight to see the fruits of *Eucommia ulmoides* at Kew. There are several specimens of this caoutchouc-producing tree in the Gardens, most of which are derived either directly or indirectly from the original introduction from China to Paris. All these trees are however male, and it is male trees which are generally seen in this country. Three years ago Kew obtained a young female tree

from cuttings from the Arnold Arboretum which were planted near the male trees in the Berberis Dell. They are growing well and fruited for the first time in 1941 and very freely in 1942.

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Three more of the old Scots Pines at the south end of the Gardens—two near the Pagoda and one near the main road—have recently died. It is believed that these trees formed part of a plantation of *Pinus sylvestris*—almost a wood—dating from the end of the 17th century or the beginning of the 18th, and that some may represent a few of the many trees planted by Queen Caroline, consort of George II, to which Sir Arthur Hill used to refer. Only three of the old veteran Pines now stand—one being the fine tree near the south end of the Temperate House and the two others, with Ampelopsis-clad trunks, being near the Pagoda.

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From the pages of the "Gardeners' Chronicle" we first learned that the New York Botanic Garden at Bronx Park suffered damage by fire on December 16, 1942. "One large house suffered considerably, but the principal damage was due to frost, following a collapse of the heating apparatus. It was the coldest night of the season, the thermometer falling to about 8° below zero. About twenty thousand plants, many of them rare, were frozen; the damage is estimated at not less than 50,000 dollars." An account of the fire will be found in the "Journal of the New York Botanic Garden," January, 1943, p. 14.

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Though it has received wide publicity in the Press, Kew men abroad may not have heard that the Cambridge University Botanic Garden has recently benefited substantially from the generous bequest of the late Mr. Reginald Cory.

Mr. Cory took great interest in botany and horticulture and contributed most generously to the Cambridge Botanic Garden during his lifetime. When he died in 1934 he bequeathed to it the residue of his estate. No income was expected from this source for many years, but recently the trustees have been able to sell certain shares, with the result that from now onwards the Garden will receive £9,000 a year from that estate and an even larger sum in the future. In accordance with the terms of the will however only £1,000 a year of the benefaction can be devoted to the maintenance of the Garden, the remainder of the income must be used for capital expenditure.

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During the summer of 1942 many parties of Indian soldiers when visiting London included an excursion to Kew in their regular programme. The weekly excursions were organised by the India Office and it was arranged that at Kew Mr. K. N. Kaul, M.Sc. Lucknow University, and Assistant for India in the Herbarium, should act as their guide and show them round the Gardens and the various scientific departments. The visits to Kew were much appreciated by the troops and it is understood that similar visits on a much larger scale are being arranged for the spring and summer of 1943.

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## KEW RIVER-WATER CONSUMPTION 1942

					Gallons
January ...	...	...	...	...	966,000
February ...	...	...	...	...	811,000
March ...	...	...	...	...	985,000
April ...	...	...	...	...	1,191,000
May ...	...	...	...	...	2,038,000
June ...	...	...	...	...	2,507,000
July ...	...	...	...	...	2,020,000
August ...	...	...	...	...	2,262,000
September ...	...	...	...	...	2,316,000
October ...	...	...	...	...	1,887,000
November ...	...	...	...	...	1,299,000
December ...	...	...	...	...	756,000
Total	...	...	...	...	19,038,000

## KEW METEOROLOGICAL NOTES

1940

				Rainfall in Inches	Temperature (Fahr.)	
					Maximum (in screen)	Minimum (on grass)
1940						
January	...	...		2.33	51°	11°
February	...	...		1.62	57°	19°
March	...	...	...	3.15	65°	22°
April	...	...	...	1.60	72°	25°
May	...	...	...	1.21	77°	34°
June	...	...	...	0.95	90°	37°
July	...	...	...	2.46	85°	37°
August	...	...	...	0.06	87°	35°
September	...	...	...	1.44	89°	32°
October	...	...	...	2.62	64°	23°
November	...	...	...	6.65	60°	22°
December	...	...	...	1.23	52°	22°
Total rainfall				...	25.32	

Highest rainfall in a single day : 1.15 inches (3rd November, 1940)

1941

	Rainfall in Inches	Temperature (Fahr.)	
		Maximum (in screen)	Minimum (on grass)
1941			
January ... ..	2.51	49°	17°
February ... ..	1.88	56°	19°
March ... ..	3.20	57°	20°
April ... ..	1.59	63°	23°
May ... ..	1.55	72°	24°
June ... ..	2.48	93°	35°
July ... ..	5.24	94°	42°
August ... ..	5.47	78°	43°
September ... ..	0.42	83°	38°
October ... ..	0.72	75°	27°
November ... ..	2.51	59°	27°
December ... ..	1.67	56°	17°
Total rainfall...	29.24		
Highest rainfall in a single day : 1.19 (13th July, 1941)			
1.18 (17th August, 1941)			

1942

	Rainfall in Inches	Temperature (Fahr.)	
		Maximum (in screen)	Minimum (on grass)
1942			
January ... ..	2.42	51°	11°
February ... ..	0.66	49°	14°
March ... ..	1.64	62°	18°
April ... ..	0.70	67°	34°*
May ... ..	2.72	78°	34°*
June ... ..	1.39	91°	40°*
July ... ..	1.74	80°	44°*
August ... ..	1.80	92°	43°*
September ... ..	0.66	79°	40°*
October ... ..	3.26	72°	32°*
November ... ..	1.89	55°	20°
December ... ..	1.99	55°	28°
Total rainfall ...	20.87		

Highest rainfall in a single day : 1.10 (30th June, 1942)

\* These were screen temperatures owing to breakage of a thermometer and difficulty in obtaining a new one.

## SUMMER MEETING AT KEW.

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As there had not been a Guild Dinner for the three years the Committee felt the need of some sort of social gathering to enable Members to meet and exchange greetings. An outdoor meeting was therefore arranged and held at Kew on the afternoon of Saturday, August 22nd. Sir Geoffrey Evans kindly sanctioned the use of the lawn adjoining the Director's Office. The innovation proved a great success. Most people are up to their necks in work and travelling is difficult, but in spite of this about 100 Members and friends were able to attend. Sir Geoffrey and Lady Evans were present, and many of the Gardens staff.

The President and Mrs. A. J. Brooks received the guests, and amongst older Kewites who were present were: Messrs. A. C. Bartlett, P. Chandler, J. Coutts, Miss Joshua, Messrs. W. L. Lavender, H. F. Macmillan, C. H. Middleton, W. N. Sands, F. S. Sillitoe and H. Spooner. Mr. H. N. Ridley, together with Mrs. Ridley, Dr. Irene Manton, two Polish botanists and others came as guests.

The catering arrangements were in the hands of the Mecca Cafes Ltd. who provided a large marquee with seats and tables under cover, and also arranged numerous tables and chairs on the lawn. The tea that was served was surprisingly good and ample. At 6 o'clock the President, Mr. A. J. Brooks, gave a most enjoyable lantern lecture in the Iron Room entitled "Life in the Gambia," which was well attended.

A wish was expressed by many that after the war this function might develop into a garden party and become an annual feature of the Guild's activities.

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## MUTUAL IMPROVEMENT SOCIETY.

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A general meeting was held on October 1st, when it was decided to continue to hold weekly meetings during the winter, and the following officers were elected for 1942-43:—

Chairman ...	...	...	...	Mr. C. P. Raffill
Vice-Chairman ...	...	...	...	Mrs. B. Cooper
Hon. Secretary ...	...	...	...	Miss C. Scott
Assistant Hon. Secretary	...	...	...	Miss O. Horder
Committee..	...	...	...	{ Miss V. Paine
				{ Miss J. Thompson
				{ Mr. D. Dawson



The following syllabus was drawn up:—

DATE	SUBJECT	SPEAKER
1942		
Oct. 14th.	*Gardens in the Riviera... ..	Mr. C. P. Raffill.
" 21st.	Perpetual Flowering Carnations ...	Mr. G. Brown.
" 28th.	Horticultural Examinations and their Benefits... ..	The Curator.
Nov. 4th.	Colour Blending in Vase and Garden...	Miss Knight.
" 11th.	Grow More Food Campaign ...	Miss Cornwell.
" 18th.	Fruit Preserving... ..	Miss Watts.
" 25th.	*Virus Diseases ... ..	Miss Paine.
Dec. 2nd.	*Economic Work at Kew Past and Present ... ..	Dr. F. N. Howes.
" 9th.	English Woodlands ... ..	Miss Mundy.
" 16th.	Quiz.	
" 22nd.	*The Groundnut Industry and Some of its Problems ... ..	Mr. A. J. Brooks.
1943		
Jan. 6th.	*Agricultural Development in New Guinea ... ..	Sir Geoffrey Evans.
" 13th.	Shrubs ... ..	Miss Watson.
" 20th.	*South Africa ... ..	Mr. Werner.
" 27th.	Fruit under Glass ... ..	Mr. Zobel.
Feb. 3rd.	Public Parks ... ..	Mr. Nelson.
" 10th.	Propagation of Hardy Shrubs ... ..	Mr. Coates.
" 17th.	Apple Stocks ... ..	Mr. Durrant.
" 24th.	*Impressions of Gardening in America...	Mr. A. Osborn.
March 3rd.	Potato and Tomato Growing in Jersey...	Mr. Holder.
" 10th.	Maintenance of Public Parks ...	Mr. J. Brown.
" 17th.	The Commercial Cultivation of Salad Crops ... ..	Mr. Oswick.
" 24th.	Onions ... ..	Mr. Lane.
" 31st.	Secretary's Report.	

\* Lantern Lecture.

Mr. Raffill opened the season on October 14th with a lantern lecture ; he showed slides of many gardens around Monte Carlo, pointing out how the effect of the extra sun caused rapid growth and abundance of flower. There were also slides of the Italian Riviera, Rome, showing the Vatican Garden, and in conclusion the Italian lakes.

Mr. Brown in his paper gave a descriptive account of the propagation, cultivation and pests and diseases of the perpetual flowering carnations. There followed a lively discussion on the control of pests and diseases and the best composts to use.

Mr. Campbell opened his lecture with a few words on horticultural training, pointing out the benefits of holding R.H.S. certificates and N.D.H. He continued with notes on the writing of examination papers, and stressed the need of being conversant with tools required for the practical examination, and concluded with some useful hints on studying.

In her talk on " Colour Blending in Vase and Garden " Miss Knight emphasised the importance of planning colour-effects in the garden, and gave an effective practical demonstration in mixing colours.

She also showed how suitable backgrounds and foliage are necessary for best results.

"Grow More Food Campaign," a topical subject, was given by Miss Cornwell, who told us of some of her experiences on the Kew demonstration plot, as well as much useful information on allotments, methods of planning, the importance of keeping up a succession of vegetables, pointing out the useful vitamins they contain.

Miss Watts's lecture on "Fruit and Vegetable Preserving in the Home," was a new subject for the Mutual. She showed many specimens, and gave us much information on the different methods of preserving and how to carry them out.

Miss Paine explained the different ways in which virus diseases affect plants, giving some examples, and illustrations with slides. She mentioned how plants were infected and the diseases spread, and suggested some methods of control.

Dr. Howes informed us of how plants had been transported from one part of the world to another through Kew. He showed many examples, including rubber, coffee, tea, cocoa, peanuts, bananas and many items of economic value.

"The History of Forests," a paper given by Miss Mundy, included religion and customs concerned with trees. She explained how the forests of Britain had been cleared, beginning with the Roman invasion, later by industry, until the present day when we try to preserve our remaining woodlands.

For December 16th a "Horticultural Quiz" had been arranged.

A most interesting lantern lecture was given by Mr. Brooks on groundnuts, giving his experiences when he started the Agricultural Department in Gambia, and explaining some of the difficulties to be overcome in that country. There were many slides of the river, showing trading stations and natives at work.

CAROLINE SCOTT,  
Hon. Secretary.

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### KEW WOMEN GARDENERS' GUILD.

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The Annual General Meeting of the Kew Women Gardeners' Guild was held on December 11, 1942, and the following Officers and Members of the Committee were elected:—

Miss V. Paine	(Chairman)
Miss F. Sharps	(Secretary)
Miss P. Cornwell	
Miss F. Mundy	
Miss C. Scott	

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TO THE WOMEN GARDENERS: A REPLY FROM THE  
JODRELL LABORATORY.

(see Guild Journal, 1941, p. 60).

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I regret that Betty Cooper as she gardeneth around  
Should gaze upon the Jodrell and find us too profound.  
In Primroses, she thinks, its inmates only see  
Just gamopetalous Dicots so dull of wit are we.

In this she is mistaken I haste' to let you know  
Its inmates are quite human and sparkling humour show  
That stuff upon the windows, which stops us looking out  
Creates a wrong impression of what we are about.

If only she would enter and meet the jolly crowd  
Instead of being haughty and walking by so proud .  
She'd find us all quite normal folk and really not a jot  
Or tittle more inhuman than the colleagues she has got.

C.R.M.

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WEDDING BELLS.

George Dean to Miss Margaret Hodgson at St. Matthew's Church, Burnley, Lancs., on September 7, 1940.

John Wilson Ewart to Miss Mary Kempson Morton of Marton, N.Z., at Wanganui, on June 6, 1942.

Frank L. Simmonds to Miss Irene Doidge at St. Stephen's Church, Twickenham, on June 13, 1942.

Miss Patricia M. K. Milburn to Captain Francis Brooks Purchas at St. Anne's Church, Kew, on June 20, 1942.

Fraser McCartney to Miss Vida R. Hawkins at St. Mary's Church, Ealing, on December 12, 1942.

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THE ASSOCIATION OF KEW GARDENERS IN AMERICA.

The Association of Kew Gardeners in America held its Twenty-Fifth Meeting and Dinner at the Roosevelt Hotel, New York City, Saturday, March 21st, 1942. Despite duties incumbent on some in the defence of our country and restrictions on gasoline and rubber, attendance was average.

An excellent dinner was served at 7 p.m. One member remarked that thirty years ago its price would have provided board and room at Kew for a week. But we live now in a world of different values.

Montague Free presided as usual and in opening the meeting

introduced one of our guests, Mr. John C. Wister, of Philadelphia, who among other things is Secretary of the Pennsylvania Horticultural Society and Director of the Arthur Hoyt Scott Arboretum, at Swarthmore College. After informing us that his first visit to Kew was in 1906 Mr. Wister dealt mainly with the Scott Arboretum. A cordial invitation was given us to call and view the large collection of magnolias, daffodils, flowering cherries, crab apples and peonies during their succession of bloom which terminates in fall with hardy chrysanthemums. Mr. Wister is preparing a check list of lilacs in America which is to include all species, varieties and hybrids. He is the author of "Iris Culture," "Lilac Culture" and "Bulbs for American Gardens." Several medals have been awarded to him.

Another guest was Mr. Robert Lemmon, Garden Editor of "American Home." He admitted freely being only an amateur although many of us are familiar with his excellent achievements in the cultivation of certain difficult plants. Stating that gardening in the United States was superficial as compared with Europe he thought that we had not been settled long enough for its proper development, but believed it would evolve in time and that Kew men could render valuable material assistance. In this connection Mr. Dodd mentioned work done in India by his brother Harry, who left Kew in 1906 and of results achieved at Dehli in transforming a desert into a beautiful garden, as he had helped to do at Agra. His conviction was that Horticulture would go a long way toward cementing a bond of peace among nations of the world.

Mr. Downer cited the obvious improvements in public institutions such as the New York and Brooklyn Botanic Gardens resulting from work of Kew men. He deplored the closing down of so many large estates where horticultural skill was best exemplified. Mr. Watts felt that the Garden Club movement would do much toward stimulating interest especially with those who could only afford small gardens. The enthusiasm created among amateurs had a healthy significance toward the future of our profession not only for the individual concerned but for nurserymen.

A lively discussion arose relative to the desirability of a college education in fitting a man for the landscape profession. Mr. Blanche was convinced that before any man became qualified to design parks, gardens or estates it was necessary to have spent at least three years in the department of landscape art at some reputable college. He spoke from experience gained at Cornell University, and in his present position realised what it had meant to him. This opinion was generally agreed to but it was conceded that any man with an ordinary amount of intelligence should be able to follow plans already drawn up.

Mr. Beale expressed pleasure at being able to attend our twenty-fifth meeting and hoped that the Association would continue to meet, believing such meetings to be very useful and profitable.

The tables were tastefully decorated with sweet peas and roses supplied by exhibitors at the flower show. Thanks were conveyed to the exhibitors concerned by Mr. Ing.

The members present were : Mr. and Mrs. M. Free, W. J. Ing, H. M. Blanche, J. Ellis, Mr. and Mrs. H. E. Downer, J. Watts, J. H. Beale, L. W. Durchanek, E. S. Dodd and son, R. Barton, and W. H. Judd.

The meeting did not lack discussion or enthusiasm until we parted on our many ways at 10.30 p.m.

WILLIAM H. JUDD,  
Secretary-Treasurer.  
(Arnold Arboretum).

#### TREASURER'S REPORT, MARCH 21ST, 1942.

Balance, March 22nd, 1941	...	...	\$12.41
Robert Cameron, July 16th, 1941	...	...	25.00
Interest, October 15th, 1941	...	...	20
Balance, March 21st, 1942	...	...	<u>\$37.61</u>

#### A SERIOUS FOREST FIRE AT BEDGEBURY.

Foresters have to contend with many enemies, and some of them are very disturbing, such as a bad outbreak of a fungus disease or the onslaught of a troublesome insect pest, but of all the afflictions that beset them the most disastrous is a serious forest fire. When such a fire occurs the work of many years is destroyed in a few hours, and not only is the burnt area affected but it interferes with the working plans for other parts of the forest.

In the lay-out of a forest the forester always has the possibility of fire in view, and he so arranges his forest roads, that they may act as fire breaks, he also provides occasional wide rides between divisions or compartments that are kept clear of coarse vegetation. He takes further safeguards, for he posts notices in conspicuous places directing attention to the possibilities of fires starting from the unconsidered acts of visitors, such as lighting fires, throwing down lighted matches, or cigarette ends, knocking lighted tobacco from a pipe, or throwing down bottles or broken glass. Moreover, when undergrowth is dry, he forbids smoking or lighting fires, but after he has done all that he can to safeguard his interests, the human element sometimes creeps in to defeat him. There is the person who finds the smoking restriction irksome and unwarranted, the picnicker and forest worker who lights a fire to boil water, and the lady who finds that it is too much trouble to carry her milkman's bottle home, and lays it down in the sun.

Forest workers however should have no excuse, for the danger of forest fires is drummed into them and they are given instructions about safe and unsafe places for lighting any fires which are necessary. They are under obligation to see that if a fire is lighted it is put out

before they leave the place, and they are instructed about the steps to take to control an inadvertently started fire. But, in spite of all, fires occasionally occur, and this was the case in a disastrous outbreak which occurred in Bedgebury Forest in the spring of this year.

April 1942 was a dry month with a good deal of sun and cold, drying winds. The season was late, and at the end of April there was no fresh undergrowth. Everywhere there was an abundance of dry grass and bracken, while undergrowth and dead lower branches in plantations were thoroughly dry. On Tuesday, April 28th, a land-girl forest worker lighted a fire to boil water to make tea for her midday meal. It was a sunny day with a strong east wind. She foolishly made her fire on the windward side of the forest, and by some means let it get out of control. Before she could procure adequate assistance, it had entered a plantation of young trees, and in a very few minutes several acres were ablaze. Unfortunately Mr. Nelmes, the resident forester, was in hospital, and the acting man was at the time a considerable distance away. However, he soon telephoned to the Acting District Officer, who immediately got in touch with the Commanding Officer of troops stationed in the neighbourhood, and with the Regional Fire Service. A large number of soldiers were promptly sent and, with all available forest workmen, they did their best by beating, "burning back," and digging trenches to prevent the fire spreading. This was a difficult task for the wind, which increased in force during the afternoon, blew masses of burning material for a considerable distance, and even on an area from which large trees had been cleared and natural regeneration was in progress, the peaty surface soil was set alight in many places. The wind blew the fire across roads and rides. In the evening the Acting Divisional Officer arrived from Woking, and he decided to cut down a wide drift of trees near the Forest Plots in order to try to save them. Eventually the fire was checked a few yards from that drift. But it had spread in another direction, crossing two roads in its progress, and continued for about a mile before it was checked.

Meanwhile a considerable force of firemen had arrived with many fire engines and pumps, in fact it was stated that during the evening and night between 50 and 60 vehicles belonging to the fire service were in use. There was plenty of water in Marshall's Lake, but it was several hundreds of yards from the nearest point of the fire, and pumping had to be carried out under difficult circumstances with relays of pumps to maintain the pressure of water. In one place pumping was carried out through  $2\frac{1}{2}$  miles of hose pipe. Throughout the night a good deal of anxiety was felt for the safety of the valuable Forest Plots and the collection of trees in the Pinetum. The fire was however brought under control without either place being involved.

I learned much of this by telephone on Tuesday, when it was too late for me to reach Bedgebury. I arrived there at 10 a.m. on Wednesday, and met the Acting Divisional and District Officers of the Forestry Commission. Some of the firemen had left and the soldiers were preparing to leave, but as there was still a good deal of wind the

Acting Divisional Officer arranged for a party of soldiers and a number of firemen to stay for a time with some hose piping in case the fire should break out again. At two o'clock everything seemed to be all right, and leaving some men to keep a look out between the forest plots, I started for home at 2.30. When I got a mile along the road I turned round and thought I saw smoke. I went back immediately and soon saw that the fire had broken out in several places near the Experimental Forest Plots, and found to my distress that it was actually entering some of them. The Acting District Officer had telephoned for more firemen and appliances.

The District Officer took charge of the soldiers. I was particularly anxious to save an important plot of *Picea Omorika*. On reaching it I found a bank of dry peat outside the plot on fire, and behind it there was an inferno of blazing trees; as there was insufficient hose piping on hand to reach this plot I had a trench dug and filled with water to separate the burning bank from the plot. Eventually further lengths of hose arrived to carry water through the 40 acres of forest plots, and the fire was checked. The *Picea Omorika*\* plot was saved, and from it about 50 bushels of cones were collected in the autumn. Soldiers were kept on duty throughout the night in case another outbreak occurred, and firemen were kept on the place for a further week, but, fortunately, there was no further trouble. In the beginning of May there was heavy rain which soaked the undergrowth.

The effect of the fire however has been disastrous. Of those valuable quarter-acre experimental plots 29 were totally destroyed. Most of these had been planted with different races of Scots and Corsican Pines and a few with Sitka Spruce and Douglas Fir. Other species in the plots which suffered were *Pinus ponderosa*, *P. contorta* and *P. Wallichiana*. There were about 500 trees in each plot. They had been planted for 15 years and were from 15 to 18 feet high, and had just reached the stage when useful comparisons could be made. When once the fire entered a plot it was "done for" in five minutes. Of the forest itself a large acreage of young timber trees was destroyed, consisting mostly of Scots Pine, Norway Spruce, Sitka Spruce and Douglas Fir.

When we had time to go round we found the fire had been turned aside by the existence of a narrow forest road 30 yards to the eastern side of the Pinetum fence. It seems probable that a plantation of Chestnut coppice between the Conifer plantations also helped to save the Pinetum, as the coppiced shoots did not burn. All the same I think there is no doubt that the valuable Pinetum with its fine collection of Conifers, of such interest to Kew men and to all lovers of trees, would have been involved on the first day had it not been for

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\* *Picea Omorika* is becoming increasingly important on account of its proving such a reliable species for cold and wet localities. Now that it is impossible to obtain seed from wild sources it is necessary to harvest all home-grown seed. There are not a great number of seed-bearing trees in Britain and the Bedgebury plot is one of the best sources that there is.

the preventive measures taken by the Forestry Officials and the Pinetum Foreman.

I have written this account to impress upon all the importance of selecting a safe site when lighting a fire, and the necessity for obeying the instructions framed by the Forestry Officials with regard to fire risks. Even April if it follows a dry March may be a dangerous month, and through lack of foresight conflagrations such as that at Bedgebury or even worse may easily occur. Not only did the Bedgebury fire cause the death of tens of thousands of trees with great financial loss, but it largely destroyed the results of fifteen years' work, and has upset the programme of planting for many years to come.

## PARKS DEPARTMENTS DURING THE WAR PERIOD.

By W. H. JOHNS, N.D.H.

Secretary of the Institute of Park Administration.

In writing of the work of Parks Departments in Great Britain for the Kew Guild Journal I do not wish to imply that this has in any way been confined to Kew men. I am writing of Parks Departments as a whole. At the same time it is only fair to state that there is more than a mere leavening of Kew men who hold executive positions in the various Parks Departments throughout the country.

The pace in Parks work has been set by the Institute of Park Administration (incorporated) and the pages of the Journal of Park Administration give ample testimony to the work of the Institute in this connection, but it would be beyond the capacity of any journal fully to record the great service which the members have rendered the nation by producing food where none was produced before, and by actively assisting and advising allotment holders and owners of gardens to grow more and better produce than they would otherwise have been able to do. It may be recalled that on April 1st, 1939, the Council of the Institute unanimously resolved as follows:

“ Food Production in time of War. To the Ministry of Agriculture and Fisheries. ‘ The Institute of Park Administration sends loyal greetings and desires to pledge its support should the need arise. Realising the vital importance of home food production in time of war, the Council desires to draw attention to the fact that the Institute is composed mainly of qualified horticulturists holding executive posts as Parks Superintendents in almost every town and city throughout the United Kingdom, who could easily be organised to assist with this problem.

The Institute would consider itself privileged to co-operate in the organisation and administration of any scheme designed to stimulate food production, and would be pleased to send a deputation to the Ministry with a view to a general discussion on the matter.’ ”



This resolution, while it did not appear to have any immediate effect, may well be considered as the first demonstration of the Institute's concern for the successful feeding of the nation, under war conditions, and as the embryo which, as it developed, gave powers for the formation of Urban Horticulture Committees, with the Parks Superintendents as Chief Officers, for the cultivation of corporation lands by direct labour, and for the sale of the produce, and later still for the cultivation of land in the urban areas not owned by the corporation concerned. It may be argued that the Urban Horticulture Committees might have done better work if they had been entirely independent of the County Committees, and that the War Agricultural Executive Committees might have understood the urban problems better had a representative of the Institute been at the meetings concerned.

The work of the Parks Departments in the "Dig for Victory" campaign was varied and might be grouped and summarised as (1) Advisory and technical instruction to allotment holders, private gardeners, schools, women's guilds, W.V.S. and factory and works managements; film shows, demonstrations and shop displays and personal visits; setting up of correspondence and advisory bureaux, staging of exhibitions of produce and devising of prize schemes; (2) general assistance, which included the inspection and acquisition of land, preliminary cultivations and the mass production of transplants; (3) crop production by direct labour—both farm and garden plants; (4) distribution of produce to hospitals and institutions, A.R.P. canteens, British Restaurants as well as to the wholesale and retail markets; (5) salvage and use of waste, for example, the making of grass cuttings into silage, leaves and herbage into composts and general vegetable matter into food for poultry, pigs and rabbits. Whilst all these were mainly emergency activities it should be remembered that the ordinary routine work of the departments had in considerable measure to be continued, and in this connection the "Holidays at Home" campaign was inaugurated as a means of inducing people to enjoy themselves at home, rather than take journeys to other areas which would add to the problems of transport, at a time when it was necessary to curtail rather than to extend the facilities for passenger travel. This campaign in itself has meant a good deal of strenuous effort on the part of the Parks Superintendents and their staffs and deserves a special article by one of those who have done so much in the matter.

In the great "Dig for Victory" campaign as summarised above there have been many features of special interest and complete details of the amount of produce grown by the separate Parks Departments would show a truly magnificent record of great achievement in food production.

To attempt to give readers some idea of the amount of produce grown by the various Parks Departments would be a colossal task and in the end would amount to a catalogue of so many tons of this or that Farm Crop, Vegetable Crop, and seedlings. It may suffice if I state as an example that in my own department, comprising the

Bermondsey Park and the Nursery Department at Hartley near Dartford, one of the smallest so far as acreage is concerned, over £1,000 was received in actual cash during the past twelve months for produce grown and sold and that a total of 41,210 transplanted seedlings were sold to allotment holders and others. This production of graded transplanted seedlings is not the least valuable of the various services rendered to allotment holders by the Parks and has been the means in many cases of keeping the prices down to reasonable levels. In connection with the "Dig for Victory" Weeks and Exhibitions, there have been some remarkable displays; these events have often been arranged in conjunction with the Ministry of Agriculture, and the Royal Horticultural Society in recognition of the work done by Parks Departments, recently organised special competition for Local Authorities at the Autumn Show (1942),\* when some splendid exhibits were staged and which in the opinion of many present were worthy compères to those staged by the great trade firms in pre-war days. The educational value of such displays—like that of the various Demonstration Allotments—is difficult to assess but all who have been actively concerned in the work of organising them are agreed that from the questions which have been addressed to the stand holders and to those in charge of the Bureaux, there can be no doubt as to their value both educationally and from the publicity view point.

Lectures and educational films have been freely employed both in connection with the local exhibitions and as regular features in the schemes of instruction for allotment holders and owners of small gardens. It may generally be said that the Parks Departments and Urban Horticultural Committees have served the towns in a similar capacity to that of the County Instructors in Horticulture and County Horticultural Committees in the Counties and that as a result a tremendous amount of produce has been grown that otherwise would not have seen the light of day, with a consequent saving of road and marine transport and a better diet for the people concerned.

In addition to all this effort, the Institute has also been looking ahead and has prepared an illustrated brochure on Post-War Planning and Reconstruction, concerning the various phases of Town and Park planning and the development of a complete Parks System with various types of Parks, Sports Stadia, Recreation Grounds and Children's Playgrounds, with inter-communicating Park-Ways, Avenues and Groups of Trees, Allotment Areas, Camping Sites, etc., and it is confidently anticipated that Parks Departments will have no mean part to play in the Britain of to-morrow and in the various overseas areas like South Africa, where Parks Superintendents have formed a similar association to our own.

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\* In the Journal of Parks Administration for November and December 1942 there is an article on the Royal Horticultural Society's Autumn Show and full details are given of the excellent Municipal exhibits which were put up. Through the courtesy of the Editor we are able to reproduce a photograph which appeared in that number of the Journal.—Ed.

## GROWING VEGETABLES FOR THE ARMY.

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[The following letter from A. H. Pettigrew, a son of Mr. Hugh A. Pettigrew, who as a Student Gardener joined up in 1940, will be read with interest. He writes from Yorkshire.]

"I entered the Army with the specific job of Agricultural Adviser for Aerodrome construction in France but this, owing to unforeseen circumstances, came to an untimely end and I found myself back in England. Here I was attached to different Units performing duties of little interest to me. After nine months I was posted to this camp as an Agricultural Officer under the Army Agricultural Scheme for the production of vegetables, and you can imagine my delight at finding myself once more in a position to use the knowledge I had gained from my horticultural training. I came here in April, 1941, and found there were some 40 acres of waste land which could be cultivated and at once took steps to have it ploughed up and planted. At the end of the year I obtained a yield of 209,481 lbs. of mixed vegetables. After being worked the ground was much easier to deal with and the following year we increased our annual yield to 275,000 lbs. as well as making a net profit of approximately £1,000.

"The chief object of the scheme, however, is not to make money, but to supply the camp with fresh vegetables and at a cheap rate in lieu of rations, but it is found necessary to run it on business lines in order that the produce may be accounted for. The scheme of course also saves shipping and transport. The prices charged are below market rate and a reduction of 33 1/3 per cent. discount is allowed. All implements and seeds are supplied to the Unit through the Scheme, but provision of labour (soldiers) has to be made by the Unit. The labour problem has been rather acute, as although I have a permanent staff of 15 there is always a struggle to get 5½ hours work a day out of each man on account of their being whisked away at a moment's notice on different military duties. I found this rather disconcerting at first but soon got used to it.

"I am only on a short visit to the above address. My H.Q. are elsewhere as I have just been appointed Staff Captain, Agriculture, for North and East Riding Districts, and return there next week.

"My new duties are interesting and I have much travelling. My chief function is to organise the Agricultural scheme in all the Units in my area, which means visiting them periodically. It is a big job but as the land in these parts is very fertile, I hope to obtain a good return in 1943 and to show that it is a job really worthwhile and a help to the war effort."

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plot. Judging by the questions asked last Summer, people are far more inexperienced about fruit production than vegetable growing and, consequently, more anxious to ask advice. We hope that this small part of the wartime work carried out at Kew may be of increasing service.

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### AN OLD SIGNET RING.

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One of the women gardeners, Miss Jean Thompson, has been the lucky finder of a relic of the past, which made her the envy of her colleagues. Whilst thinning onions on the Palace Lawn she came across a gold signet ring set with an amethyst on which was engraved a profile—apparently that of a woman.

The ring was dutifully handed to the Curator who undertook to make enquiries as to its value. Preliminary investigations indicated that it was likely to be 17th century and that the amethyst intaglio (as such engraved stones are called) was presumably of contemporary date and not an old Roman stone set in a ring as is sometimes the case. It was, however, necessary to ascertain whether or not the ring was to be classed Treasure Trove. The reply from the Coroner was in the negative, whereupon it was handed back to Miss Thompson as her property.

The ring was subsequently sent to the Victoria & Albert Museum to be examined by a specialist in the department of metalwork, and in due course a reply was received from Sir Eric Maclagan, the Director of the Museum, enclosing the following report:—“In my opinion the ring is late Elizabethan and I see no reason for supposing that the intaglio is not contemporary. Intaglios of much the same character and quality are found in association with English jewellery of this date . . . (Signed C. C. Oman). Sir Eric offered to purchase the ring for the Museum for the sum of £20 and the offer was accepted.

The Palace Lawn where the ring was found does not of course take its name from the present Palace (or Dutch House), but from the old Palace (The White House or Kew House) which stood to the west of the Sundial and was pulled down in 1802. The grassy sward opposite the White House must have been used by successive residents and finally by George III and his family. With regard to the latter we are told that in 1775, that is in the early days of his reign “Kew had become quite gay” and that the Green was often crowded with the carriages belonging to the large number of people who visited the Gardens. Others we read used to come to Kew by boat. There were all sorts of entertainments for which The White House and its Lawn were probably the centre. The King and Queen enjoyed the mirth and often mixed freely with their subjects. The ring may have been lost on the Lawn during those happy days of Kew’s history, or in the more anxious days of a decade or two later, or it may even have lain hidden beneath the earth since the time, a century earlier, that the house was a private residence.

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## MUSEUM NO. 3.

Since the outbreak of war when Londoners and others in the home counties have not been able to go far afield such museums as are open and have escaped damage have had a great increase in the number of visitors, Kew amongst the number. The entertainment and instruction of these visitors, therefore, has had to be considered, especially during unsettled weather when the plant-houses are soon overcrowded.

Modern museums have the advantage of those at Kew in that they are not hide-bound by tradition and precedent. Many of them have spacious halls with marble floors and well-lighted galleries where exhibits can be shown to the very best advantage.

We have no such museums at Kew, though we are rich enough in tradition and richer still in materials. If exhibits are not well staged the public soon get weary and pass on to other less tiring scenes. This happens particularly when a museum is devoted entirely to one subject or to a subject in which only a few people are interested, such as a collection of timbers and accessories.

This is rather the case with our Nos. III and IV Museums. No. III has a fine set of Colonial timbers and No. IV those grown in this country, whilst the two other museums are filled to capacity with a wealth of specimens from all parts of the world. Some relief has been gained by extracting from the cases of No. I Museum many bottles of seeds and spirit specimens (which were mainly of value for reference) and storing them separately. Even so the shelves are still too crowded and it is hoped to carry out further alterations later.

For special displays the best museum at Kew is the beautiful old building erected as an orangery by Sir William Chambers in 1761 and conveniently situated not far from the Main Gate. Owing to the tall arched windows this is particularly well lighted. Considerable extra space was obtained by removing the old specimens of *Pandanus* from the western end and by the shortening of other samples of trees which reached nearly to the roof. In their place was put a fine collection of walking sticks, which had formerly been shown in their respective families in No. 1 Museum. Instead they are now classified according to their countries of origin, and have aroused considerable interest, with the result that several new ones have been presented.

Since the war the Museums' staff have been busy with enquiries for substitutes of overseas commodities no longer available. Arising out of these and other activities special exhibits have been arranged and are evidently much appreciated by the public. A very popular one was the war-time smoking mixture. A sample packet was obtained, and the ingredients examined microscopically were found to consist of Coltsfoot leaves, 50 per cent. ; Clover flowers, 30 per cent. ; Lavender flowers, 10 per cent. ; Rose petals, 10 per cent.

The smoking mixture itself and samples of each of the species concerned are on view.

In connection with the model allotment, an exhibit was maintained throughout the season of fungus and insect pests with advice for their control or prevention. This, as well as samples of artificial fertilisers and various soil dressings accompanied by practical notes as to their suitability for different types of soils, aroused much interest.

There is also an exhibit for poultry keepers. It consists of a collection of dried shoots stood in jars with seeds or fruits attached. These are labelled and divided into two groups according to their properties, namely those which can safely be fed to poultry and those which are poisonous. The specimens consist of British species and plants commonly grown in gardens.

Another new exhibit is that of Dehydrated Vegetables, of which we are likely to hear a good deal more in future years. One of the firms concerned in the manufacture of these foods supplied an excellent set of photographs showing the preparation of the vegetables at the factory and also a set of prepared samples of the products ready for cooking. The latter have been much scrutinised by the public. A large card which is displayed, showing nine cargo steamers in a row and one below by itself, bears the telling legend "after dehydration the food in the above nine ships could be carried in the one."

Another recent and large exhibit concerns kapok the supply of which, since it came from Java, has been suddenly cut off. Besides its employment in cushions and mattresses it is much used in life-saving devices on board ship—now so urgently needed—and the Museums staff are concerned with reporting on substitutes and on the potential supplies available in the Empire and in allied countries.

During the fungus season a series of beautiful large coloured drawings of edible species painted by Miss Wakefield were on view and in some cases these were accompanied by actual specimens. Owing to the rapid decay of living specimens, however, the drawings are on the whole more satisfactory.

There is also a case showing some new utility clogs made from Beech, and printed tables showing the Vitamin Content of various vegetables hang inside one of the doors so that altogether there are many items of topical interest to instruct the visitor.

In the midst of the work on economic subjects pure science and art have not been neglected, and exhibits have been staged of a collection of water colour paintings of Swiss flowers. An exceptionally interesting and beautiful exhibit is a series of marquetry pictures made of different coloured woods, kindly loaned to Kew from the Rowley Galleries of Applied Art. The marquetry chiefly depicts landscapes and buildings but there are vases of flowers with poppies, tulips, lilacs and roses and a few birds including the peacock. Two other firms, moreover, generously sent a fine set of wood turnery

and other articles for the table, which will no doubt be obtainable when the trade of the world returns to normal.

Finally in order to draw attention to the neglect of the study of hay fever in this country as compared with America, samples of hay fever plants have been shown. In connection with this subject some investigations are in hand and a number of smeared slides are exposed in suitable screens in order to obtain an idea of the nature and quantity of atmospheric pollen in the Kew district.

J.H.

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## THE KOREAN AND CASCADE CHRYSANTHEMUMS.

By S. A. Pearce.

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It is now nearly 150 years since the cultivation of the Chrysanthemum began in England and during this time vast strides have been made by the hybridist in raising and introducing the various types and fine varieties which are grown to-day.

In pre-war days much time and labour was devoted to Chrysanthemum culture, both for commercial and private interests, and it is not surprising that the introduction of new varieties has been on a somewhat colossal scale. Amongst the most outstanding successes of recent years has been the introduction of two new races of Chrysanthemum—The "Hardy Korean" and the "Cascade."

The Hardy Korean race has created great interest and become most popular, particularly to lovers of out-door Chrysanthemums. This new race has been developed from *Chrysanthemum coreanum*—a native of Korea and north to Siberia. *C. coreanum* is very similar to *C. arcticum*, but is taller in growth, with clusters of single white flowers about two-inches across. These are pure white on opening, but later change to pink or carmine-pink with age. It is from *C. coreanum* that the new hybrid varieties obtain their vigour, branching habit and freedom of flowering, this being particularly so in the case of the single-flowered varieties.

The Korean Chrysanthemums made their appearance in the United States when Alex Cumming introduced his first hybrid—the well-known variety "Mercury" in 1933. Since that date many new varieties, both single and double-flowered, have been introduced in a variety of shades of colour.

In this country, the Korean hybrids are proving a most valuable and welcome addition to our hardy border plants, while as cut-flowers they are ideal and last well in water. They are perfectly hardy and in many respects are far better suited for border cultivation than the old type of out-door Chrysanthemum, for, in addition to their hardiness, they are generally more robust and of free, branching, habit. Their great advantage is that they may be treated exactly as the perennial Asters—(Michaelmas Daisies) and may be left *in situ* throughout the winter months, if so desired. Another impor-



tant point in their favour is that the flowering period is a fairly extensive one and the flowers are not easily damaged by frost.

The use of these Chrysanthemums in their new wide range of colours, will greatly extend the beauty of a mixed border and provide a wealth of colour at a time when other plants, with the possible exception of Michaelmas Daisies, are over and unattractive. Their cultural requirements are fortunately not hard to provide and all the varieties, with one or two exceptions, will thrive in almost any good garden soil. Propagation is easy, for the plants possess a vigorous root system and produce an abundance of basal growths in early spring. These may be taken off with roots attached and planted singly direct in their flowering positions.

At Kew the Korean hybrids have been very successfully used for filling borders, beds or positions in the herbaceous border where annuals and other early-flowering subjects have passed out of flower. The vigorous root system enables practically all the varieties to be lifted with a large "ball" of roots and transplanted from the nursery or reserve garden. This operation may be carried out even when the flowers are beginning to open, but to obtain the best results transplanting should be done before the plants reach this stage.

Many of the varieties may be grown in pots for indoor decoration in the conservatory or cool greenhouse. For this purpose young plants are treated in the same way as other Chrysanthemums for indoor work. They may be finally potted into seven inch receptacles. During the summer months they should be plunged in an ash bed in an open sunny situation. If the young growths are stopped several times, fine dwarf bushy specimens are ensured which will commence to flower during early October. The natural dwarf habit of the hybrids renders them of particular use as pot plants, and they are ideal for the embellishment of stages and benches where other taller growing kinds cannot be used.

The introduction of the "Cascade" varieties has added considerable interest to the indoor class of Chrysanthemum and has opened up an entirely new field of endeavour both for the professional and amateur grower.

The unique method of training the plants to form a cascade of flowers, coupled with the varied form of the flowers and shades of colour, has possibly had a good deal to do with their rapid ascent into the limelight.

Before the outbreak of war, Nurserymen and Seedsmen gave great prominence to the Cascade Chrysanthemum, and the large exhibits of very fine specimen plants shown at the National Chrysanthemum Society's Show and at other exhibitions, were a marked feature and captivated the eye of every Chrysanthemum lover.

The readiness with which new varieties may be produced from seeds has resulted in the leading Seedsmen offering, for several years past, seeds of an excellent mixture of Cascade varieties. In this way it is possible for the enthusiast to obtain, after one year of selection, an interesting and varied collection of unnamed

varieties. Many of the coloured forms grown at Kew in recent years were obtained in this way and it is interesting to note that a number of the seedling forms have proved themselves superior, both in habit, colour, and constitution to the named varieties introduced from Japan.

The first authentic record of the introduction of the Cascade Chrysanthemum to this country is the sending of a gift of seeds in 1928 to several English ladies, by a high official of the Japanese Court, but it is possible that stocks were obtained from other sources at about the same time but were not recorded.

Popularity of the "Cascades" was stimulated a good deal by the articles and photographs published in *The Gardeners' Chronicle* from writers in Japan, particularly those from K. Yashiroda and Professor K. Takashima of the Imperial University of Tokio.

While it is not possible to say if the types introduced from Japan are the parents of our present-day varieties, it is most likely that they were used in the early crosses by the hybridist, together with a number of our own varieties of small-flowered types. The cultural requirements of "Cascades" are, with the exception of training, similar to those of other types of Chrysanthemum, it is not therefore needful to refer to them here. It is necessary, however, to point out that if good specimens are required, the young plants should be allowed to grow freely with the leading shoot unchecked if possible. All lateral growth should be continually stopped at every two joints until September to encourage a thick mat of growth.

There is a wide scope with methods of training for if time and labour permit specimens can be trained in quite a number of ways (e.g. standards and pyramids) but this is a matter of speculation and experiment on the part of the cultivator.

At Kew various methods have been tried to give a display of plants trained in various ways, in addition to the normal Cascade method which is always very successful. Selected varieties have proved suitable for hanging baskets, pyramids, standards and round "ball-like" specimens. In all cases, wire frames prove a suitable means of support, but the wire must be of fairly stout gauge to remain rigid. Bamboo canes may be used for the cascade and pyramid specimens but at Kew it has been found that stiff wires are more suitable for the former, particularly in the later stages of growth, for they allow the plants to be bent down quite easily into their final position. For pyramids and standard specimens the wire carnation supports can be used very successfully for they are readily adjusted to one main central stake.

Let us hope that wartime conditions will not result in the loss of any of the fine varieties of these new Chrysanthemums and that, when normal times come again and allow time and labour to be devoted to them, many more new types and new varieties will be raised.

## FLOWERING TREES AT KEW, 1942.

Kew had a wonderful spring. Most trees and shrubs flowered well throughout 1942, the previous warm, dry September, which followed the wet August, probably serving to "ripen" the wood. But the display during spring was exceptionally good. The reason for this was two-fold—firstly, the cold winter, though not severe, was unusually prolonged so that early flowering shrubs were retarded and overlapped the later species; and secondly, in spite of chilly winds there were no night frosts of any consequence, and the mass of flowers and young foliage which was bursting forth in all directions remained unharmed. The Gardens indeed seldom, if ever, looked more beautiful than they did in April and early May, and this beauty was of course seen at its best in the early morning or late evening.

Perhaps the most appreciated response to the absence of late frosts was the display given by the specimen of *Magnolia Campbellii* in the Magnolia collection near Victoria Gate. Though not so large a tree as those growing in more favourable localities it is a particularly good one as regards flower-colour, the blooms being deep cerise. About 30 flowers were produced near the top of one of the highest branches, and these were most impressive when seen from the west with the low evening sun shining on them.

A little later the season was remarkable for the unusually fine display made by the Locust Trees (*Robinia pseudo-Acacia*). The two very old trees near the Main Entrance, which now flower but sparsely, made quite a good show, and all other specimens were a mass of blossom. These included the pink variety *Decaisnei* of which there is a good tree near Cumberland Gate, and several others in the very extensive *Robinia* collection near the Refreshment Pavilion.

Another genus which flowered even better than usual was *Catalpa*. The ordinary *C. bignonioides* was smothered with bloom at the end of July, including each of half a dozen trees planted by Mr. Bean in 1904 which had hardly flowered at all previous to 1940. Near No. 4 the two fine specimens of *C. speciosa* (recognisable at any season by its ascending habit in contrast to the rounded outline of *C. bignonioides*) also presented a wonderful picture, being at their best about three weeks earlier in the season. The large tree of *C. hybrida* situated at the south end of the Pagoda Vista likewise flowered freely, as did also the numerous specimens of the much less decorative species *C. ovata* which exist in the *Catalpa* collection.

The flowering season of trees may be said to be brought to a close in September with the appearance of the blooms of *Sophora japonica*. The blossoms are produced at the end of the current year's growth, but not until some weeks after this has been completed, hence their late appearance. In contrast to 1941 the two large trees on the lawn near the Iris garden were almost devoid

of blossom, but it was interesting to observe that the old specimen introduced by William Gordon of Mile End and planted at Kew in 1753—that is seven years before the original botanic garden was founded—once more produced a good sprinkling of flowers. These were most plentiful on the large horizontal branch shored up by a couple of props.

The autumn was almost as remarkable for its abundance of fruits as the spring had been for flowers. An unusual sight in early September was the abundance of scarlet cherry-like fruits borne by *Cornus Mas*. Mr. Bean regards this tree—aptly named the Cornelian Cherry—as a shy fruiter, and informs us that he does not remember having seen it fruit so freely at Kew before. It appears, however, to berry more frequently in other parts of the country where the fruits are esteemed and bottled or preserved, as they are also on the Continent.

Another early flowering shrub which owing to the late spring set an unusual amount of fruit was *Forsythia suspensa*. Though the flowers of this plant brave with apparent impunity the coldest March weather capsules are not usually produced, and there can be little doubt that the stigmas are affected, either by frost or by drying winds, and that successful pollination is prevented. In the more genial weather of April, 1942, fertilisation evidently took place, at all events on certain bushes in sheltered positions, and shoots bearing hundreds of capsules were to be seen in autumn.

Further reference will only be made to the genus *Prunus*. Of the common species the fruiting of *Prunus cerasifera* var. *Pissardii* was unusually heavy and was general throughout the country, a continuous stream of specimens being sent to Kew for identification and comment. The fruiting of the Cherry Laurel (*P. Laurocerasus*) was equally abundant, long racemes of shining black berries hanging down amongst the foliage on many trees. The two large specimens in the *Prunus* collection and the old tree near Lion Gate were very heavily laden, and the one near Victoria Gate somewhat less so. Most striking of all was the specimen of var. *latifolium* (grown on a single stem) near the Lion Gate, one branch of which was weighed down several feet with masses of fruits. On examination it was seen that not only was the fruit borne on the short spur-like shoots, but in some cases the bud in every leaf-axil of the previous year's growth had given rise to an infructescence. *P. cerasifera*, so often caught by frost, also bore a heavy crop of fruit, as did *P. serotina*, the Rum Cherry, and several other species.

Since the above was written it has been ascertained that an unusually floriferous spring followed by an exceedingly good fruiting season has been general over a large part of England and extended at least as far north as Col. F. R. S. Balfour's garden in Peeblesshire, Scotland.

A.D.C.

## THE LIRIODENDRON AVENUE AT KEW.

It does not appear to be generally known that four years ago the late Director arranged and planted a row of Tulip trees on either side of the Broad Walk. Many of the Deodar Cedars which had formed a widely spaced avenue along the entire length of the Walk were failing, and it was thought that the future appearance of this important feature of the Gardens should be safeguarded. He decided therefore to replace the Deodars by an avenue of Tulip trees.

The work of felling the Cedars, and removing beds of shrubs which were in the way, was carried out during the late winter of 1938-39. The poorest Cedars were taken down and removed at once. The Tulip trees were planted at the same time, but several had to be replaced the following year. They are now beginning to make their presence obvious. But the fact that after four years one comes across members of the staff who are unaware of this avenue shows how effective the late Director's methods were in having things done unobtrusively.

An interesting document with regard to the Broad Walk has recently come to light. In turning out some old papers at the Director's Office, part of a plan of the Walk bearing the date 1845 was found. It was drawn up by W. Nesfield, the landscape architect who was responsible for the main lay-out of the Gardens after Sir William Hooker came to Kew in 1841. The plan is accompanied by two pages of notes in Nesfield's handwriting and signed by him. The plan and notes show that his proposal was to have "an open evergreen avenue" of *Abies* or *Picea*, alternating with crescent-shaped beds of *Rhododendrons* with some dwarf Junipers here and there, and in front a number of beds of various shapes containing brightly coloured flowering plants.

This proposal was evidently largely rejected by Hooker and the avenue was eventually planted with Deodars (of which he had a high opinion) and with beds of *Rhododendrons* slightly in front, with a single row of formal bedding along the path.

Nesfield suggested further that in order to relieve the monotony of the Avenue there should be a "transverse centre" about half-way along, on each side of which there should be a tree of "marked character" such as *Cedrus Deodara*. This proposal also was only in part adopted. The Broad Walk of to-day is interrupted by a transverse path, but presumably the Turkey Oak (now a very fine specimen) was there at the time and was allowed to remain. There is no record of there ever having been a tree on the other side of the walk to correspond with it. Possibly the pair of *Thuja orientalis* that are there now were planted as an alternative to Nesfield's proposal.

If the avenue of Firs and Spruces had been designed for a Scottish garden or for one in a cooler and damper part of the

country, the result would have been imposing though perhaps sombre. But subsequent experience of gardening at Kew shows how fortunate Hooker's decision was, for Kew's shallow soil, dry summers, and above all its smoke-laden atmosphere, are perhaps more prejudicial to this group of trees than to any other.

A.D.C.

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### IN THE GOOD OLD DAYS.

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Some three-quarters of a century ago, a certain plant in the Propagating Pits at Kew was in bad health. The following mild reproof, administered by the Director of that day to the Curator, will be read with mixed feelings as showing what a "ticking-off" was like in the old days when there were no telephones and when evidently there was no shortage of paper.

Kew, March 22, 18 — .

Sir,

The great and increasing value and extent of the stock of seedling and newly imported rare plants in the Propagating pits, and the constant enquiries now made of me respecting them, render it necessary that you should supervise this department more systematically, so as to be cognizant of the exact condition of all the most rare plants, and be as *actually* responsible, as you are *supposed to be* by the Board, for certain failures or successes.

I need not remind you, that it is *yourself*, and not the Foreman of the pits, who is held responsible by the Board and the Public for the actual treatment of any plant requiring unusual skill and care, and that no amount of care or ability on the part of the Foreman, relieves you of this responsibility:— whilst for the *untimely* death of a valuable plant, you must bear the blame, if blame is in any way merited:— it being always supposed that such plants are objects of your especial solicitude. We shall never be blamed if *we* do our best, but we shall be blamed if we allow *others* in these cases to do their best for us, whether they fail or no.

Of course I here refer to the critical state of the Navas Plant [sic]—which was not repotted under your supervision; and I do not know which surprises me most,—that you should be supposed to care so little about it, or that it should be potted without your cognizance, or that any one in a Foreman's or any other place should have the unparalleled vanity and presumption to wish to pot a unique plant, known to be the most difficult in the world of cultivation, *on his own sole judgment and responsibility*. A plant in which every scientific Botanist in Europe is interested, and in the success of which the credit of this whole establishment is at stake. Knowing as I do, that Mr. — has the interests of the Garden entirely and warmly at heart, I should be sorry to say too hard things in this case; but I am

sure that a moment's reflection will tell him that no wise man would incur such a responsibility without serious misgivings, and dire necessity prompting him. If the plant dies, I shall feel both grieved and disgraced, for no one will justify my Rule of this establishment, under such circumstances. When a Doctor loses a patient through a very critical illness, not having called in other advice, he incurs a responsibility little short of the death itself, and deservedly:— that he did his best is not even a palliation—the *death lies at his door*, and not the failure only:— he knew the case was critical, or ought to have known it, and called in other advice, *before* danger appeared.

It was the rule in former times in this establishment, that the Curator met the Foreman of the Propagating Pits at a fixed hour *daily*, and went over the whole collection with him; when all matters of importance were discussed and special orders given respecting experiments and all matters that required the joint care of the Curator and his immediate supervision.

This course should now again be pursued, and at once; and to prevent all misunderstanding, let all particular or special orders be given in writing in future, and the orders be filed by the Foreman.

Your obedient servant,

\_\_\_\_\_  
Director.

### KEW GREEN.

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If any Kewite who went overseas to seek his fortune in the past were to return "home" now he would see several changes in Kew Green. We who live on the spot become accustomed to them because they have come upon us step by step, but there are five which would at once strike an old Kewite who returned.

The first took place in 1939 and consisted in the upheaval of the piece of Green east of the roadway due to the building of an extensive series of air-raid shelters. Yellow gravel was thrown up in all directions until that part of the Green resembled a series of giant coalescing mole-hills capping a rabbit warren. The dug-outs were to serve the houses on the east side of the Green and parts of those roads whose names summon many memories, Gloucester Road, Priory Road and Bushwood Road.

Though not required at once they were—alas! needed in 1940. Kew had refugees from the East of London and for many months the shelters were crowded to excess with these and the local inhabitants. Well we remember the nightly trudge of parents and children with their bedding just before dusk. More months passed. The mole-hills gradually became green, and a flora sprang up. A few hardy spirits even attempted gardening. But Kew gravel, deposited in the pre-human age, proved more suitable for the sup-

port of a vigorous weed flora than for "greens" or "roots," and probably only real enthusiasts felt rewarded for their pains.

The next change was the appearance of a fence cutting off the piece of Green between Bird Cage Walk and the path leading from the Church to Ferry Lane. The enclosed portion was soon transformed as it had been during 1914-18 into a series of allotments. Busy workers arrived every evening, the soil was upturned and the ground dug—potatoes, runner beans, artichokes and "greens" of all kinds were the chief crops that gradually appeared and in 1941 yielded a very reasonable return.

The air-raid shelters were a novelty, the allotments a repeat-performance of 1914-18, but the next departure from normal was the reversal to a state of things existing previous to 1824. Metal began to get scarce in the country and after other stocks had been exhausted the decision was reached by the Government that iron railings surrounding gardens, squares, parks and other properties would be requisitioned. Kew's turn came in due course and the Richmond Borough Council demanded the railings around the Green. Though old they were of no real importance and the whole series (excepting those near the Main Gate) was uprooted.

It was in the year 1824 according to the Rev. S. Goldney, a former Vicar of Kew, that the village Green ceased to exist in an unfenced condition. The first fence, however, was of wood, and the date of the iron railings has not been ascertained. It may be mentioned, by the way, that the much finer railings of Richmond Green, each of which bore the monogram W.IV. have also been removed for the same purpose.

The general opinion is that from a modern artistic standpoint the absence of that formality, which the railings gave, is a great improvement. The grass edge is not so trim and occasionally on a foggy night a car (when there were cars) drove on to the Green and left the impress of its tyres in the turf.

Modification number four consisted in another series of allotments. This time they appeared on part of the actual Royal Botanic Gardens' property, namely the piece of Green between the Director's House and the Herbarium. This was in the spring of 1942. Again the soil proved gravelly but it was patchy and some spots were harder and contained brickbats and even bits of wall. The hardest portion probably marks the track of the old Georgian roadway which formerly ran right across the middle of the Green from the main road to the Palace. The brickbats might be part of the road foundation and the bricks and bits of wall may have belonged to the Lodge of Hunter House (i.e. the present Herbarium and Library). That house was inhabited by a Mr. R. Hunter, a prosperous London Merchant, and the Lodge was outside on the Green, its actual site being supposed to be just off the present roadway nearly opposite Ferry Lane.

The last novelty which would strike a visitor is the most interesting of all. In the 18th century when George III spent much time at Kew soldiers were quartered near the Palace and their comings and goings in scarlet uniforms must have often been watched from



the windows of Kew. The cartoon-artist T. Rowlandson has an amusing picture, "Military Manœuvres on Kew Green 1800", ridiculing this epoch, which is reproduced in Cundall's book "Bygone Richmond." In Queen Victoria's reign also detachments of British troops took part in celebrations at Kew on more than one occasion. But never, until September, 1942, have American troops marched along Kew Road or drilled on our village Green. Drilling is now a regular occurrence, morning and afternoon, and takes place on the only piece of Green available, namely on that patch beside the Church and opposite Pitts Restaurant. But what excites even more interest in the doings of our American cousins in their green khaki, are the impromptu games of baseball and American football which take place when the drilling is over.

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#### FIRE-WATCHING IN 1677.

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The following extract from a letter published in *The Times* for August 28th, 1942, will entertain present day fire-watchers including those who look after the Royal Botanic Gardens, Kew.

"These things being made and done, then the Sentinel hath a Place on the top of the highest Steeple whereby he may look all over the Town; one is by Day, the other by Night; and every two Hours in the Night he plays half an hour upon a Flagelet, being very delightful in the Night; and he looks round the City; if he observes any Smoak or Fire or danger of Fire, he presently sounds a Trumpet and hangs out a bloody Flag, towards that Quarter of the City where the Fire is." (From "Rules to prevent Fires in the City of London, and in the great Cities of England," published 1677.)

Past Kewites may be interested to learn that in addition to the fire-fighting squads who guard the Herbarium and others who take duty every night at Cambridge Cottage and elsewhere, two dozen women gardeners have been enrolled as fire-watchers and are on duty nightly in pairs at the Director's Office and in No. 1 Museum, opposite the Palm House.

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#### CANADIAN TROOPS AT KEW.

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For many years Kew has proved a great source of attraction to visitors from overseas and few who visit England fail to pay it at least one visit during their stay.

Now that London is crowded with visitors from all parts of the world it is not surprising that Kew should prove even a greater attraction than in peacetime. Many are drawn by its beauty and peaceful setting, wishful to escape, if but for a few fleeting hours, from the stress and strain of a world at war.

In wartime when they are distinguished by their uniforms one may see at Kew many representatives of the British Commonwealth of Nations and also those of other lands with whom we are glad to

associate ourselves in the great fight for freedom. I was told by a Kew Constable that this summer the uniform of the brave Poles was one of the most frequent to be seen in the Gardens and those of the Czechs and Free French were also in evidence.

In peacetime Professors from the Universities bring a party of students to the Gardens for the day, or for a week in order to study in the Gardens. These include undergraduates from Oxford and Cambridge as well as those from provincial universities. But I saw in my copy of *Picture Post* for September 26th, 1942, that Kew had unusual "university" parties during Saturdays in August. The article was headed "10/- University Course for Soldiers." This I found concerned the Services Summer School which was organised by the University Extension Committee of the University of London and financed jointly by the Canadian Legion Educational Services and the University. Mr. A. Clow Ford, the University Extension Registrar, was in charge of the Course and accompanied the students. The headquarters were at the London School of Tropical Medicine. Each "Course" occupied a week and there were four Courses running for four consecutive weeks, the same institutions being visited by each party though the individual speakers and lecturers were not always the same.

On Monday the students were received at the University Senate House to hear an Address by the Chairman of the University Court and during the week they visited places such as the Royal Courts of Justice, the Imperial Institute, the Royal Academy of Music, the Royal Academy of Dramatic Art where they were taken round and heard Addresses by a number of the most prominent and distinguished men in the Country, including the President of the Royal Society, the Lord Mayor, the Director of the Imperial Chemical Industries and many others. One of the lectures at the London School of Tropical Medicine was by Sir Geoffrey Evans.

Each party concluded its programme on Saturday with a trip on the river in the morning and a visit to Kew in the afternoon. Here I am informed they were welcomed at the Main Gate on arrival either by Sir Geoffrey Evans or by Mr. Cotton and were then conducted to the Refreshment Pavilion where an excellent tea was served by the Mecca Cafés. After tea the students heard a short Address on the work of Kew and Mr. Clow Ford wound up the week's course of study and bade adieu to the week's party. The students then divided into two groups and made a tour of the Gardens, one going with Sir Geoffrey to visit, especially, the tropical and economic departments and the other going with Mr. Cotton who dealt more with the trees and outdoor plants. Though the parties consisted mainly of Canadian troops, a few Americans and representatives of other nations were present and also some Canadian women who had come over to serve in the Canadian R.A.M.C. That the tours were appreciated was shown by the fact that sometimes the last members of the party did not leave the Gardens until 9 o'clock.

The accompanying photograph, which I am able to reproduce by courtesy of *Picture Post* and the Ministry of Information, places

on record one of these visits. I trust that our Editor will overcome his natural modesty and permit this photograph of himself—taken on the arrival of the first party of Canadian troops—to be inserted, as it symbolises the willing co-operation rendered by members of the scientific staff to foster interest in the varied attractions of Kew.

A. J. BROOKS.

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#### MR. T. W. BROWN OF EGYPT.

The following extract from "Desert & Delta" by Major C. S. Jarvis, C.M.G., O.B.E. (Published by John Murray 1938) has been sent to us by Mr. Coutts.

Another official who has done a vast amount of solid work in Egypt, the results of which the country is reaping now and will continue to reap for many years to come, is Mr. T. W. Brown, Director of the Horticultural Section of the Ministry of Agriculture.

Like Ball he is a fanatic, but his religion is [horticulture] and arboriculture and his mission in life is to better the [vegetable crops] and fruits in Egypt.

The question whether the Egyptians wish their crops improved does not arise; as a matter of fact they do and are definitely interested, but Mr. Brown would work just as hard and unremittingly if they desire the Nile Valley to be turned into a desert.

Mr. Brown who is known all over the country as Abu Dign (Father of a Beard) on account of the patriarchal growth on his chin, went to the country years before the war.

In 1920, when shooting of British officials was a popular pastime with the grateful inhabitants of Egypt, Mr. Brown, who never has held and never will hold any political views, was attacked in his dog-cart and severely wounded, whilst his Egyptian syce [groom] was killed.

Shortly after this he retired from the service and posts in his department were filled by a series of Egyptian officials who had deserved well of their country as politicians, but were not conspicuous successes as expert horticulturists.

When an Egyptian takes over a post from an Englishman he at once proceeds to prove to the world how much more he knows of the work than his predecessor, and to do this everything has to be changed.

In this particular branch it took the form of changing the labels on the trees, and one of the results of this was that cherished in Sinai groves of peaches after years of tender attention proved to be bastard almonds and of no use to God or man, orderly rows of grape-fruit that produced fruits as big as footballs but were all rind and pith and very unpleasant rind at that, and flourishing vineyards that grew grapes recalling those eaten by the fathers in Ezekiel xviii, whereby the children's teeth were set on edge—the grapes we grew in Sinai would have set on edge the teeth of all posterity. When this harvest began to materialise in Sinai and

in parts of the Nile Valley the Egyptian Government came to the conclusion that it was time for Mr. Brown to return to the country, and about 1930 he took up his old post again, to the benefit of Egypt.

The first thing Mr. Brown did on his re-appointment was to go out to the various Provinces to make a personal apology and endeavour to explain to exasperated fellaheen and Arabs that the trees which had been distributed were stock plants for grafting purposes only and should never have been issued to prospective fruit-growers.

It was very difficult to explain this satisfactorily to primitive gardeners who knew nothing of grafting or its effects, and not only Mr. Brown but I also lost a considerable amount of "face" in certain parts of Sinai through this disaster which was not the fault of either of us—and it is extremely unlikely that we shall live it down in the lifetime of the present generation. Mr. Brown [a native of Northumberland] says what he thinks on all occasions. He can get very angry, and being of large size with an enormous fan-shaped beard, he is rather terrifying when his ire is aroused.

It has not occurred to the politically-minded ministers who rule Egypt's destiny that in horticultural experiments, to remove a man with four or five years' experience from his particular job is to destroy all the evidence obtained and the results arrived at. On these occasions Mr. Brown arises in his wrath and his anger adds six inches to his stature and volume to his voice.

He goes straight to the source of the trouble—the Minister of Agriculture of the moment—and says his piece. Ministers of Agriculture change with monotonous regularity and depressing frequency, but presumably they are warned before they take over their portfolios that they will have Mr. Brown to deal with and therefore take their castigation in good part, surrendering with grace to the forces of horticulture as represented by its Director.

It is realised that he works for improved horticulture and that nothing else matters to him.

High Commissioners may come and High Commissioners may go; Ministers may take office and Ministries may fall, but Mr. Brown and his department go on for ever.

At least one hopes so sincerely, for no one has worked so wholeheartedly and unremittingly in the Nile Valley as this fanatical horticulturist with his vast store of knowledge and experience gained by over thirty years of work in the country."

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Mr. G. S. Crouch, an old Kewite who worked in Egypt, writes of the extremely good work Mr. Brown carried out especially on Mangoes and Date Palms, but also on Citrus, Grapes, Plums and Peaches. A large plantation of Mangoes started by him is now flourishing close to the Giza pyramids and is in full bearing on a site which was previously desert. Mr. Brown retired under the age limit about 5 years ago. He still lives in Egypt and is greatly interested in the commercial fruit development of that country, including that on King Farouk's Estate. He has received from King Farouk the Order of the Nile (2nd class).

[Words in square brackets in the above account indicate editorial alterations made to render the text more correct.]

# In Memoriam.

STANLEY ARDEN.

We regret to record the death of Mr. Stanley Arden, which occurred in Brighton on May 5th, 1942, following a severe operation. He was born in September, 1874, at Heaton Norris, Lancs., and entered Kew in June, 1898. He served in the Tropical Department and the last year of his time was spent as foreman in the Ferneries.

Arden was one of the pioneers of rubber cultivation in the East and had many difficulties to contend with. About the end of 1900 he was sent out from Kew to Malaya on the recommendation of Sir William Thiselton-Dyer to advise and to investigate with regard to methods of growing and tapping *Hevea brasiliensis*. On his way out he spent a short time in Ceylon and examined *Hevea* plantations there. He continued in Government Service for six years, travelling extensively in the F.M.S. In 1906 he started planting and held positions in Johore and Sumatra, and in 1910, at the time of the rubber boom, he opened up an Estate of his own in Lower Perak, F.M.S., which did very well. He was fortunate in selling it to an American company before the slump which took place after the last war, and this enabled him to give his three sons a first class education and put them into professions.

Arden took great interest in the scientific aspect of his work and joined the Linnean Society in 1907. Mr. H. N. Ridley tells me he was a keen botanist, and that he named the orchid *Dendrobium Ardeni* after him.

His career, however, came to an abrupt end in 1911 following very severe attacks of encephalitis, caused by a tropical germ, which seriously impaired his health, and in 1912, at the early age of 37, he was forced to give up his work. He returned to England where to a large extent his health improved, but he was never able again to walk alone or undertake any active work.

In 1925 he and his wife and family went to live at Adelaide, in South Australia; he stayed there for 10 years, and derived much pleasure and interest in studying the native flora. On his return to England he settled at Worthing, and remained there till the time of his death. In spite of being cut off for 30 years from all active work, which he so loved, Stanley Arden was always amazingly cheerful and patient, and was very much beloved by all who knew him. He leaves a widow and three sons. He was one of the Guild's early Life Members. A.D.C.

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J. W. EVES.

It is only recently that we have heard of the death of Mr. J. W. Eves, late Horticultural Instructor in Leeds University, which occurred in May, 1938.

John Whittam Eves was born in July, 1880, and prior to entering Kew worked at Tynterfield Gardens, Flax Bourton, Bristol. He

entered Kew in 1902 and served mostly in the Decorative Department and Flower Garden. He left in 1904 obtaining a post in the little Botanic Garden attached to University College, Bristol. At first he was under Mr. George Brebner the Head of the Department of Botany and latterly under Dr. J. H. Priestley now Professor Priestley of Leeds University.

In 1913 he moved to Leeds. We are indebted to Professor N. M. Comber of the Department of Agriculture, Leeds University, for the following paragraphs which are reprinted from *Broad Acres* a magazine issued by that Department:

"The staff of the Department of Agriculture has sustained a sad and sudden loss by the death of Mr. J. W. Eves of the Horticulture Section."

"Mr. Eves came to Leeds as Instructor in Horticulture in 1913 and soon became one of the most popular members of the staff. He was enthusiastically devoted to his work and was a prolific reader over the whole range of subjects pertaining to Horticulture. He was a man of great good humour and was always anxious to help others; his presence in the Department will be greatly missed."

"Some of the most notable of his teaching work was done in the training colleges, at Bingley and Leeds, where he had been responsible for many years for the horticultural classes."

Mr. Eves had been visiting Lecturer in Horticulture at the Bingley Training College since 1919 and the following extract from the magazine of that College gives some idea of his character: "We miss his zeal, his gentleness, his kindness . . . Although he lived in Leeds he took a genuine interest in the life of the College and joined in our social activities. His sympathy with the children and his disinterested enjoyment made him latterly for instance a delightful Father Christmas at the children's Christmas parties."

A.D.C.

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#### HARRY FRENCH.

It is with deep regret that the death of Mr. H. French on February 19th, 1942, within a few weeks of his 74th year, has to be recorded. He entered Kew on April 6th, 1891, after working in the private gardens of Elliot Bank, Forest Hill; Wellfield, Streatham Common; and Danesfield, Great Marlow, Bucks. He soon became one of the most popular men in the Gardens, owing to his amiable disposition and unassuming manner. To his friends he was soon "Harry" and has remained so ever since. The late Mr. W. Watson — at that time Assistant Curator — was always on the look out for men who displayed special gardening ability, and Harry French was soon noted as one of that number. On May 2nd, 1892, he was promoted to sub-foreman of the Palm House, a post he retained until November, 1894, when he left to take up the position of head gardener at Forthampton Court, Tewkesbury, a position he filled with conspicuous ability, until estate changes made it necessary for him to look for a new appointment in 1918. The late Mr. W. Goldring—who at that time was one of the most important landscape gardeners

in the country—learning that French was open to consider a fresh appointment, offered him the post of head gardener at Moulton Grange, Pitsford, Northamptonshire; he accepted the position and remained there until his retirement a few years ago. He was an excellent all-round gardener, and was particularly successful with fruit and vegetables. Amongst indoor plants he was renowned for his cultivation of Calanthes, Cypripediums, Poinsettias, Cyclamen and Begonias. His early virtues of amiability and modesty remained with him throughout life, making him many friends and no enemies. Unfortunately the last fifteen years were marked by indifferent health, and after his retirement he was greatly distressed that by reason of high blood pressure his doctor would not allow him to work in his garden. The sympathy of all Kewites is offered to Mrs. French and their son, an only child.

W.D.

### RICHARD ERNEST GILL.

The death of this celebrated Kewite on August 17th, 1942, came as a great shock to his large circle of friends. He had been laid up for ten days and had shown a wonderful improvement up to the evening before his death and had many friends in to see him on the previous day. His end was sudden and unexpected. Right up to the last day he had been busy in spite of his illness with important business affairs of the Town of Falmouth of which he was Mayor.

Ernest Gill was born in Tremough in 1875 where his father Richard Gill had been Head Gardener to Mr. D. H. Shilston for many years. Famous for a large collection of Himalayan Rhododendrons this Cornish garden was the scene of Ernest Gill's early experience in horticulture, and had a marked effect upon him in fostering and developing his great love for the genus. The culture of these plants became an all absorbing passion with him later on and during his business career.

After serving under his father for some years Gill entered Kew as a student in 1898 and left in 1901. During his stay at Kew he made a special study of trees and shrubs, alpinas and the general propagation of both these groups of plants. At this stage he made up his mind to start a business as a nurseryman and florist. With this in view he left Kew and entered the service of the well-known florist firm of Will & Segars where he stayed for about a year. Returning to Cornwall in his 27th year, this courageous young man took over a bankrupt nursery near Penrhyn and at the same time he married Miss Fanny Best, of Liskeard, and together they opened a Florist's shop in the main street of Falmouth. From that day his business expanded and a few years afterwards he took over Kernick House and its large grounds and developed it as a great nursery. It soon became world famous and his sales of Rhododendrons alone ran into many thousands per annum. He erected a large range of Glass Houses for growing early Potatoes, Lettuce, and Tomatoes, a fine set of propagating pits and houses for the

raising of stocks of Rhododendrons, Magnolias and other hardy trees and shrubs, also many pits and frames and packing sheds.

Possessed of an acute sense for a good bargain, Ernest Gill entered into many other forms of business enterprise, property, shops, horses and cattle. I have known him to buy fields of cauliflowers from a farmer who had difficulty in marketing them. The London market being glutted with Cornish produce he had these packed in crates and sent up to the big towns in the North by rail where he sold them at a big profit.

For over 30 years the firm of Gill & Son were exhibitors at the great shows held in London by the R.H.S. and many Kewites will remember the large groups and full displays of Rhododendrons and Magnolias which he brought up and which were often one of the principal features of the Shows. He won many Challenge Cups and Gold Medals in keen competition. These Shows always attracted our old friend who put up groups of fine specimens of plants in full flower dug up from his nursery and transported by rail and vans some 350 miles.

When Rhododendrons became popular and a hobby with wealthy people, his nurseries were visited by thousands of prospective buyers every year. The present King and Queen and the Duke of Windsor were amongst his visitors and a friendship sprang up between them and they bought many of his plants. Their Majesties moreover corresponded with him and showed great interest in his large collection both of Rhododendron species and of the many fine hybrids raised by the Firm. At the R.H.S. shows Mr. Gill would frequently receive a command to meet the King and Queen and escort them round the Exhibits.

Mr. Gill's interests and ventures did not stop with horticulture, for he took over the large Carclew Estate not far from Penrhyn in 1940 and started farming on a large scale. The Deer Park of 200 acres was cleared of plantations and dense undergrowth and he harvested 150 acres of corn and barley, 40 acres of potatoes and many other acres of food plants and was congratulated by the Ministry of Agriculture on his fine work. Pressure of work has, however, caused him to hand over his nurseries to his son Mr. Bernard Gill who now succeeds his father as head of the firm.

In 1912 Mr. Gill was elected to the Town Council of Falmouth and he served continuously up to his death as Councillor, Alderman, Deputy Mayor and Mayor respectively. In 1939 he was elected Mayor of Falmouth and has been re-elected each year since. The war brought heavy work and great responsibilities. His Worship was to be found every day at the Municipal Offices where his advice and authority was sought by many people on many problems. I am informed by one of his colleagues that no Mayor of Falmouth has ever devoted so many hours to his duties or has been so thorough. Kew honoured him in 1938 by electing him President of the Kew Guild a position he was very proud of.

As Chairman of the Parks and Pleasure Grounds Committee, he initiated and helped to carry out many improvements in the Parks, open spaces and streets of the Town. His many good deeds and



life-work will live in the hearts of his numerous friends, not only in Cornwall but all over the British Isles and other parts of the World. We extend our deep sympathy to Mrs. Gill and her son in their sad and sudden bereavement.

C.P.R.

A further account of Mr. Gill's career will be found in the *Guild Journal* for the year 1938 (p.733) together with a portrait.

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### WILLIAM HEAD.

William Head was born in the West Indies, being the son of a Church of England Missionary. At an early age he was sent to England for his education.

He entered Kew in April, 1904, and served in the Flower Garden and Tropical Department. He left in 1906 on being appointed to the European Gardeners service in India, and was first posted as Assistant to A. E. P. Griessen at Agra. Later he became Superintendent of the Government Gardens, Allahabad and later still Superintendent of the Kumaon Government Gardens.

During this latter period he was responsible to Griessen who was then Deputy Director of Gardens for the whole of the United Provinces. On Griessen's retirement Head took over responsibility. He was now in administrative charge of the Gardens at Lucknow, Allahabad, Agra, Choubattia, Naini Tal and elsewhere with his headquarters at Saharanpur. He left India for good on his retirement about the end of 1934.

Head was first and foremost an enthusiastic florist, later developing a strong leaning towards useful experimental work. He was keen on trying new methods and new things in a new climate. He first turned his attention to the budding of Mangoes, Loquats, etc., with a view to eliminating the slow process of "inarching", which method had previously been employed in northern India. The results of some of his experiments were at once noted and his methods were soon extensively adopted by the local Indian nurserymen.

Head was extremely shy and retiring but his dry wit and literary attainments made him an enjoyable companion to those few who knew him well. He had been suffering from Bright's Disease for some years and this probably brought about his early end.

J. T. JOHNSON (Worcester).

Mr. T. W. Briscoe of Chepstow writes: "I first came in contact with W. Head at Allahabad during the Great War. I was in the Royal Artillery stationed at The Fort a mile or so from Head's delightful bungalow. Having made myself known as a former Kewite, a friendship began which lasted until his death. He always did his best to make our lives interesting. . . . His great endeavour was to raise the standard of horticulture in India, and in connection

with this he initiated and helped to organise a number of flower shows.

"He retired to Wiveliscombe in Somerset in 1934 and here he had a large garden of which he was justly proud. He took a great interest in local affairs especially A.R.P. work of which he was chief warden. His somewhat sudden passing on July 30, 1941, was a great shock to me, and I pay a tribute to his memory for all he did for soldiers in India during the Great War."

"Large was his bounty, and his soul sincere."

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### JOHN E. HOLMAN.

Through the tragic death of Mr. J. E. Holman on November 21st, 1942, many Kewites have lost a friend whose acquaintance they have valued for many years. Though not technically a member of the Kew staff Mr. Holman as Clerk of the Works for the Gardens was much associated with many phases of Kew life. He was a member of the Guild and more than a formal member since he was interested in Kew and its activities generally and helped on the social side of the Guild by giving it the benefit of his beautiful voice in the musical programme which accompanied the Annual Dinner. After Holman was promoted to be Superintendent of the Palace of Westminster he continued to show his interest in the Kew staff notably by invitations to take parties large and small round the buildings under his charge. The latter included Westminster Hall, both Houses of Parliament, the Terrace and a climb to the top of Big Ben. By many acts of friendliness such as these he endeared himself to many, and his sudden death from heart failure almost outside the Church door on Kew Green came as a great and distressing shock.

The following is an extract from a notice which appeared in *The Times*:

"John Edmund Holman was appointed Superintendent of Works at Westminster in 1935, and was promoted to be an assistant surveyor in the Ministry of Works in October last year, with the title of Surveyor at the Palace. Since 1935 he had been responsible for the maintenance of the Parliament buildings and the preservation of the fabric. This in itself was an onerous task, but in addition his duties included the arrangements for all the special Parliamentary functions, and these he discharged with the same care and close attention to detail as characterised his everyday work. Only a short time after he came to Westminster there occurred the trial (and acquittal) of Lord de Clifford, and for this the Royal Gallery had to be fitted up specially for the ancient ceremony of trial by Peers, the first which had taken place for 34 years. Among the notable events which have marked Mr. Holman's stewardship have been the Lying-in-State of King George V, the Coronation of the present King, and the reception to President Lebrun. The last of them

was the address by General Smuts to both Houses of Parliament.

"Of his arduous tasks during the war little can yet be recorded. During the air attacks on London in 1940-41 the successive "incidents" at the Houses of Parliament, culminating in the destruction of the Commons' Chamber, caused him much anxiety and necessitated long hours of work; but through it all he remained his quiet, imperturbable, courteous self, and without any fuss took the event as it came, clearing up the damage and improvising new arrangements. Nevertheless, the strain was great, and beyond doubt had its effect in hastening the end of an able servant of Parliament, who brought to the discharge of his duties a deep affection for its ancient traditions and old fabric, and a craftsman's pride."

A few days after his death tribute was paid to his memory in the House of Lords by the Lord Privy Seal (Lord Cranborne) with which Lord Addison (Labour), and Lord Mersey (Liberal) associated themselves. The Lord Chancellor also voiced his appreciation and concluded by saying "that the State could not have lost a more devoted, single-minded or courteous public servant."

Holman came of a Dawlish family and was 58 years old at the time of his death. He served at Kew for about 20 years commencing as a foreman and rising to the position of Superintendent of Works at Kew Palace. He was extremely fond of music and for over 30 years was a member of the Royal Choral Society. He often sang solos as a young man and took part in all the principal choral recitals at the Queen's Hall and at the Royal Albert Hall. He was closely associated with Kew Church and for many years was in the choir.

A.D.C.

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### EDWARD LITTLE, I.S.O.

Edward Little was one of the many young gardeners who went to India from Kew early in the present century. They were picked men and did well, and were a credit to the establishment.

Little, of whose death four years ago we have only recently heard, was born in 1882, and entered Kew in March, 1904, having been previously employed at Lockinge Gardens, Wantage, Berks. He also served under that famous gardener William Beckett, then a young man and gardener to Lord Aldenham, the father of Mr. Vicary Gibbs. At Kew, Little worked in the Decorative and Herbaceous Departments. He left in November, 1907, for the Royal Botanic Gardens, Calcutta. In 1909 he was appointed to the post of Superintendent of Government House Gardens, Bombay, and the adjoining hill station, a position which he held until the end of his life. The Gardens were considerably enlarged and improved under his charge.

In 1911 he was sent to Delhi, and he took an active part in the preparation of the grounds and garden for the Durbar. Some years later he took over the Secretaryship of the Empress Gardens,

Poona, and regularly visited them to advise on their upkeep and development. His services were recognised in 1925 by the award of the Imperial Service Order Medal.

Mr. J. F. Johnson writes: "I met Little in Delhi in 1911 where we were all laying out our camps for the King Emperor's Durbar, and met him again in 1936 when I was leaving India for good. The following year I heard that he had died while still in harness on December 29th, 1938. He was a fine tall man with remarkable vigour, and never came home on leave during the whole of his service in India."

Another Kew man with long service in India, and a recent past President of the Guild, Mr. H. C. Davies, sends the following paragraphs: "Little married the daughter of that great Kewite James Gammie, who left Kew in 1865 in order to take charge of the Cinchona plantations at Mungpoo, near Darjeeling, and her untimely death was a grievous loss to him.

"From my knowledge of our departed friend I found him a most enthusiastic gardener. He was held in great esteem by all who knew him at Poona. He had a quiet, unassuming manner, but was able to hold his own on most matters, and especially on horticulture. He was a loyal Kewite, and was never happier than when talking about Kew."

A.D.C.

#### REGINALD FREDERICK MILES, N.D.H.

With the death of Reginald Frederick Miles, while serving with the Royal Air Force, on May 11, 1942, Kew has lost the services of one of her most promising Students. Miles was born on July 21st, 1915, and commenced his horticultural career in the Gardens of Garston Manor, Watford, Herts. He first came to Kew as an apprentice-gardener on April 4th, 1932, and remained until March 30th, 1934. During this time his studious nature and zeal for his work enabled him to attend the lectures normally taken by the Student Gardeners and it is commendable that as a lad yet in his 'teens he gained distinction in the following subjects:— Physics and Chemistry, Plant Physiology and Ecology, Plant Pathology (Fungus Diseases) and Arboriculture and Forestry. He obtained a certificate for his British Botany collection and contributed a paper on "Hardy Ericaceous Plants" to the Mutual Improvement Society.

After serving nearly two years at Kew he proceeded to the Cambridge Botanic Garden in April, 1934, and remained there until March, 1936. In the Superintendent's report he is referred to as "capable and reliable . . . very studious and at the same time a very practical workman." While at Cambridge he attended the University Lectures available to the Gardening staff.

On leaving Cambridge he went to Barrow Court Gardens, Flax Bourton, near Bristol and later to Messrs. Hillier & Sons' nurseries at Winchester.

He re-entered Kew on May 30, 1938, and was employed in the Tropical Department. During 1940 he was awarded the National

Diploma in Horticulture and was a successful entrant in the Advanced examination for Teachers of the Royal Horticultural Society. Miles also secured the Hooker Prize (Mutual Improvement Society), the Dümmer Memorial Prize and the Matilda Smith Memorial Prize, while a student at Kew.

Owing to examinations which were pending, his call-up for military service was deferred for a short time, but on September 23, 1940, he joined the Royal Air Force. He made rapid progress in his training and he was among those selected to proceed to Canada and the United States of America under the Air Training Scheme. He was promoted to Sergeant-Observer and on his return to this country was posted to a station in the North of Scotland. While on a training flight (of which no details are known) it is probable that his machine crashed at sea. Information reached us that he was posted as "missing" on May 11, 1942.

Months passed by with no further news, until on October 19, 1942, information was received that Miles' body had been washed ashore on the Scottish coast. The funeral took place at Turnberry, Ayrshire, on October 21, with full military honours, and it must have brought some consolation to his bereaved parents who were able to be present. A wreath from the Kew Guild was among the floral tributes.

E.G.D.

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#### WILLIAM ROBERT MUSTOE, O.B.E.

We regret to record the death of W. R. Mustoe which occurred at Jodhpur, India, on July 22, 1942, as the result of a fall. He was an outstanding personality amongst the men who have been recruited from Kew for service in India.

Mustoe was born in June, 1878, at Leckhampton, near Cheltenham, and came of a long line of Cotswold ancestry. He went through a course at Dickson's Nursery, Chester, and came to Kew in February, 1904, and served in the Arboretum, Flower Garden and Tropical Departments.

In October, 1905, at the age of 28, he was recommended by Sir William Thiselton-Dyer for service in the Punjab, and 10 years later he was transferred from Lahore to New Delhi, the new capital then under construction. It was a dry, dusty area, almost devoid of vegetation. An appreciation by Sir Alexander Rouse, Chief Engineer to the Government of India, forwarded to us by Mrs. Mustoe, is of such interest that we cannot refrain from quoting a portion of it at length.

"Mustoe was not discouraged by the unpromising surroundings, but set to work to build up extensive nurseries where an incredible number of trees and shrubs were produced from seeds or cuttings in a short space of time. Many varieties new to the locality were introduced by him, and all the most suitable flowering or shade trees were thus available for planting out when the area was ready for them. The roses in the nursery were phenomenal in

their variety and prolific growth, and the gardens of New Delhi are embellished with the thousands of rose trees which Mustoe propagated in his nurseries.

"He had a particularly unpromising job in the afforestation of the Ridge, the low spine of rocky and denuded hills which runs at the back of the New Capital, but he persevered in his usual cheerful way till ultimately success crowned his efforts, and those who now enjoy the pleasure of a morning ride along the Ridge can have little conception of the years of labour which Mustoe devoted to the work undeterred by many disappointments.

"He was always willing and eager to try new methods, and took very kindly to mechanical land appliances which were then quite new to India. When a Fordson tractor and plough became available he drove it himself to see what it could do and then asked for several more. In the same spirit he gave the making of the Lodi Golf Course his special attention, even learning to play the game so as to have first hand knowledge of the requirements of a good golf course.

"In a thorny scrub jungle he laid out with the aid of the local golf experts a 36-hole course which was subsequently duplicated and which is unique in the plains of Upper India. Prior to this, small sandy 'browns' took the place of 'greens,' but Mustoe produced 'greens' and grassy fairways laid out so as not to interfere with, but rather set off, the various remains of previous Delhi which adorned the area. Few who used it realised that Mustoe had harnessed the sewage of New Delhi to help him in this task.

"His best piece of work was, however, the planting and care of the trees, shrubs and annuals in the Moghul Gardens which form the setting of Sir Edwin Lutyens' masterpiece, the Viceroy's House. This work, which was carried out in close collaboration with Sir Edwin, resulted in a horticultural display which is unsurpassed in India, and has, in the opinion of many, few rivals elsewhere.

"The gardens round the Historical Buildings near Delhi were his special care, and those at the Qutab, Purana-Quila, Feroze Shah Kotla and Safdar Jang bear witness to his efficiency and care.

"Trees and shrubs grow apace in the climate of New Delhi, but the most beautiful trees with the longest life take time to mature, and Mustoe applied a system of interplanting the avenues and gardens with trees of rapid growth which gave quick results, but which ultimately produced one of his most grave anxieties that those who came after him might fail to remove the temporary growth to the detriment of the permanent design—he managed, however, in spite of opposition, to remove most of his temporary plantings before he left New Delhi.

"His services in the new capital received official recognition by the award of the Order of the British Empire in the New Year's Honours List of 1930, and he retired from the service of the Indian Government in June, 1934.

"In 1907 Mustoe joined the Punjab Light Horse, of which he became a keen and efficient member and, after the last war, in

which he received a Commission and served in the Supply and Transport Corps, he returned to the ranks of the Auxiliary Force, India, in which he was an enthusiastic member of the mounted section of the Delhi Contingent.

"Mustoe was a hard worker and a cheerful colleague, always ready to give any help he could. He was popular with everyone who came in contact with him, respected and loved by those under him. He loved his work, and the avenues and gardens of New Delhi are a fitting memorial of work well and truly done."

Sir Edwin Lutyens writes: "It was my privilege and pleasure to work with Mr. Mustoe for many years. I first met him at Delhi and discovered in him a great gardener. His knowledge of India, with her varying climate and soil, was invaluable, and beyond his experience he had the genius of an artist."

A.D.C.

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#### THOMAS WATKINS RAYMENT.

It is with very sincere regret that we record the death of Flight Sergeant T. W. Rayment on June 17, 1942.

"Tommy" Rayment was born of English parents in Sydney, New South Wales, on June 12, 1914. His father, Mr. Herbert J. Rayment, was the proprietor of the Rayment-Beecroft Co., Seed Merchants of Beecroft, New South Wales, and it was to be expected that his son would show an early inclination to choose a horticultural career. His first two years after leaving school were spent in his father's business, to be followed in Messrs. John Backhouse's Nurseries in his home town where he remained for upwards of seven years. He first applied for admission to Kew in February, 1934, but it was not until November 7, 1938, that he commenced his duties.

He attended the lectures and demonstrations and showed considerable promise and quickly settled down to the conditions at Kew, being employed in the Tropical and Decorative Departments. He was an all-round sportsman and took part in the activities of the various sections of the Sports Club.

He joined the Royal Air Force on July 23, 1940, and early in 1941 he was promoted to Sergeant Air Gunner, shortly afterwards becoming Flight Sergeant.

He took part in many important operational flights over enemy territory, including Berlin. On one occasion his machine was disabled and came down in the sea a few miles from the East Coast. He was able to escape from the machine and release the rubber dinghy, and was the sole survivor of the crew, being picked up by a passing trawler some five hours later.

During his brief spells of leave Rayment always made his way to Kew and never failed to renew acquaintance with the many friends he had made. He was here only a few days before the fateful day in June last when he was destined to take part in his last operational flight over the Ruhr, with Essen as the principal objective. A few days later (June 22) news was received that he was "missing"

and many anxious weeks passed during which hope still remained that he might be safe but in enemy hands. Towards the middle of December it was confirmed from a German official source that "Tommy" (as he was always affectionately known among a wide circle of friends), was killed on June 17. He was buried on June 20, 1942, in the military cemetery at Avesnes, near Mauberge, France.

A letter from his father to the late Sir Arthur Hill, dated November 17, 1940, is quoted here as it is felt that it reflects some of the happiness that Rayment enjoyed while a student at Kew. "Tom has written that he has had the happiest time of his life at Kew, and it was a great wrench for him to leave, and that he made more friends there than he had in his own country. As an Englishman it is a joy to me to know that the old English tradition of friendliness and kindness to a stranger is still much alive. Tom felt that Kew was the ideal spot to work in, and the men he met, the ideal work-mates."

E.G.D.

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### ERIC EGERTON SMITH.

Born on June 19, 1914, Eric Smith, as he grew into a young boy, evinced at an early age a keen interest in nature study and gardening. He was fortunate in attending the Heston Senior School where Mr. Hewett, the Head, was an enthusiastic gardener, and before leaving school Eric had held the post of Chairman of the Young Farmers' Club for two years and had also been awarded highest marks in two consecutive years for the best kept and cropped garden plot.

With such a splendid record horticulture was obviously his career and, in 1929, he was selected as an apprentice-gardener to the Parks Department, Heston and Isleworth. His work there was so satisfactory that he was subsequently promoted to improver and later to the position of first-class gardener. He did not neglect his opportunities for study and took a series of lectures in Botany and Land Surveying and, also, successfully passed the General Senior Examination of the Royal Horticultural Society.

In February, 1939, he entered Kew as a Student Gardener and, until June 12, 1940, when he enlisted in H.M. Forces, he served in the Temperate House under Mr. Raffill. His working record and the results of the various lecture courses proved how keen was his interest in his profession. The keynote of his work was thoroughness and that, coupled with his capacity for taking pains and his genial disposition, made him a favourite with his fellow-workers and the senior staff.

Serving as a Trooper in the 11th Hussars R.A.C., on November 23, 1941, he was driving an armoured car out on patrol with other members of his unit in the vicinity of the landing ground at Sidi Rezegh, where the day previously a tremendous tank battle had been fought out. At 10 a.m., the Captain received a wireless report



that German tanks were approaching from the South-East and the patrol was ordered South at once, as the enemy were already to the North, West and South-West.

The patrol was cut off and the C.O. ordered a dash for positions held by Italians towards the South. Forty stationary Italian tanks had to be faced and, as the patrol were bringing in some Italian prisoners, these tanks mistook the British for their own side and never fired a shot. The Germans coming in from the flank kept up heavy fire and, as the patrol drove through the Italian tanks spaced twenty yards apart, hell was let loose when the Italians, realising their mistake, opened fire at point blank range with anti-tank and all other guns.

Eric's captain wrote: "It must have been quite obvious to him that we were heading straight towards the enemy but, like the true and gallant boy he was, he never checked but drove his car in perfect formation."

So Kew has lost another of her most promising Students, and a man of high ideals who leaves behind him many friends who deeply regret his loss.

W.M.C.

#### DORA B. TAYLOR (MRS. W. G. COATES).

We only recently heard of the death of Mrs. W. G. Coates (Miss Dora B. Taylor)—too late for the last issue of the Journal.

Miss Taylor who was trained at Swanley College, Kent, came to Kew in June, 1915, from St. George's Wood, Haslemere, when she was given the post of sub-forewoman in the Flower Garden, in which position she proved a model of energy and efficiency. She left Kew during August, 1916, to take charge of the garden at her home, Whitley Hall, Yorks. Married in 1919, she with her husband took up the kindred profession of farming at South Kilworth, Rugby.

We tender our sincere sympathy to her husband and family in their sad loss.

J. COUTTS.

#### JAMES W. WATKINS.

Yet another noteworthy old Kewite has been taken from us in the person of Mr. James William Watkins, whose death occurred at the Welsh Plant Breeding Station at Aberystwyth on March 21st, 1942, at the age of 60. He was a native of Cheltenham, being educated at All Saints School and came to Kew as a Student Gardener in February, 1906. He served in the Herbaceous, Temperate and Arboretum Departments. Previous to his time at

Kew he worked in the Duke of Portland's famous gardens at Welbeck Abbey.

In 1907 Watkins was appointed to the post of Head Gardener at the Royal Agricultural College at Cirencester, and in 1913 became Superintendent of the Experimental Fruit Station at Gulval, near Penzance. He served in France during the war and was twice mentioned in dispatches.

We are indebted to Sir George Stapledon (the founder and first Director of the Welsh Plant Breeding Station) for the following appreciation :—" I first became associated with Mr. J. W. Watkins 32 years ago, when he was in charge of the Botanic Gardens at the Royal Agricultural College at Cirencester. Then the war—and, of course, Watkins chose to fight—and he was decorated for gallantry in the field. I had immediately appreciated the great ability and sterling character of the man, and when the Plant Breeding Station was founded in 1919, it was indeed fortunate that we were able to secure the services of Watkins to take charge of the experimental gardens. Watkins grew in stature in proportion as his responsibilities became increasingly heavy, and it is impossible to over-estimate what the Plant Breeding Station, and, therefore, the agricultural interests of Wales, owe to him. Watkins had no easy task, with all the scientific staff always clamouring for labour, and because of the ways of nature and of the seasons and of the demands of supreme care and accuracy, he was always fighting against time, and always he would win.

It is, however, of the man I would wish to write. I myself—and all of us connected with the Station—have to deplore the loss not only of a staunch and ever-unruffled helpmate, but also of a very dear friend. As well as supreme loyalty and great energy, Watkins brought to all his tasks and to all who could claim his friendship a wealth of human kindness and of human understanding, and it was that which, above everything, made him both loved and respected by those whose privilege it was to work with him. It is hard to realise that never again will Watkins be treading the ground and tending the plants which for so long were his charge—a charge to the care of which he brought the feeling and zeal of a great-hearted countryman and true naturalist."

His love of plants appears to be hereditary for of his three children the son, now in the Royal Welch Fusiliers, took a B.Sc. degree in forestry at University College, Bangor, and one of his daughters, who studied at Studley College gained a B.Sc. degree (London) in horticulture and is now Head Gardener at the Liverpool Physical Training College.

A.D.C.

KEW STAFF LIST (*DECEMBER 31st, 1942*)

\* Life Member of Guild.

† Formerly a student gardener at Kew.

† Seconded to another Department during the War.

§ Serving with H.M. Forces.

Entered  
Kew

DIRECTOR'S OFFICE.

Director (Acting) and Economic		
Botanist .....	*Sir Geoffrey Evans, C.I.E., M.A.....	1938
Assistant Director.....	†J. S. L. Gilmour, M.A., F.L.S.....	1931
" (Acting) .....	*A. D. Cotton, O.B.E., F.L.S.....	1904
Assistant Botanist .....	§B. L. Burt, B.Sc. ....	1931
Staff Officer.....	S. F. Ormsby .....	1923
Shorthand-Typist .....	Mrs. W. E. Evans (Miss I. Watters)	1925
Clerk .....	H. R. Middlemost .....	1937

## HERBARIUM AND LIBRARY.

Keeper.....	*A. D. Cotton, O.B.E., F.L.S.....	1904
Deputy Keeper.....	Thomas A. Sprague, D.Sc., F.L.S. ...	1900
Botanist.....	*Miss Elsie M. Wakefield, M.A., F.L.S.	1910
".....	William B. Turrill, D.Sc., F.L.S.....	1909
".....	§A. A. Bullock, B.Sc.....	1929
".....	V. S. Summerhayes, B.Sc.....	1924
".....	Mrs. T. A. Sprague, B.A., F.L.S. (Miss M. L. Green).....	1912
".....	F. Ballard, B.Sc.....	1929
".....	†N. Y. Sandwith, M.A., F.L.S.....	1924
".....	†C. E. Hubbard, F.L.S.....	1920
".....	§E. W. B. H. Milne-Redhead, M.A....	1929
".....	H. K. Airy Shaw, B.A., F.L.S.....	1925
Botanist for India.....	K. N. Kaul, M.Sc.....	1939
Assistant Botanist (Library).....	†Ernest Nelses.....	1920
"    ".....	Miss C. I. Dickinson, B.A.....	1929
"    ".....	*J. R. Sealy, B.Sc.....	1927
Botanical Artist.....	Gerald Atkinson.....	1922
"    ".....	Mrs. J. R. Sealy (Miss S. Ross-Craig)	1929
Sub-Assistant.....	Miss Mabel I. Skan.....	1919
"    ".....	Frederick C. Woodgate.....	1922
"    ".....	Miss S. K. White.....	1929
"    ".....	H. S. Marshall.....	1932
"    ".....	R. A. Blakelock, B.Sc.....	1937
Assistant (Temporary Technical).....	§A. K. Jackson.....	1930
"    "    ".....	Miss R. L. Burford.....	1922
"    "    ".....	Miss S. Wilson.....	1924
"    "    ".....	Miss M. C. Davey.....	1918
Clerical Officer.....	†Miss B. Judge.....	1930
Shorthand Typist.....	†Miss B. N. Shepherd.....	1939
Typist.....	Miss M. J. Kierans.....	1934
Preparer (Herbarium).....	E. E. Knowles.....	1924
"    ".....	A. W. Olding.....	1925
"    ".....	Mrs. M. M. Rees.....	1938
"    ".....	Mrs. A. Petheram.....	1941
"    ".....	Mrs. V. A. Feddern.....	1941
"    ".....	Mrs. E. Holmes.....	1941
"    ".....	Miss I. Blewett.....	1941

Entered  
Kew

## MUSEUMS.

Keeper.....	† John Hutchinson, LL.D., F.L.S.....	1904
Botanist .....	F. N. Howes, D.Sc.....	1926
" .....	R. Melville, B.Sc., Ph.D. ....	1934
Preparer .....	Laurence J. Harding .....	1913
Typist .....	Miss E. K. C. Thompson.....	1936
Assistant (Temporary Technical).....	D. Wheatley.....	1942

## JODRELL LABORATORY.

Assistant Keeper .....	C. R. Metcalfe, M.A., Ph.D.....	1930
Botanist (Temporary) .....	C. Leighton Hare, M.Sc., Ph.D.....	1941
" .....	Dr. E. Glaznerová .....	1942
Laboratory Assistant.....	F. R. Richardson.....	1934

## THE GARDENS.

Curator .....	† W. M. Campbell, N.D.H. ....	1922
Assistant Curators :—		
Arboretum .....	*† Arthur Osborn, A.H.R.H.S.....	1899
Temperate Department .....	*† Charles P. Raffill, A.H.R.H.S., V.M.H. ....	1898
Tropical Department.....	† Lewis Stenning .....	1925
Decorative Department .....	† S. A. Pearce.....	1937
Herbaceous Department .....	† G. H. Preston .....	1934
Clerk (Higher Grade).....	† Ernest G. Dunk .....	1914
Clerical Officer .....	Miss J. P. Ireland.....	1942
" .....	† Miss D. P. F. King.....	1935
" .....	W. E. Gray .....	1942
" .....	C. F. Norman .....	1927
Shorthand Typist .....	Mrs. W. G. Sheat (Miss G. D. Rockell)	1928
" .....	Mrs. J. E. M. Bennett.....	1942
Sergeant-Constable .....	G. E. Williams.....	1906
Packer and Storekeeper .....	Harry W. Ruck .....	1907

## FOREMEN.

<i>Department</i>	<i>Name</i>	<i>Entered Kew</i>	<i>Previous Situation</i>
Rock Garden.....	§ L. R. Brown ...	20 Sept., 1937	Hyde Park, London.
Ferneries .....	§ B. L. Perkins ...	4 May, 1936	Manchester Parks De- partment.
Palm House .....	§ R. A. Hudson...	16 Nov., 1936	Parks Dept., Leeds.
Herbaceous Department	§ P. L. Benton...	27 Sept., 1937	Hillside, Llandaff, Car- diff.
Flower Garden.....	§ S. Rawlings ...	20 July, 1936	Parks Dept., Salford.
Decorative Department	* § A. H. Pettigrew	18 March, 1935	Parks Dept., Swansea.
	* § F. G. Selby .....	29 Nov., 1937	Antony Estate Gardens, Torpoint, Cornwall.
Propagating Pits .....	§ D. W. Sayers ...	18 May, 1937	Abbotsford Gardens, Burgess Hill, Sussex.
Temperate House Pits	§ E. Bird .....	22 Aug., 1938	Westmore Gardens, Leighton Buzzard.
Arboretum .....	C. F. Coates ...	25 Sept., 1915	Manor Park, Potton, Beds.
Orchids .....	* W. E. Everett...	12 Sept., 1938	Messrs. Sanders, St. Albans.

## ACTING TEMPORARY FOREMEN.

<i>Department</i>	<i>Name</i>	<i>Previous Situation</i>
Palm House .....	H. Collin.....	Forestry Commission, Gravetye.
Tropical Pits .....	R. Holder .....	Samares Manor, Jersey, C.I.
Temperate House .....	E. Avery.....	Les Glaciels, Golfe Juan, A.M., France.
Temperate House Pits	H. Zobel .....	Southwood Gardens, Hildenborough, Tonbridge.
Herbaceous Dept. ....	E. F. Bundy .....	Barrow Court Gardens, Barrow Gurney, near Bristol.
Flower Garden .....	D. Dawson .....	R.H.S. Gardens, Wisley.
Ferneries.....	E. M. Fletcher .....	The Gardens, Alexandra Palace.

## ACTING TEMPORARY FOREWOMEN.

<i>Department</i>	<i>Name</i>	<i>Previous Situation</i>
Rock Garden .....	Betty Cooper .....	Correvon et Fils, Geneva.
Decorative Dept. ....	Victoria E. Paine ...	Battle, Sussex.

## STUDENT GARDENERS.

<i>Name</i>	<i>Entered Kew</i>	<i>Previous Situation</i>
§ Blowfield, Arthur H. ....	28 Dec., 1938	Devonshire House, Roehampton.
§ Bourner, Eric H. ....	24 April, 1939	The Dell, Wheathampstead, Herts.
Brown, Geoffrey B. ....	19 Jan., 1942	Messrs. Wells & Son, Moordown, Bournemouth.
§ Clark, James .....	28 Dec., 1938	Cambridge Botanic Garden.
Clarke, Philip .....	2 April, 1942	Glasnevin Bot. Garden, Dublin, Eire.
* § Cook, Gilbert G. ....	5 Sept., 1938	Parks Department, Southampton.
§ Davies, Philip W. C. ....	24 April, 1939	Parks Department, Fleetwood.
§ Downs, Denis A. ....	27 Mar., 1939	Luton Hoo Gardens, Luton.
§ Eaton, Horace J. ....	4 April, 1938	The Nurseries, Borrowash, Derby.
§ Ford, Frank J. ....	25 Oct., 1937	Parks Department, Margate.
§ Hebden, Francis J. ....	15 Nov., 1937	Cambridge Botanic Garden.
§ Hollis, David C. ....	9 May, 1938	Llandaff, Cardiff.
§ James, Kenneth H. ....	15 Mar., 1939	Messrs. Aish & Son, Dunstable, Beds.
§ Joy, George S. ....	27 June, 1938	Hillside, Llandaff, Cardiff.
§ Mackenzie, Dugald Carr ...	27 Feb., 1939	Wellington Botanic Gardens, New Zealand.
§ Mason, Maurice .....	16 May, 1938	Rotherfield, Chesham Bois, Bucks.
§ McElroy, Leonard F. ....	30 May, 1939	Knap Hill Nursery, Woking.
§ Middleton, James .....	20 Mar., 1939	Parks Department, Dudley.
* Nelson, John .....	1 Dec., 1941	Parks Department, Manchester.
§ Norris, John L. ....	23 Aug., 1937	Royal Hospital Gardens, Chelsea.
§ Puddle, Charles E. ....	24 July, 1939	Parks Department, Manchester.
§ Redman, James.....	13 Mar., 1939	John Innes Hort. Institute, Merton, S.W.19.
§ Slade, Walter J. ....	26 June, 1939	The Gardens, Trent Park, Herts.
§ Stevens, Frederick B. ....	21 Nov., 1938	Parks Department, Manchester.
§ Stott, John W. E. ....	30 May, 1938	Tresco Abbey, Scilly Isles.
* Troll, John .....	1 Aug., 1942	Royston Parks, Barnsley.
Werner, H. F. ....	31 Dec., 1940	John Innes Hort. Institute, Merton, S.W.19.
§ Will, Alistair G. K. ....	4 Sept., 1939	Parks Department, Blackpool.
§ Willett, Edward J. S. ....	6 Feb., 1939	Messrs. Secrett, Walton-on-Thames.
§ Wilmot, Cyril J. ....	15 Mar., 1939	Parks Department, Folkestone.

## WOMEN GARDENERS.

<i>Name</i>	<i>Entered Kew</i>	<i>Previous Situation</i>
Ambrose, Ruth M.....	21 Sept., 1942	Studley College.
Armitage, Mary M.....	22 June, 1942	Waddesdon Gardens.
Bolton, Innes E.....	26 May, 1942	Drew's Gardens, Knotty Green, Beaconsfield.
Brown, Violet M. ....	1 June, 1942	Dartington Lane Nursery, Dartington.
Clark, Violet M. ....	23 Sept., 1940	Ewell Castle Gardens, Ewell, Surrey.
*Cornford, Kathleen D. ....	17 Feb., 1941	Chaplin Bros., Waltham Cross.
Cornwell, Phyllis .....	14 July, 1941	Newnham College, Cambridge.
Driver, Margaret J. ....	12 Jan., 1942	The Knoll, Amberley, Glos.
Evans, C. Grainger.....	13 July, 1942	British Broadcasting Corporation, London.
Holyoake, Elaine D.....	29 June, 1942	Kneesworth Hall, Royston.
Horder, Olive.....	30 June, 1941	Leighton Buzzard.
Kelly, Eileen Fergusson ...	26 Aug., 1940	Botanic Gardens, Glasnevin, Dublin.
King, Eunice B.....	7 Oct., 1940	Swanley Hort. College (Student)
Knight, Kate M.....	6 Oct., 1941	Auxiliary Territorial Service.
Mundy, Freda.....	7 July, 1941	Lea Green, near Matlock, Derby.
Pedgrift, Jessie F.....	23 Sept., 1940	Ewell Castle Gardens, Ewell, Surrey.
Scott, Caroline .....	9 Feb., 1942	Eltham Hall, S.E.9.
Shallcross, Netta .....	10 Mar., 1941	Mount Avenue, Hutton, Essex.
Sharps, Frances A. ....	28 Dec., 1940	Sefton Park, Liverpool.
Sharps, Jean E.....	8 Mar., 1941	Women's Land Army, Lancaster.
Speake, Myrtle V. ....	16 Dec., 1940	St. John's Nurseries, Polegate.
Stent, Helen J. ....	29 Sept., 1941	Auxiliary Territorial Service.
Thompson, Jean M. ....	17 Feb., 1941	Quarry Wood, Burghclere, Newbury, Berks.
Watson, Joyce M. ....	21 July, 1941	Madresfield Court Gardens, Malvern.
Watts, Brenda C. ....	1 Oct., 1940	Madiston, Denham, Bucks.

## LIST OF REVISED ADDRESSES

The following list consists of new addresses or of names or addresses which required modification. For the addresses of Members not in this list the Journal for 1941 should be consulted.

<i>Name.</i>	<i>Left Kew.</i>	<i>Present Position and Address.</i>
*Balch, Robert W., N.D.H. (N.Z.)	April 1939 ...	c/o New Zealand House, London, W.C.1.
*Barker, W. H., N.D.H. ....	Mar. 1923 ...	"Oakdene," High Street, Hale, Liverpool.
*Bean, W. J., C.V.O., I.S.O., V.M.H.	May 1929 ...	2, Mortlake Road, Kew, Surrey.
*Bell, Miss C. O. ....	May 1942 ...	Dorset War Agric. Committee, Shire Hall, Dorchester, Dorset.
*Binnington, R.....	Oct. 1924 ...	S., Parks Dept., and 165, Upper Hill Lane, Southampton.
*Braggins, S. W. McLeod, A.H.R.H.S.	Nov. 1906 ...	Rosemount Cottage, Kingsland, Shrewsbury.
*Braid, K. W., M.A., B.Sc....	1925 ...	Agric. College, 6, Blythswood Sq., Glasgow.
*Brown, T. W., F.L.S., A.H.R.H.S.	Nov. 1899 ...	Talaat Street, Giza, Egypt.
*Bullock, T. G.....	May 1913 ...	Hort. Lect., 6, St. Martins, Leicester.
*Byssouth, Mrs. R. A. (R. A. Davies)	Jan. 1919 ...	Marshall R.R.I., Saskatchewan, Canada.
*Cameron, Robert.....	April 1887 ...	1925, Mass. Ave., Cambridge, Mass., U.S.A.
*Chapman, H. L. R.....	July 1919 ...	Botanist-in-Charge, Beal Bot. Garden, East Lansing, Michigan, U.S.A.

## RULES.

- 1.—The Society be called the “ Kew Guild.”
- 2.—The Guild shall consist of all who are or who have at any time been employed as Student-Gardeners or any position of responsibility in the Royal Botanic Gardens, Kew.
- 3.—The object of the Guild shall be to promote mutual and friendly intercourse between past and present Kewites, and to further their interests.
- 4.—The business of the Guild shall be conducted by a committee constituted as follows :—Seven present Kewites, one sub-foreman, one Student Gardener, and twelve Old Kewites. Four non-official members (three of whom shall be Old Kewites) shall retire annually in rotation, and shall not be eligible for re-election for at least twelve months. The election shall take place at the Annual General Meeting. Candidates may be proposed by any member of the Guild provided that the names of Candidates be sent in writing to the Secretary at least seven clear days before the Annual Meeting. A Chairman of Committee shall be elected by the Committee for a period of three years.
- 5.—There shall be a Secretary and a Treasurer, who shall be elected annually at the Annual General Meeting.
- 6.—The annual subscription shall be 2s. 6d., payable on January 1st, to entitle members to all publications of the Guild. A member whose subscription is three years in arrears shall be notified and shall cease to receive the publications of the Guild until his arrears be fully paid.
- 7.—Any Member whose subscriptions are fully paid, may, on the payment of one subscription of 40s., become a Life Member and be entitled to all the privileges of the Guild without further payment. A sum representing not less than one-half of each life subscription shall be invested in the name of the Trustees and the liabilities to Life Subscribers shall be clearly shown in the annual Statement of Accounts.
- 8.—The Guild shall publish annually a Journal containing a list of the Kew Staff, from the Director to the Student Gardeners, a list of Old Kewites, with the date of their leaving Kew and their present position and addresses, and such other information as shall appear desirable.
- 9.—An Annual General Meeting shall be held in London about the end of May, when the Committee's Report and Statement of Accounts shall be submitted, and any business of a general nature transacted. The Annual General Meeting shall be followed by a Dinner.
- 10.—There shall be a voluntary Benevolent Fund for the purpose of helping Kewites who may be in urgent need of pecuniary assistance.
- 11.—Unpaid volunteer Students shall be eligible for Associate Membership of the Guild, provided always that they have paid a minimum life subscription of £2 (payable in advance) entitling them to such privileges as detailed in Rule 7, and have completed not less than 12 months' service at Kew.
- 12.—The Rules shall not be altered except by a two-thirds majority at the Annual General Meeting. Any proposals for the alteration of Rules shall be sent to the Secretary in writing at least twenty-one clear days before the date of the Annual General Meeting, and shall be sent by him to members resident in the United Kingdom at least seven clear days before the date of the Annual General Meeting.

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THE JOURNAL OF THE

ROYAL ANTHROPOLOGICAL INSTITUTE



# THE CAMBRIDGE COTTAGE GARDEN

BY A. D. COTTON, O.B.E., F.L.S.

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## PREFACE

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The original draft of this article consisted of a short note on some of the trees in the Cambridge Cottage garden. It was written with a view to publication in the *Kew Bulletin* or the *Journal of the Kew Guild*.

Enquiries as to the changes which during the course of years had taken place in that garden led to a study of the old maps and this in turn to a detailed investigation of the early history of the house and garden. A second draft was therefore prepared, and the desirability of using the revised article as one of a series on Kew to be published in connection with the Centenary was discussed with the late Director, Sir Arthur W. Hill.

At the desire of Queen Mary the account was sent to Her Majesty in 1941 after it had been somewhat emended, and the section dealing with the association of the Cambridge Family with the Cottage garden amplified. Queen Mary has graciously read the whole article more than once and has made some valuable suggestions and supplied information of interest and importance.

The account as it now stands is rather long for the pages of the *Journal of the Kew Guild*, but in order to give all members of the Kew staff, both past and present, an opportunity of possessing a copy it has been decided to publish it as a special Supplement.

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## INTRODUCTION

To the many chapters which make up the history of England, Kew has contributed some interesting pages. In not a few of them we meet members of the Royal Family, when, for instance, we find mention of the house and grounds of George II and Queen Caroline, the botanic garden of Augusta Princess Dowager of Wales, or the doings of George III and his family—apart altogether from the activities of Kew as a national Botanic Garden and the services rendered by the men of science who have worked there. From the point of view of historical associations no part of the present Royal Botanic Gardens is of more interest to the general public than Cambridge Cottage and its garden.

Most of the history of Kew in general, and of Cambridge Cottage in particular, can be learned from published works and from official documents. In these records, however, little attention has been paid to the grounds, which, when the Cottage was a royal residence and a social centre, must have been intimately known to a very large circle, whilst the story of their later development, including the alterations made after the death of the last Duke of Cambridge in 1904, has never been told. Lovers of Kew may, therefore, be interested to possess a detailed account of this historic garden.

For its early history our information must be drawn from maps, plans, biographical studies and books dealing with Richmond and Kew. W. T. Aiton's records of early Kew, which might have been useful, were unfortunately destroyed by fire about a hundred years ago. The bound volumes of the Hooker correspondence in the Kew Library deal with a later period, and contain letters from various members of the Cambridge Family and from Baron Knesebeck, who was in attendance, but though of great interest these tell us little about the garden. Of outstanding importance is Sir Clement Kinloch Cooke's work in two volumes entitled "A Memoir of Her Royal Highness Princess Mary Adelaide, Duchess of Teck." Cambridge Cottage was the favourite home of Princess Mary Adelaide

—the mother of Queen Mary—for twenty-eight years, namely, from early childhood until her marriage in 1866. Many extracts from her letters and from her Journal are quoted by Sir Clement, and these, with their wealth of detail, throw a vivid light on Kew during the middle of the last century. For more recent history we are indebted to the Kew records, unpublished Kew diaries and notes in the *Kew Bulletin* and the *Journal of the Kew Guild*, as well as to past and present members of the Kew staff who have kindly supplied information by word of mouth.

## THE HOUSE

A brief sketch of the history of Cambridge Cottage must first be given, since it provides the necessary background for our subject. The Cottage was originally a private house; it became a Royal Residence in 1838, and remained so for sixty-six years. In common with several other houses on Kew Green the old structure was after a time linked up with other houses and became a composite building. These were again modified and added to as the years went by. All but one of the original houses have now been demolished.

We first hear of the house as belonging to John Stuart, third Earl of Bute, who spent much of his time at Kew between 1760 and 1772. Bute, whose family name is commemorated in the genus *Stuartia*,\* acted as Scientific Director to Princess Augusta of Wales. In 1760 he became chief adviser to George III, and in 1761 succeeded the elder Pitt as Prime Minister of the United Kingdom—the first Scot to attain that position. The house was also for a time the home of Sir John Pringle, Physician to George III. In 1772 it was used by two of the King's sons, the young Princes William and Edward (later William IV and the Duke of Kent). According to a MS. Rent Roll of the Manor of Richmond George III purchased the freehold of the property in 1773. In 1801 his seventh son, Prince Adolphus, was created Duke of Cambridge, and it is believed that the King made over the house to him about that time. It was from this Duke of Cambridge that some thirty-seven years later the Cottage derived its name.

Until Queen Victoria's accession the Duke lived largely in Hanover. He was appointed Governor-General in 1816 and held the rank of Viceroy from 1831. His marriage to Princess Augusta of Hesse took place at Cassel in May, 1818. The statement which has been made by more than one writer and which has appeared in certain editions of the "Official Guide to Kew Palace," that it was also solemnised at Kew is incorrect. The *London Gazette* makes it clear that the second marriage ceremony was performed at the Queen's Palace (i.e., Buckingham House, the precursor of Buckingham Palace) at 5 p.m. on June 1, 1818.

When the Duke and Duchess returned to England in 1837 they first took up residence at Cambridge House, 94 Piccadilly; then, in the following summer, they moved to Kew and were accompanied

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\* The original spelling "*Stewartia*" must be regarded as an error.

by Baron Knesebeck, who remained in attendance on the family until his death in 1859. The house was altered for their use: an eastern wing, which now forms the larger part of the building, was added, this being completed in 1840, as was the portico erected in front of the old house.\* The windows of the new wing were said to overlook "an old-fashioned garden full of Lilacs, May and Laburnum."

An account of the interior is given by Kinloch Cooke (i. 126). At the eastern end of the ground floor was the drawing-room. The central portion consisted of the library and billiard-room, and the dining-room adjoined the old part of the building. The little room to the right of the passage as one approached the garden was known as the "garden-room." It was often used for breakfast and for tea, and is frequently referred to in Princess Mary's Journal. The Duke's apartments were in the old part of the house; those of the Duchess over the library, and Princess Mary's rooms were above the drawing-room, the room overlooking the main garden being her sitting-room. We may assume that it was in this "sanctum," as she was fond of calling it, that most of those singularly interesting letters, brought together so appropriately by Kinloch Cooke, were written to intimate friends. All the rooms on the ground floor of the south side opened on to the garden by large french windows. After the death of the Duke in 1850† the Duchess and her younger daughter, Princess Mary, continued to live chiefly at Kew and, as is known to all, it was from Cambridge Cottage in 1866 that the Princess was married to the Duke of Teck.

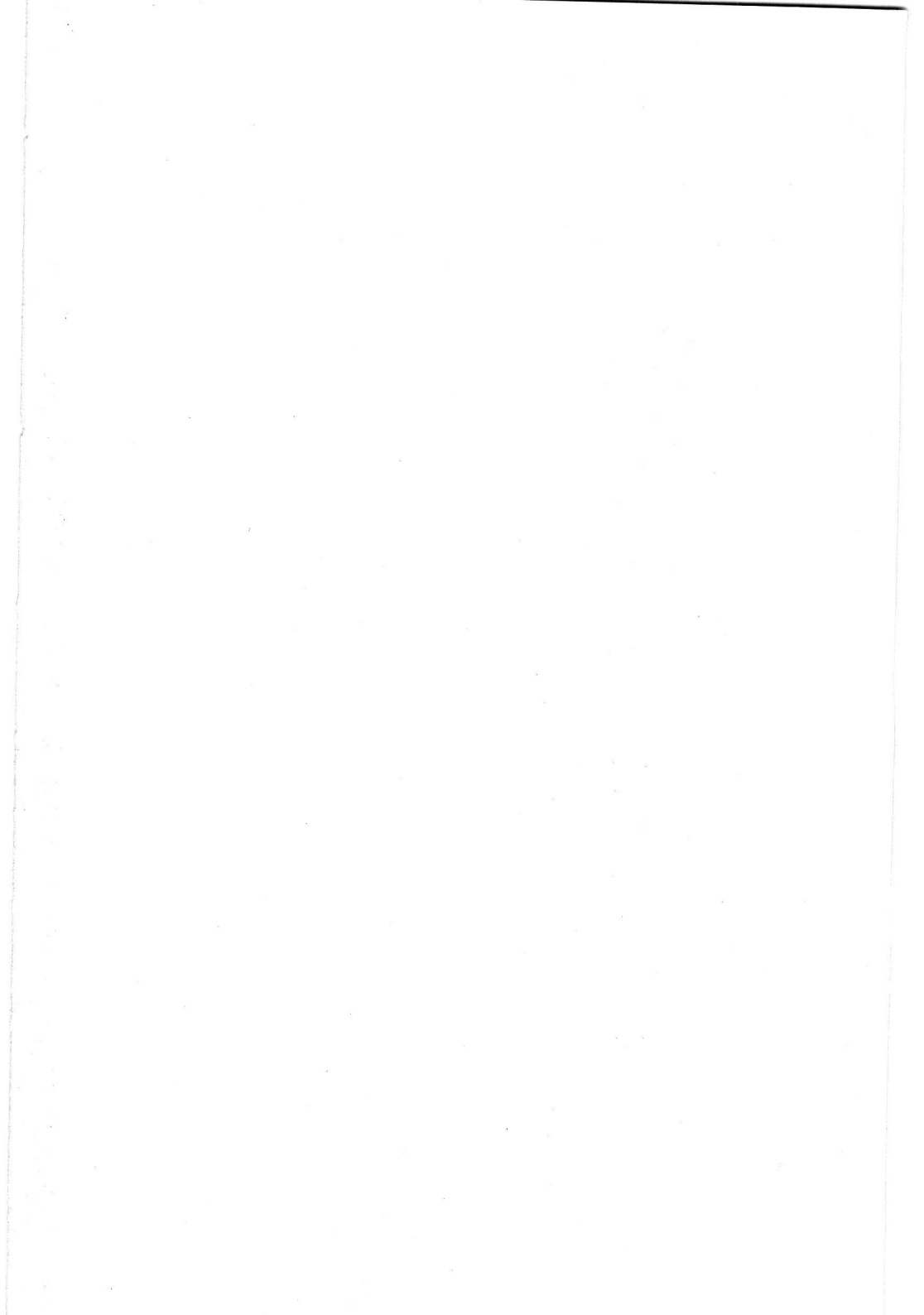
The Duchess of Cambridge died in 1889. The story of the funeral at Kew has often been told, as has also that of the Queen's compliance with the desire of the Duchess that the use of the Cottage might be left for life to her son, who had succeeded his father in 1850. Referring to the old house Canon Sheppard writes: "To members of the Cambridge Family it was a much prized link with the fast disappearing past. . . . Thus it came about that every room in the Cottage had its sacred associations and every walk in the garden its fragrant memories. . . . Not a room was changed in the lifetime of the Duke, not a flower-bed in the garden was altered." ("The Life of the Duke of Cambridge," ii. 199.)

Some time after the death of the second Duke of Cambridge, which occurred on March 17, 1904, the Cottage was, by command of King Edward, given up as a Royal Residence and handed over with the

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\* It is not generally known that in one of the lights of the east window of Kew Church the portico of Cambridge Cottage is represented in the background above the Arms of the Duchess of Cambridge.

† The following quotation with regard to the Duke's funeral, taken from the Rev. S. Goldney's booklet entitled "Kew Church 1714-1914," will be of interest to members of the Herbarium staff: "At this time Cambridge Cottage was under repair and the mourners assembled at the house of the King of Hanover which is now the Herbarium." From the same source we learn that amongst the distinguished mourners who presumably assembled in the hall of the Herbarium were the Prince Consort, the Duke of Wellington, Lord Palmerston and Sir John Russell.



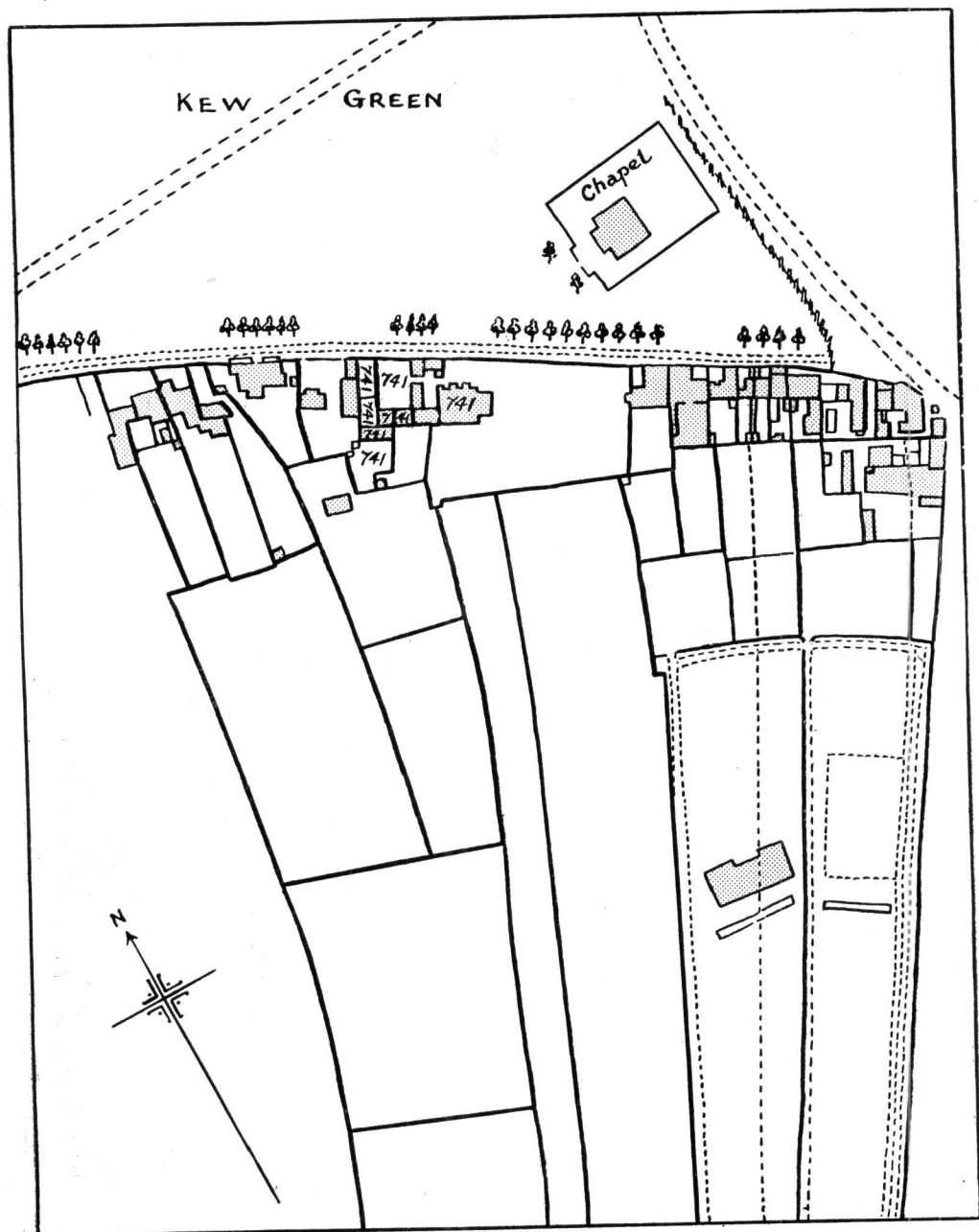


Plate I. From the Plan of the Royal Borough of Richmond 1771.  
(741 Lord Bute's residence)

garden to Kew. Two of the old houses forming the western part were pulled down, and in their place were built the modern houses known as "The Gables," in which, by the King's desire, the original frontages of the old houses were as far as possible incorporated. The old gateway to the coach-house was preserved in its entirety. The remainder of the building, consisting of one old house\* and the east wing, was slightly altered and transformed into Museum IV, for the display of British-grown timbers. The room over the "garden-room" in the old house became the office of Mr. W. J. Bean, at that time Assistant Curator of the Gardens, and it was in this and the room adjoining that Augustine Henry prepared a large part of the text of that sumptuous work which was published jointly with H. J. Elwes, "Trees of Great Britain and Ireland."

### THE GARDEN—EARLY HISTORY

Of the history of the garden in the eighteenth century little is known. Several plans of Kew and Richmond were prepared by Rocque, Chorographer to Frederick, Prince of Wales, but these are on too small a scale to be of any value for our purpose. A plan which accompanied "The Petition of an Englishmen" (1765), and also that dated 1777 and reproduced by Williamson in his life of George Engleheart the miniaturist, are on a larger scale, but are inexact and lacking in detail. There exists, however, one very important manuscript map of this period. This is entitled "Plan of the Royal Manor of Richmond,"† and is invaluable to all interested in old Kew, since it affords an accurate representation of the village in the days of Princess Augusta, Lord Bute and Sir William Chambers. It was prepared, there can be no doubt, for George III.

The plan shows—and this is pertinent to our story—that the Cottage garden of that time (i.e., Lord Bute's garden) was considerably smaller than it is to-day, extending only as far as the low boundary wall of the present inner garden (see Plate 1). On the other hand, as the east wing had not been built, more ground was available near the house. The plan gives no support whatever to the insinuations made against Bute, now believed for political reasons, in the anonymous pamphlet entitled "Petition of an Englishman." It

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\* The fittings of this last survival of Bute's residence suggest early nineteenth-century work; it would thus appear that the house was at one time partially reconstructed.

† "Plan of the Royal Manor of Richmond, otherwise East Sheen, in the County of Surrey, taken under the Direction of Peter Burrell, Esq., His Majesty's Surveyor-General, in the year 1771, by Thomas Richardson."

Until recently this plan (a pen and water-colour on vellum) was in the possession of Lord Lee of Fareham, and for many years hung on the walls of White Lodge, Richmond Park. It is now the property of Mrs. J. A. Stirling, of The Wick, Richmond, who has kindly allowed me to examine it. A similar plan, showing only part of the Manor and on a smaller scale, formerly belonging to George III's library, was presented to the British Museum by George IV in 1823. There is also a copy in the Library at Windsor Castle. These plans should be studied with the aid of the Rent Roll of the Manor which was prepared about the same time.

shows that the south side of Bute's garden was bounded by a wall and that the properties abutting on this wall consisted of oblong "parcels of ground" belonging to various persons, which stretched nearly as far south as the present Cumberland Gate. The old wall forming the western boundary of the Royal Kitchen Garden (the "Herbaceous Ground" of to-day) is one of the walls by which these properties were separated, and the plan shows that in those days it was continuous with the east wall of the present outer garden of Cambridge Cottage.

The first Ordnance Survey map to include Kew was published in 1822. This was on the one-inch scale, and is far too small to permit details of the private gardens to be seen. The same applies to other early maps of Surrey, namely those by Lindley and Crossley (1790), Bryant (1823), and Greenwood (1823).

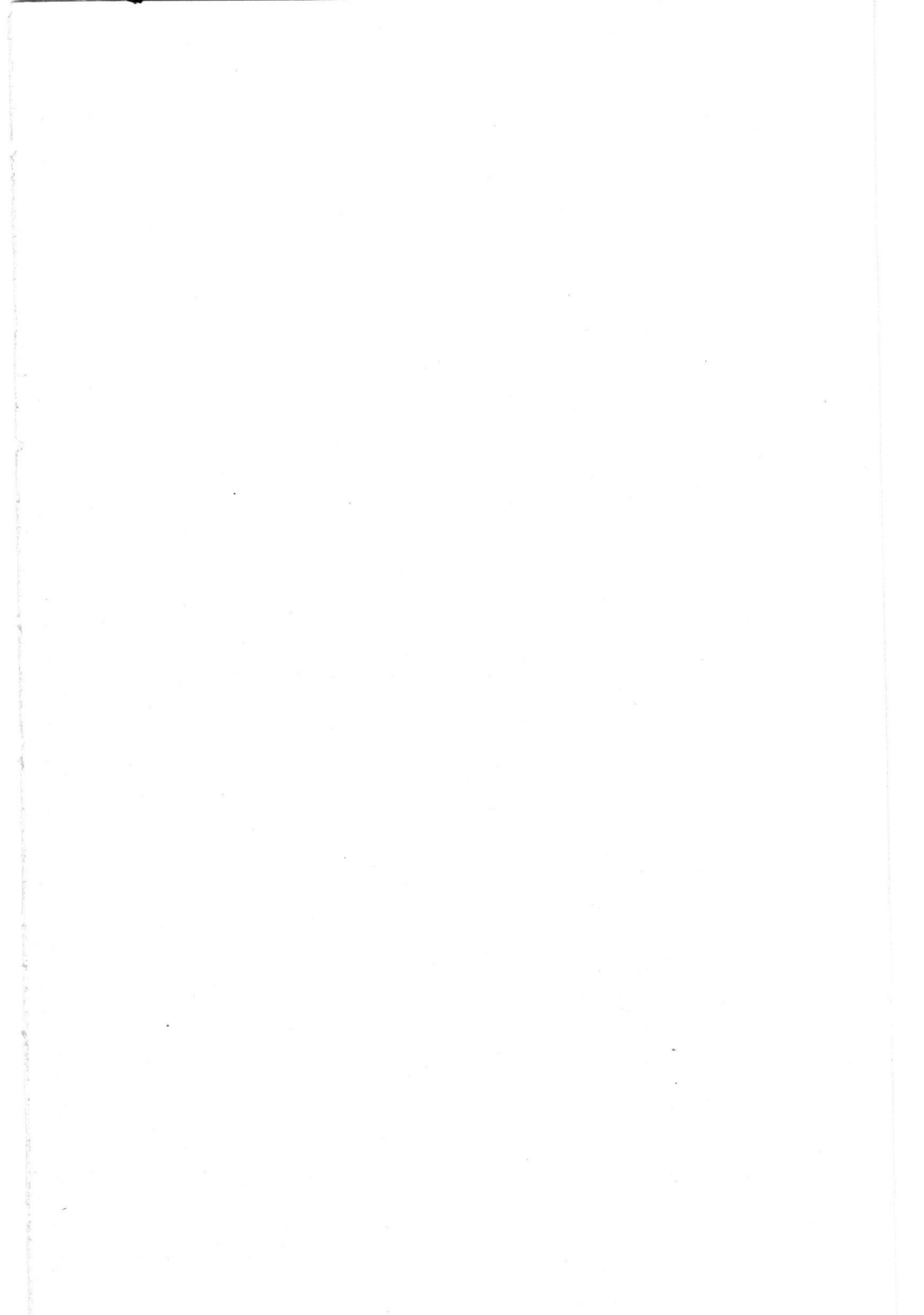
Previous to the publication of a larger Ordnance Survey map in 1867 (on a 25-inch scale) a manuscript map of Kew was prepared, the survey being apparently made for Sir William Hooker. This was in 1852. Before describing this map, it will be useful to recall the circumstances leading to Hooker's appointment.

After the death of Sir Joseph Banks (1820), who succeeded Lord Bute as Adviser for the Botanic Gardens, the work of Kew as a scientific establishment declined, and when the Duke and Duchess of Cambridge came to live at the Cottage in 1838 its fortunes had fallen to a very low ebb. It was, indeed, in that very year that a Committee to enquire into the management of the Gardens was appointed by the Treasury. Ably led by Dr. John Lindley, the Committee furnished a Report, which although critical was constructive. After the whole subject had been debated in the House of Lords the main recommendations of the Report were adopted. Kew was transferred to the Commissioners of Woods and Forests, and in 1841 Sir William Jackson Hooker, at that time Regius Professor of Botany at Glasgow, was appointed Director of the Gardens. John Smith, the enthusiastic young Scot, who in the face of great odds had tried to maintain the scientific traditions of the garden, succeeded W. T. Aiton as Curator. With Hooker's appointment Kew entered on an era of rapid development and prosperity.

One of the early innovations after re-organisation was the publication of an official "Popular Guide," but as Cambridge Cottage and its garden were not part of the Botanic Gardens, no reference to them is found in these booklets. For the same reason they were not at first included in the small map which accompanied the Guides, although from 1885 onwards the outlines of all the private gardens were indicated. The Cottage itself is referred to for the first time in the Guide for 1907, i.e., after it had been handed over to the Botanic Gardens.

Hooker's map of 1852 is on a very large scale—about five feet to the mile. It is entitled "A Map of the Botanical Garden and Pleasure Grounds at Kew," but it covers only the northern half of the garden, including the residences both private and official, on the south side of the Green. It was never published, and there is, as far





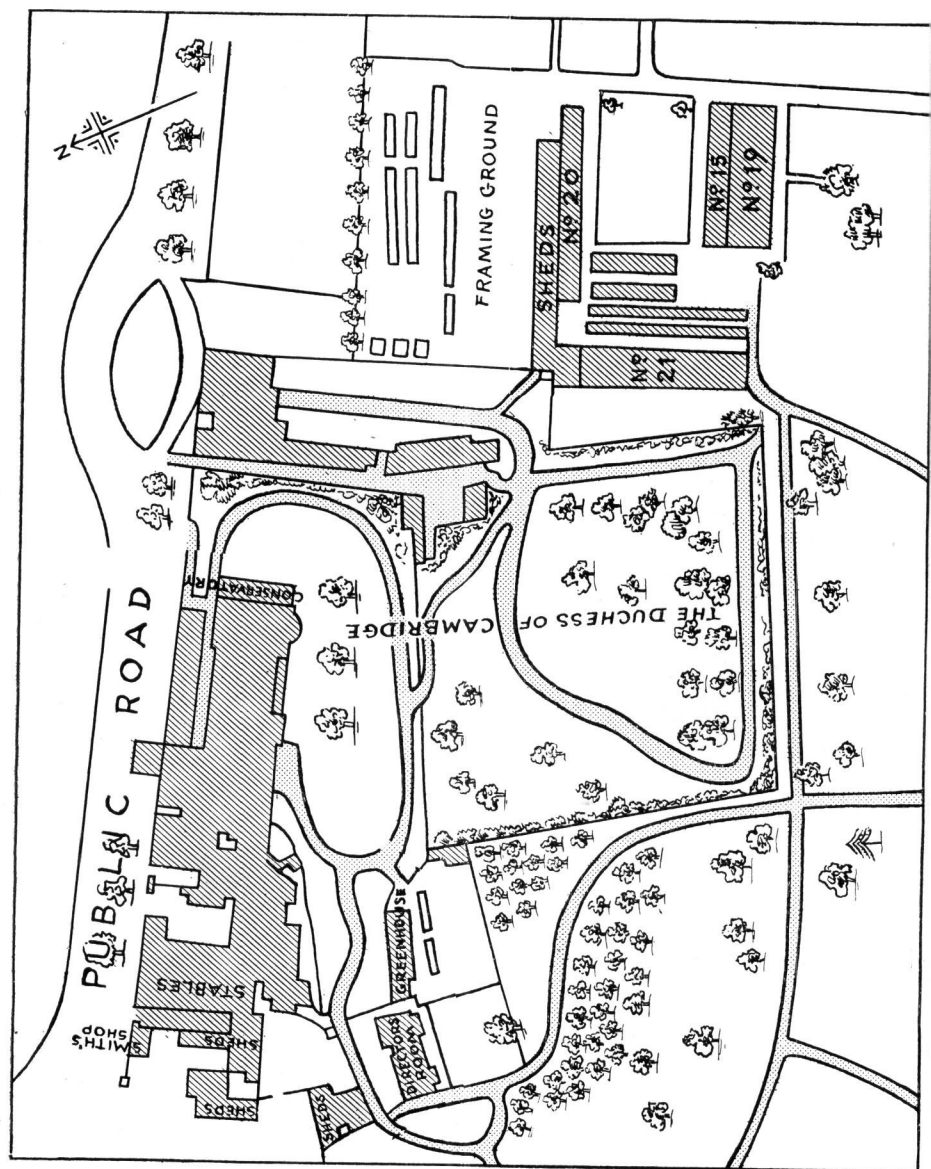


Plate II. From the Map of the Botanical Garden at Kew 1852.

as is known, only one copy in existence, which is preserved in the Kew Museum IV. The map is of great interest, and though it lacks the precision and high standard of accuracy of those published by the Ordnance Survey, it gives an excellent idea of the general lay-out (see Plate II).

A comparison of this document with the George III plan shows that many changes had taken place. We see at once that the garden of Cambridge Cottage had been enlarged by the addition of a large rectangular portion—the present outer garden, or as it is called in some old official documents, the Pleasure Grounds. A wall on the south side of this addition had been erected, and inside the wall a shrub border is indicated which was probably furnished with Lilacs as it is to-day. The date when this extension was made and the wall built is not known. It may have been in 1801, when it is believed the house was presented to the Duke by his father, but it is more reasonable to assume that it coincided with the enlargement of the building between 1838 and 1840. The wall as seen to-day has the appearance of being older than it is, since it is built of old multi-colour bricks, but these were no doubt taken from one of the old walls in the Gardens which had been demolished. About three-quarters of the way along the wall, towards the west, there are indications of a built-up arch suggesting a doorway, of which however no record has been traced.

With the addition of the outer garden the confines and general arrangement of the grounds became much the same as they are to-day. The garden-door from the Cottage opened directly on to the lawn, and the beauty of the outlook on entering the garden was not spoiled, as it is now, by a hedge which shuts off a small piece of garden from that which is open to the public. The outer garden was, however, separated from the inner by what we may assume was the old wall. Through this there was a small opening. The western boundary of the grounds near the house is not precisely marked, but we know that the garden then extended rather more to the south-west and included a walled kitchen-garden which now forms part of the Director's private garden. The entrance to the kitchen-garden from Cambridge Cottage, still to be traced on the brickwork, is indicated on Hooker's map. On the lawns on the southern and eastern sides of the house there were a few trees, and the plan shows that a path ran around the circumference.\*

Although the "pleasure grounds," or the outer part of the Cottage garden was surrounded by the same three walls we know so well, the paths within were differently disposed. There was apparently no walk round the garden on the western side, but a diagonal path ran across the grass from the eastern side to the south-west corner and continued along the southern side inside the Lilac border and returned by the eastern border. There was a private entrance into

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\* The trees shown in this map and in the 1868 plan (referred to later) must not be taken to represent actual specimens. It appears certain that a greater number of trees are indicated, especially in the 1868 plan, than were actually present.

the Botanic Gardens through a wooden door at the south-east corner and this, until the alterations of 1907, was the only direct communication between the two gardens. It is remembered by the older members of the present Kew staff.

The map shows further that the garden of King's Cottage, or Church House, as it was then called, extended farther back than it does at present towards what was formerly the "Royal Kitchen and Forcing Grounds" or "George III's Melon Yard" (the name "Melon Yard" is still used), and allowed the occupants of Church House access to the Cambridge Cottage garden through a door in the wall. A path leading through this door was continuous with the diagonal path above mentioned. The gardener's cottage, remembered as having had a thatched roof, is to be seen on the site of the present bird keeper's house which replaced it in 1891.

There remains one other map to be noticed, namely, the Ordnance Survey "Plan of the Parish of Kew," published in 1868 (County of Surrey, Sheet 1, No. 12, scale: 5 feet to the mile). This important and beautiful map (See Plate III) which gives a detailed presentation of all the houses and gardens concerned, is no doubt an enlargement of the 25-inch map published the previous year. It is fortunate for our purpose that both Hooker's map and the Ordnance Survey map were produced during the period that the Cottage and its surroundings were the scene of so much activity.

It will be seen from the Ordnance Map that further changes had taken place. The diagonal path across the lawn had been removed and a new one had been formed towards the west wall;\* the Church House grounds had been reduced in length so that there was no longer an entrance from the garden through the wall into the Cambridge Cottage garden, and for the first time we see the pond on the lawn and the existence of a wide opening between the inner and outer gardens. Hooker's map of 1852 indicated a comparatively narrow opening (presumably cut through Bute's old wall), while the Ordnance Survey map shows an opening as wide as or wider than it is to-day.

The construction of this wide opening is of special interest since it probably coincided with the substitution of the present low wall for the old high one.† Such an alteration must have effected a veritable transformation, greatly improving the prospect from the house and opening to full view from the outer garden the Magnolia-covered south front. The present wall, which is three feet high, is not brickwork but a sandstone with a limestone coping (see p. 19 footnote). The date of this important change has not been discovered, but if the above assumption be correct we may perhaps conclude that the building of the low wall, the re-arrangement of the paths in the outer garden, and the construction of the Water-Lily pond with fountain were part of a general scheme of improvement which took place some

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\* There is now a slight angle in the western wall which is not shown in Hooker's map nor in that of 1868: The southern portion has evidently been rebuilt.

† To the extreme east there still remain two stretches of old, high wall.

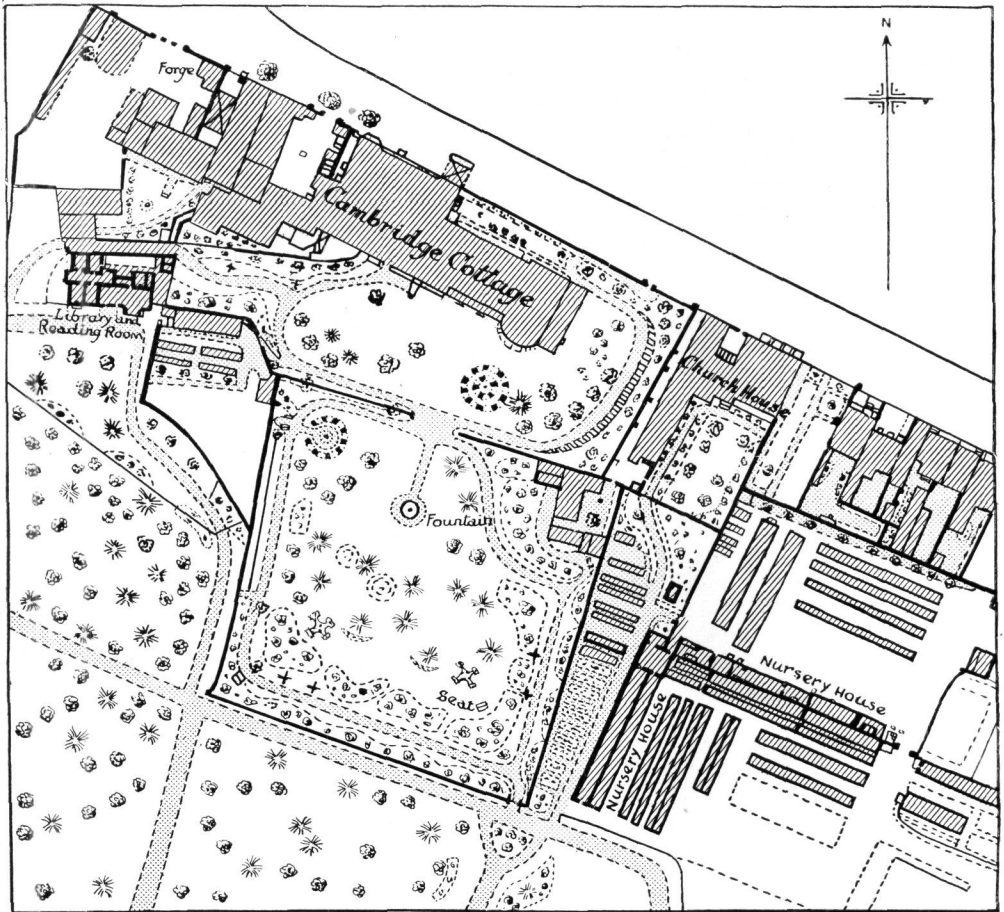
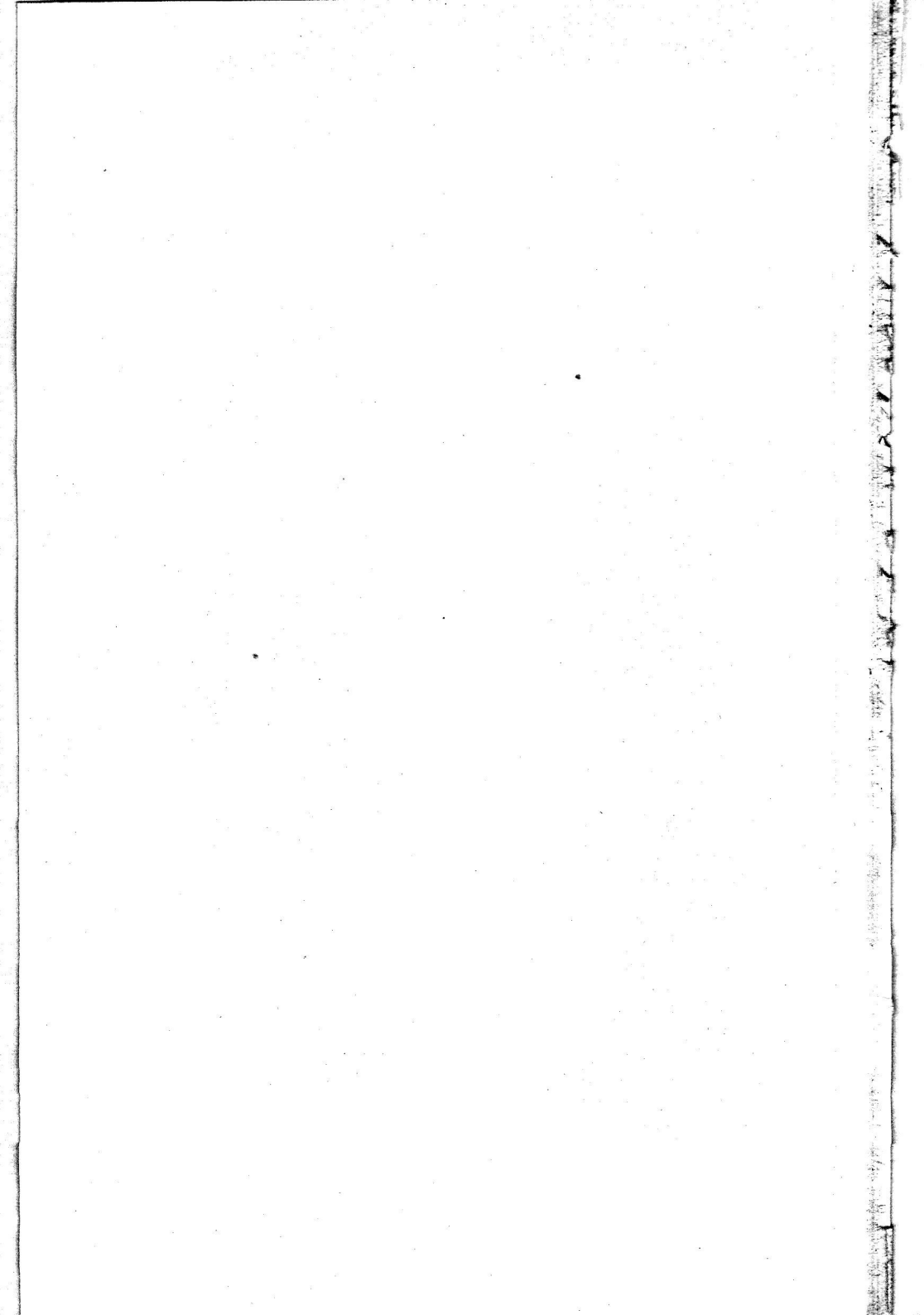


Plate III. From the Ordnance Survey Map of 1868.



time between 1852 and 1868. In this connection the following entry in Princess Mary's journal under March 4, 1856, is significant: "We drove down to Kew to inspect the alterations twenty-four workmen were carrying out in our garden."

Only one reference to the fountain has been traced. An entry in the Journal within a week of that just cited speaks of an expedition by the Duchess of Cambridge and Princess Mary accompanied by Baron Knesebeck and Lady Rokeby (elsewhere spoken of as "Mama's head gardener") to search for "a centre for the fountain at Kew." But though several stone-masons were visited the journey was fruitless. The precise date therefore both of the pond with its limestone curb and the little mermaid holding the fountain, evidently acquired later, remains obscure.

The part of the garden adjoining Church House was slightly smaller than it is to-day. This was owing to the existence of a large conservatory (apparently a very high lean-to) which extended along the whole length of the drawing-room, and to the fact that the fine piece of old wall opposite was banked up with earth to nearly half its height. The bank was semi-circular in outline and planted with shrubs and trees. Proof of its former existence may be seen in the supporting buttresses. The wall itself has been heightened by about four feet of old brick, but many years ago before this was added it is believed to have been surmounted by a trellis. On the northern side of this part of the garden there was an entrance to the road opposite the Church. Outside on the roadway we see on the plan a discontinuous row of large trees, in addition to the smaller ones on the Green itself. These are said to have been Horse-Chestnuts, the last of which was not removed until the time of Sir William Thiselton-Dyer's directorship. Judging by their size one may hazard a guess that they were planted during the energetic days of Princess Augusta.

Of the kitchen garden little is known. The maps show that there was a greenhouse against the north wall and that the garden was apparently enlarged between 1852 and 1868. We know that two other greenhouses were built later. A lean-to potting shed with tiled roof stood against the east wall and this still remains as a relic of the old days.

The little path running between the backs of the old part of Cambridge Cottage and the kitchen-garden originally extended further west and ran across the present path leading to the back entrance of the Director's Office, thence through the garden of the groom's cottage into the Director's private garden. It entered the latter by a wooden gate which, though not in use, still exists. The present path, which was made in September, 1907, is therefore a curtailed survival of the old one.

## THE OLD TREES AND PLANTS

The old trees standing to-day help us to fill in the surroundings in which, as we shall see, so much life and interest were centred. The oldest is probably the so-called Locust Tree (*Robinia Pseudo-Acacia*) in the north-western corner of the garden, which still produces

a few flowers. Although the trunk is slightly smaller (girth 11 feet 6 inches) than that of the specimen planted in Princess Augusta's original botanic garden and still standing, the tree is ancient and may date from the same period and have had the same origin. That tree, we know from the records, was received from the Duke of Argyll's garden at Whitton near Hounslow, and was planted in 1762.\* The Tulip Tree near the house, though not so large as the one in the heavier soil of the Azalea Garden, is probably older. It is a fine, well-balanced specimen, and must have been often admired. Its golden autumn colouring is to this day particularly good.

The white Horse-Chestnut, the historic associations of which are referred to later, must certainly be more aged than it appears, since for ninety years its branches have afforded grateful shade. It still flowers well and produces an abundance of "nuts," but neither the girth of the trunk (9 feet) nor the spread of the branches is remarkable. The Sweet Bay is probably of a later date as is the *Magnolia Soulangiana* in the grass, which for about ten years has been battling against a parasitic fungus.† We may assume both were chosen, or at any rate approved, by the Royal residents. In this corner of the garden there was a summer-house situated, it is believed, near the Sweet Bay.

The Weeping Ash further to the east is the largest specimen of its kind at Kew, and is of comparable age to the one in the Herbarium Grounds. Being a grafted tree its even and somewhat slender trunk does not necessarily betoken youth, since as is often the case with grafts of weaker growth (such as Weeping varieties), the feeble development of the scion does not stimulate the trunk to increase at the normal rate. The tree shows another phenomenon common in grafted plants, namely in being decidedly one-sided. This may be due either to a single graft only having been used or to some of the grafts having failed to develop.

When we come to the six trees of *Magnolia grandiflora*, and the few specimens of *Pyracantha coccinea*, on the south front of the house, we are on more definite ground as to age. The Magnolias are obviously old, but as we know those on the east wing could not have been planted before 1840, and as they are of approximately the same age as those covering the old building, we may perhaps conclude that both the old house and the new wing were furnished with Magnolias at the same time, probably when the Duke and Duchess came to Kew. The huge, white, lemon-scented flowers are still born fairly freely each August and September, especially on the trees on the old part of the house, and the red berries of the *Cotoneaster* ripen before the *Magnolia* is over.

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\* There is an interesting paragraph on the Whitton trees in an article on eighteenth-century gardens by Peter Collinson. He writes: "This spring, 1762, all the Duke of Argyll's rare trees and shrubs were removed to the Princess of Wales's garden at Kew, which now excels all others, under the direction of Lord Bute." (*Trans. Linn. Soc.*, x. p. 275). This refers to the third Duke (1682-1761), who was born at Ham House. He was a man of many accomplishments and had a great collection of trees. It was no doubt only the young trees which were moved to Kew.

† Since the above was written this tree has been removed and replaced by a younger one.



In the outer garden, the former "pleasure grounds," there are, in addition to the Lilacs in the border, nine or ten trees still living which date from about the middle or latter part of last century: the two Irish Yews, formerly standing as sentinels at either end of the Lilac border, the tall Yew tree near the gardener's cottage, the small but obviously old Laburnum close to it (which probably once had a fellow on the opposite side of the path) and the Red Horse-Chestnut. Hidden away behind the last is a small tree of *Parrotia persica*, recognised by its bark which is exfoliated in summer like the Plane tree. This species is always a tree of low stature and slow growth, so that the specimen, though dwarf, probably dates well back into the last century. *Parrotia* gives a fine display in autumn of yellow, red and purple tints. For a brief moment also it possesses an attractive winter phase. The expanding flowers have deep crimson stamens, and if viewed in the sunshine of a bright February day (or sometimes earlier) a flowering tree is lit up all over with crimson spots. The fine Sweet Gum (*Liquidambar styraciflua*) on the lawn is doubtless somewhat older. As a sapling it may have been one of the trees that Princess Mary tells us she specially chose for the garden. When seen in its autumn glory the foliage of *Liquidambar* is sometimes mistaken for that of a Maple, but it can be distinguished from all species of *Acer* by its alternate instead of opposite leaves.

The tall Austrian Pine, *Pinus nigra*, is noteworthy, since, being the only Pine in the garden, it is almost certainly the tree alluded to in Princess Mary's Journal as having been chosen by her in December, 1862, for planting in the garden. It may well be eighty years old. In height it is much shorter than the fine specimen of the Corsican variety of the same species standing inside the Main Gate, which, as the label shows, was planted in 1814. The Cambridge Cottage tree has had two checks. It is forked about half-way up, indicating injury to its main stem many years ago, and has since had both its new leaders broken off. *Pinus nigra* and its varieties thrive at Kew and many specimens may be seen all over the grounds. Old trees may be distinguished from all other Pines by the dark scaly trunk which is flecked or streaked with white where the bark peels.

The pair of Lilacs known as the "Rumpenheim Lilacs" stood, it is believed, on the lawn a little to the south-east and south-west of the fountain. The trees were brought from the old family home near Frankfort, by the Duchess of Cambridge in 1838, and the epithet "Rumpenheim Lilac" probably soon came into use. These two celebrated trees are referred to again later (p. 20). The Lilac border inside the south wall is certainly very old. As explained already it was probably formed about 1838, but whether it originally consisted exclusively of Lilacs as it does now cannot be said. About fifteen veteran trees with their queer leaning trunks and twisted bark probably date from the original planting.

A very old Judas Tree (*Cercis Siliquastrum*) which stood a little to the east of the present summer-house was blown down in December,

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\* Rumpenheim is in Hessen, on the left bank of the Main about eight miles above Frankfort. Illustrations are provided by Edgar Sheppard, *op. cit.*, ii. 118, and Kinloch Cooke, *op. cit.*, i. 320.

1929. It was the largest specimen at Kew, and must have been one of the oldest trees in that part of the Cottage garden. The species is a favourite on the Continent where it flowers magnificently and the tree may have been planted at the special request of the Duchess of Cambridge, or even brought by her from Rumpenheim.

The Conservatory, we see from the 1868 plan, was entered through an outer door as well as through the drawing-room windows. In the early years it was used for Christmas festivities, accommodating the Christmas trees and being decorated and brightly illuminated. Camellias were much in vogue at that time and we learn that they made a fine display during the winter months. H.M. Queen Mary informs us that in later years there was a beautiful *Heliotrope* which was trained against the wall. The Orange trees in the Conservatory are still remembered by the older inhabitants of Kew, who recall that during summer the orange tubs were, as was customary, placed outside in the garden. A statement by Sir William Hooker in the "Kew Guide" for 1847 perhaps gives a clue to the origin of these trees. Speaking of the Orangery built for Princess Augusta in 1761, he writes: "It was destined for, and filled with Orange trees until 1841, when they were removed to Kensington Palace with the exception of a few." It may well be that the Duke of Cambridge, who had recently come to live at Kew, acquired these "few" trees from his grandmother's collection, and that they were the specimens so carefully tended until the greenhouse was demolished after the second Duke's death in 1904.

## THE GARDEN AND THE CAMBRIDGE FAMILY

It was to the scene of his childhood that the Duke of Cambridge returned in 1838 after twenty-three years of activity, first as Governor-General and then as Viceroy of Hanover. The remainder of his life was spent in comparative retirement and mostly at Kew, where he identified himself with the interests and welfare of the village. It is during these early days at Kew that we first hear of the garden itself—the Duchess at work weeding and planting and the Duke playing with his younger daughter amongst trees and shrubs he must have known as a boy.

To the Duchess also the surroundings were not strange since she had stayed at Kew during part of a long honeymoon visit to England twenty years before. She was a lover of nature, and the Cottage and its garden won her affection from the first. We read of the interest she took in the birds, of the pleasure the grounds gave her and, somewhat later, that "she was very busy making improvements and alterations in the garden and in the adjoining one." (The latter was possibly that of Church House.) The same year that she came to live at Kew she introduced the two Lilacs from the old family home at Rumpenheim. As the years went by her appreciation of the garden deepened.

When the family moved to Kew from London in the summer of 1838 Prince George was nineteen years of age, Princess Augusta was

sixteen, and Princess Mary nearly five. Prince George had already entered the Army, and in September, 1838, he left England for Gibraltar. Princess Augusta married in 1843, and, though we know her room at the Cottage was always reserved for her, we read little of her doings in connection with Kew.\*

It is with the name of Princess Mary of Cambridge that the Cottage garden is especially and always associated. In childhood days she romped in it with her nurse and played with her friends. There are allusions to haymaking, climbing trees and swinging, also to chasing the cows in the wild parts of Kew Gardens, where in those days they were allowed to graze. Visits to the Royal Dairy, immediately behind the neat little Georgian house now occupied by Barclay's Bank, were also a favourite amusement. To the very end of her life Princess Mary looked back with pleasure to the early days at Kew, and amongst the incidents specially recalled was that of swinging with her great friend Ellinor Napier (Kinloch Cooke, i. 36, ii. 302†).

Princess Mary's love of the garden and also of gardening come out in her letters, written when she was quite young, but even more so in the pages of her Journal. This was commenced on January 1, 1853, when she was nineteen years old. "Gardened all the afternoon"; "Worked away at the rose trees"; "Joined Mamma under the Chestnut Tree"; "Sat in the garden until six"; "Dined out-of-doors"; "Spent the greater part of the day in the garden, reading, working or weeding"; are but a sample of entries which show how much the garden was used and enjoyed. Moreover, the Princess was interested in its development. An entry for November, 1853, for instance, runs: "Walked for upwards of two hours selecting shrubs and plants," and another records the search for a Pine "to be planted in the private garden" (December 12, 1862). Interest in Rhododendrons was perhaps stimulated by J. D. Hooker's researches on the genus, and it is not surprising therefore to learn from the Kew correspondence that specimens of these plants were acquired for the Cottage garden.

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\* The only reference traced indicates interest in the Botanic Gardens. In speaking of the remarkable plant *Strelitzia reginae*, which was named after Queen Charlotte (formerly a Princess of Mecklenberg-Strelitz) and which is still grown at Kew, Hooker adds: "By the recent marriage of H.R.H. the Princess Augusta of Cambridge with the Hereditary Grand Duke of Mecklenberg-Strelitz, this august name is yet preserved in the family; and the amiable Princess who now bears it, has evinced, we have ample opportunities of knowing, a no less lively interest in the present improvements carrying on at Kew than did her Royal Ancestor in those to which we are now alluding." ("Popular Guide, Royal Botanic Gardens, Kew, 1847," p. 5.)

† If these pages be read carefully it will be seen that these swings were not, as has sometimes been assumed, in the grounds of Cambridge Cottage, but in the garden of Elizabeth Lady Napier who lived with her family at Kew. Considerable pains have been taken to ascertain the position of Lady Napier's house which was not generally known. The Census Return for 1841 shows that she lived on the south side of the Green, and it has been ascertained that her residence was the old house formerly known as Kew Cottage and now named Royal Cottage. Lady Napier was the widow of the 9th Baron Napier and Ettrick, and her daughter Ellinor, who afterwards became the Hon. Mrs. George Dalrymple, was an intimate and lifelong friend of the Duchess of Teck.

There are numerous references in the Journal to wild flowers, and ample evidence exists that the flora of the Kew neighbourhood with its plum and apple orchards, was richer then than it is to-day. Primroses grew at Coombe, Dog-Violets were plentiful around Kew Green, King Cups and Water Veronics grew in ditches off Mortlake Road, whilst Sandy Lane (now Sandycombe Road) was noted for the quality of its blackberries. In the Gardens themselves Ox-Eye Daisies flourished as they do still amongst grass allowed to grow for hay. The beauty of this last simple and natural mixture was not lost upon Princess Mary, for she records the gathering of "large wild Daisies and grasses" for a bouquet for a Court Ball (Journal, June 14, 1866).

Since the Botanic Gardens themselves were so closely associated with the life of Cambridge Cottage, reference to them cannot be entirely omitted. The Princess made great friends with the Director, Sir William Hooker, otherwise "Hookey," and we read of her friendly acquaintance with John Smith the Curator, Craig the foreman of the Flower Garden, and other members of the Gardens staff. Summer bedding was an important item in the year's programme and Princess Mary used to discuss with Hooker the plans for the season; indeed, much of the arrangement and colouring of the flower beds, including those in the Broad Walk and in front of the Palm House, was made over to her. She was fond of devising floral patterns and most particular as to the blending of colours. Occasionally, however, her views did not coincide with those of the Director: "I was getting on capitably till Hookey came and spoiled all my arrangements." But the following year we read that the colouring of the flower beds was "settled with Craig"! Nearly thirty years later, at White Lodge, we can trace the same interest in details concerning the garden.

Princess Mary was not only fond of Kew but was proud of it, and was always ready with suggestions as to its improvement. We learn from the Hooker correspondence that she would put forward ideas which she had obtained from other gardens. Thus, after suggesting the use of Verbenas for bedding, she writes: "Trusting . . . that you will see in this suggestion an additional proof of my zeal in the services of Kew Gardens." In the dedication which he wrote for his son's magnificent work "The Rhododendrons of Sikkim-Himalaya," Sir William found opportunity of acknowledging her help:—

To  
HER ROYAL HIGHNESS  
THE PRINCESS MARY OF CAMBRIDGE  
whose taste for the pleasure of a garden  
. . . . . has made her feel peculiar interest in  
THE GREAT NATIONAL ESTABLISHMENT AT KEW  
and who  
conjointly with Her Royal Parents  
has ever been forward in promoting whatever might tend to its  
usefulness and embellishment.

It will interest Kew men to learn that the system of admitting student gardeners from abroad to work in the Royal Botanic Gardens had its beginnings in letters written at Cambridge Cottage. The Kew archives show that the names of promising young men from the Royal Gardens at Hanover and elsewhere were put forward by Baron Knesebeck, probably on behalf of the Duke of Cambridge, for consideration by the Director. There was no exchange as far as we know, but, the young men (some of whom had also had experience at Paris or Vienna) were given employment at Kew when opportunity offered. The same practice obtains to-day, and a system of exchange has developed, by which enterprising young gardeners from botanic gardens and private establishments in Europe, America and the Dominions and Colonies are received in exchange for Kew men—to their immense mutual advantage.

The restfulness of the Cambridge Cottage garden was much appreciated by both mother and daughter, especially during and after a busy London season. It was, moreover, a solace in times of anxiety, and the quiet of Kew was sought in the troublous years of the Crimean War, during part of which the young Duke of Cambridge was at the front in command of a division.

The Cottage attracted a continual stream of visitors. Queen Victoria was familiar with the house and garden, and the young Prince of Wales when rowing on the Thames would moor his boat and call to see his aunt and cousin. On Sunday afternoons it was a rendezvous for diplomats, members of Royal Families on a visit to England, and other distinguished personages. Most of these would drive down from town and cross the picturesque and steeply sloping old Kew Bridge with its toll gate at the foot on the Middlesex side.\*

In the little dining-room hung with family portraits, many dinners were given by the Duchess of Cambridge, and Kew residents recall that it was here that King Edward VII, as Prince of Wales, attended his first dinner party. Many friends stayed at the Cottage for longer or shorter periods. We can picture all these guests finding their way through the french windows of the drawing-room or through the little door near the Garden Room† and strolling out on to the lawns. The garden indeed must have been intimately known to all the notabilities of the day.

The Horse Chestnut outside the dining-room abounds with historic associations. Under its shade the Duchess of Cambridge had her favourite seat, and here it was that visitors gathered and life centred during the summer months. It was a usual spot for tea, and we may conclude that it was here also that dinner was occasionally served out-of-doors. For upwards of forty years all the topics of the day must have been discussed under this tree.

The culminating event of this period, and the most important in the whole history of Cambridge Cottage, was the marriage of Princess Mary on June 12, 1866, to His Serene Highness Francis, Prince

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\* The toll was not abolished until 1873.

† We should always remember that in those days there was no obstructive privet hedge.

Teck.\* The occasion was preceded by great festivity. A few days before the wedding there was a banquet and a ball at Kew, and we read that two tents were erected in the garden and that one hundred and forty persons sat down to dinner, including the Prince and Princess of Wales and other members of the Royal Family. A still greater number of people were invited to the ball in the evening, when the garden was "beautifully illuminated." (Kinloch Cooke, i. 416.) The wedding took place at the Parish Church on the Green.

Shortly after her marriage Princess Mary was accorded a suite of rooms at Kensington Palace, and a little later White Lodge was given to her as a country house. But whether staying at Kensington Palace or at White Lodge, she regularly visited her mother and maintained the same interest in all that concerned her old Kew home, and at a later period when her mother was an invalid she drove there almost daily from Richmond Park. Speaking of the year 1875, when the Duchess of Cambridge was seventy-seven years of age, Kinloch Cooke writes: "In summer Her Royal Highness's chair, a present from the Queen, who was most kind and thoughtful for her aged and stricken relative, was wheeled into the garden where under the familiar Lilac Tree,† the Duchess continued to receive her friends" (ii. 77).

The twenty-fifth anniversary of the wedding was also an historic occasion. After a service of thanksgiving had been held in the parish church the garden was the scene of an interesting ceremony. The Duke and Duchess of Teck, accompanied by the four members of their family‡ met a number of Kew residents on the lawn in the Cambridge Cottage garden. An address was read by the Vicar, which the Duchess received and replied to in a touching speech "standing under the verandah below what used to be her own sitting-room" (Kinloch Cooke, ii. 231).

Towards the end of his life the Duke of Cambridge was often in residence at Kew. He was frequently to be seen with his friends coming out of the little door by the Lilac border, to take them for a walk in the Botanic Gardens, and the older members of the staff remember meeting him riding in the grounds before the hour of opening to the public. Sometimes he was accompanied by friends, and on one occasion at least he was seen with his late Majesty King George V, when he was Duke of York.

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\* The Dukedom was conferred in 1871.

† The statement as to the Lilac tree is no doubt correct, since the wheeled chair would enable the Duchess to go beyond her favourite Chestnut. Reference may be made here to the curious wheeled seat which for many years has been used as a table or cake-trolley for the Gardens Tennis Club. This seat was made for the Duchess of Cambridge to enable her to leave her wheeled chair and sit down and rest with her attendant when she visited the Azaleas or other distant parts of the Gardens. It was originally constructed with a combined back and movable cover, so that the seat could be locked up and left wherever desired.

‡ Namely H.M. Queen Mary, the 1st Marquis of Cambridge, Prince Francis and the Earl of Athlone.

As long as Cambridge Cottage remained a Royal Residence there was always a close link, through the Director, between the Royal Botanic Gardens and the Cambridge Family. This was very marked in the early years. There was constant intercourse, and Sir William and Lady Hooker were frequent guests at dinner. This friendship was enjoyed also by the next Director, Sir Joseph Hooker, though circumstances at the Cottage had altered. His successor, Sir William Thiselton-Dyer used to see a good deal of the last Duke, and always appreciated having an occasional dinner with him in the little dining-room so full of historic associations.

One would not expect to gain light on this portion of our narrative from a journal devoted to pure science, but a paragraph in Sir Joseph Hooker's Memoir of his father, published in the *Annals of Botany*, is significant as showing the agreeable nature of the link between the Cambridge Family and the Director of the Gardens at a period when that association was most intimate and of particular value to Kew as a young national institution. Sir Joseph writes: "It would be disloyalty, as well as ingratitude, to pass over the lifelong connection of the Duke of Cambridge and his family with Kew. The gardens of Cambridge Cottage abutted on the Royal Botanic Gardens, and for a great part of the year the family resided there and daily walked in the grounds, or the Duchess drove in a light pony carriage, carefully keeping off the lawns and the edges of the walks. The Duke died before my father took up his residence at Kew itself,\* but the Duchess and the Princess Mary, afterwards the Duchess of Teck, constantly invited him to accompany them in their walks. . . . The Princess would come and tap at his study window for him to come out and show her interesting plants in the houses and grounds. . . . Knowing as all do her charm of character, it is not surprising that my father, who was no courtier, greatly enjoyed such interviews with his Royal neighbours; and he profited by them, too, for he had the opportunity of meeting at Cambridge Cottage men of the highest distinction, and introducing them to the wonders of Kew." (*Annals of Botany*, Vol. XVI, pp. lxi and lxii.)

We have seen that for the older generation Cambridge Cottage is inseparably linked with the name of the Duchess of Teck. It is to Queen Mary's association with the Cottage, however, that much of the popular interest of the present day is due. The "Official Guide" for 1912—the first to be published after the Cottage and its garden were opened to the public—recalls (p. 12) "that Her Majesty Queen Mary spent much of her girlhood in Cambridge Cottage and its grounds."

We have authority for stating that Queen Mary stayed at the Cottage on two occasions only. The first was early in 1868, when the Duke and Duchess of Teck paid a visit to the Duchess of Cambridge and took with them their infant daughter. The second occasion was during a period of convalescence after an illness. The fact is well known, but the details of the visit are not so familiar as they might be. These are given in a letter from the Duchess of Teck to Mrs.

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\* Until 1853 Sir William lived at West Park, Mortlake.

Dalrymple, which is quoted by Sir Clement Kinloch Cooke in his "Memoir." The Princess was taken seriously ill in July, 1868, and for a short time her life hung in the balance. From this there was almost complete recovery. A relapse set in, however, and it was thought that the illness might be due to the effluvia from the Round Pond in Kensington Gardens—then in an unsatisfactory state. The letter concludes "the child . . . mended steadily, although slowly, and on the 4th August her Grandmama very wisely insisted on carrying her off to Kew to be away from the pond, and out nearly all day in the garden under the shade of the old Chestnut tree." (Kinloch Cooke, II, p. 8.) This story never fails to excite interest in the Cottage garden and the Chestnut tree.

As has been shown the Duchess of Teck paid regular visits to her mother at Kew, and as she was often accompanied by her daughter, the Princess came to know every corner of the Cottage and its grounds.

A memorable event took place in 1893, and once again Cambridge Cottage garden was the scene of the principal ceremony. In that year Her Majesty, as Princess May, received an address of respectful congratulation from the residents of Kew on her betrothal to Prince George of Wales. This proved to be the last public function to be performed in the Cottage grounds.

Queen Mary's interest in the garden and her concern that historic trees should be preserved and cared for is shown by the fact that it was at Her Majesty's express desire that the two Rumpenheim Lilacs were moved and planted in their present positions after the death of the Duke of Cambridge in 1904.

Queen Mary's love of Kew has indeed never flagged. As Duchess of York, as Princess of Wales, and as Queen, her visits to the Royal Botanic Gardens have been frequent, sometimes two or three times in the season. They are usually quite informal, and as such are always eagerly anticipated by the staff of the Gardens. On the occasion of these visits Her Majesty seldom fails to walk through the garden which she knew so well as a child.

## TWENTIETH-CENTURY ALTERATIONS

After the death of the second Duke of Cambridge in 1904 Cambridge Cottage was, as previously explained, transformed into a Museum, and the private garden, which had remained exactly as it was since 1891 (see p. 4), was added to the Royal Botanic Gardens and opened to the public. Living memory therefore easily supplements written sources of information as to the appearance of the garden during the later years of the Duke's life. Sir William Thiselton-Dyer retired on December 15, 1905. He was succeeded by Sir David Prain, and hence all the changes effected in the garden when it was handed over to Kew were carried out under Sir David's directorship.

A photograph of the Cottage published in the *Journal of the Kew Guild* for 1907, though taken some years previously, is of interest as being one of the very few available (see Plate IV). We see from this that the path from the garden door still ran behind (i.e., west of)





Plate IV. Cambridge Cottage as it appeared at the end of the 19th Century.



the Horse-Chestnut, that the area occupied by the present main path was grass and that a flower-bed existed near the dining-room window. The photograph also shows the verandah in front of the library windows and large-leaved evergreen plants climbing up the posts. Several of the old trees can be seen: the Sweet Bay, the Horse Chestnut with a seat, and the *Magnolia Soulangiana* in the background. Two of the old houses, since pulled down, are also visible.

The removal of the verandah when the building was modified severed an interesting link with the past and robbed the south front of a picturesque feature. A further change in the appearance of the house was brought about when the Conservatory, housing the Oranges and Camellias, was taken down. The disappearance of the orange tubs brought to a close a phase of horticulture which had persisted at Kew for 150 years, namely from the days when Princess Augusta's Orange trees used to be placed on the lawn outside the White House (as indicated in contemporary prints), or, it may be, from the time of Sir Henry Capel, whose greenhouses for oranges and myrtles at Kew were—so Evelyn tells us—"very well contriv'd." ("Diary," October 30, 1683.) The circuitous path behind the Chestnut tree was also done away with, and a broad new path formed in front of the library and drawing-room from which another—diverging at a right angle—led straight to the outer garden. A low Privet hedge and a small iron gate were introduced in order to keep private a small part of the garden.

These alterations called for a more formal and slightly narrower opening between the inner and outer gardens; to bring this about the two low walls were extended by six feet on each side.\* Just inside the opening were placed, considerably later, a pair of Serbian Spruces (*Picea Omorika*), a species easily recognised by its spire-like growth. These were selected from a number of seedlings presented to Kew by that great and generous gardener Sir Herbert Maxwell. One of them has died, but the other has done remarkably well. Near the Weeping Ash was planted some time later (about 1925) a specimen of *Populus trichocarpa*, and being a male tree its crimson catkins give colour to the garden in early spring to be followed by unfolding leaves, filling the air with the scent of balsam.

The outer garden at the time of the Duke's death must have resembled many of the London gardens of that period—an irregular, though sometimes pleasing grouping of shrubs and trees on grass. But as so frequently happens the trees had been allowed to grow large and the shrubs unwieldy, so that thinning out and drastic cutting back were necessary. Superfluous shrubs having been removed, new turf was laid down and a more formal arrangement introduced. At the same time borders were formed against the eastern and western walls. The Kew Records show that most of these alterations were carried out in the autumn of 1907 and spring of 1908. The old wooden door leading into the main Gardens was removed and new entrances with iron gates were made, one at the south-east corner

\* The extension is brickwork with a stucco veneer. It is easily recognised since unlike the sandstone of the wall itself the stucco does not easily become green with "moss."

and the other at the south-west corner. The gates were swung from brick piers\* with stone copings, an iron panel over them bearing the inscription "E.R.VII."

Except for the shortening at each end, and the addition of new bushes where necessary, the Lilac border was left intact. The path in front of the border was done away with. The two old Irish Yews were left in position, but owing to the necessity of shortening the border to allow of a new approach to the eastern gate, the Yew at that end of the border now finds itself isolated from the Lilacs and amongst Lilies and Rhododendrons. A new Yew was planted to balance the one at the west end, but this was a specimen of the Common Yew and not the fastigate Irish variety.

The formal lawn thus created was at first laid out as a herb garden, consisting of numerous small beds with a single large one planted with Lavender in the centre. Some ten years later the herbs were removed to the inner garden, and an arrangement more in keeping with the past was adopted. The central position was assigned to a specimen of the recently raised *Magnolia Veitchii*, a remarkable hybrid between the pure white *M. denudata* and the deep rose *M. Campbellii*. A few other Magnolias and species of rosaceous trees were also introduced, and eight oblong flower-beds were formed round the edge. Another tree added was *Eucommia ulmoides*, a species noteworthy for being the only gutta-percha producing plant hardy in Britain. The specimen was placed to correspond with the Liquidambar, and it is worth recording that it was raised from a cutting taken from the original tree sent to Kew from France soon after its introduction into Europe from China. Like others at Kew it is a male tree, and its remarkable, simple, staminate flowers are produced in late spring.

Special care was taken of the two Rumpenheim Lilacs. At the desire of H.M. Queen Mary, who as Princess of Wales took great interest in the reconstruction of the garden, the smaller one was sent to Frogmore in 1905 and the other was retained at Kew and moved in December, 1907, to the east side of the Palace lawn (*Kew Bulletin*, 1908, p. 82). The year previous to their transfer the roots of both specimens were "boxed" (i.e., boarded in), a precaution which doubtless accounts for their successful removal. These two Lilacs are of interest to the gardener in that they possess a single trunk devoid of suckers (often a great source of annoyance), and show the twisted bark remarkably well. The Kew specimen had in 1941 a girth of three feet; it flowers freely, the flowers being of a good deep purple colour.† The specimen of the English Hawthorn (*Crataegus monogyna*) and of the Common Oak (*Quercus robur*), which were planted in December, 1911, to commemorate the Coronation cele-

\* The piers were of modern red brick and out of keeping with the bricks of the wall. Some years later the late Director arranged with the Office of Works to have them pulled down and replaced by piers of suitable brick. At the same time the western gate was re-erected about eight feet further to the east so as to bring it exactly opposite the path within and the outside path leading from the Orchid Houses was brought into alignment.

† The tree was blown down during the gale of January 31, 1943.



Plate V. The Herb Garden. Cambridge Cottage 1941.

*Photo : Illustrated Sporting & Dramatic News*



brated on June 22 of that year, were placed close to the Rumpenheim Lilac.

Another tree which was moved from the Cottage garden was a specimen plant of the Western Catalpa (*Catalpa speciosa*). This was transferred to the Main Gardens, near the Succulent House, where it has done well. The species—distinguished at all seasons from the dome-shaped *C. bignonioides* by its more erect habit—is seldom grown.

The planting of the borders and the gravelling of the paths in the Cottage garden were undertaken later. White and blue flowered plants of various shades were chosen for the new herbaceous border in front of the western wall, and this "Blue Border," as it came to be called, soon became a popular feature of the public grounds. Against the wall suitable trees and shrubs were planted, amongst which is a specimen of Winter Sweet, *Chimonanthus praecox*.

On the opposite (east) side of the garden a narrow border of shrubs was eventually formed against the wall, and the main border, separated by a path, was overhauled and replanted with dwarf Rhododendrons, *Enkianthus* spp., and a few small trees so as to give shade. Apparently only four of the old trees were left, i.e., the Red Horse-Chestnut, a Sweet Bay, a Holly, and the *Parrotia persica*. At a considerably later date, during the Curatorship of Mr. J. Coutts, these borders were extensively interplanted with Lilies, and later plantings have made this the chief collection of *Lilium* in the Gardens. On the wall itself are some uncommon shrubs, such as *Pileostegia viburnoides*, *Viburnum grandiflorum*, *Garrya Wrightii*, *Schizandra rubriflora*, *Berberidopsis corallina*, and *Buddleia Farreri*.

An innovation was introduced in 1933, when a summer-house, built of the Western Arbor-vitae or Western Red Cedar (*Thuja plicata*), presented by Messrs. Gabriel, Wade and English, was erected in the north-west corner of the outer garden. On either side of the summer-house is a young specimen of *Populus generosa*, the huge leaves of which (characterised by their glandular teeth), turn a bright yellow colour in autumn. Only female trees are known and the catkins therefore are not brightly coloured. *P. generosa* is the most vigorous of all the hybrid Poplars, and both specimens have made strong growth and will soon be too large for their position. It is understood they were planted in error for another species.

The transference of the herb collection, which had previously occupied the site of the water garden opposite Museum II, to the Cambridge Cottage garden was taken in hand in 1903. At first most of the herbs were planted in beds on the outer lawn, and it was not until later that they were moved to their present quarters in the inner garden. Still later, a rearrangement of the beds according to a geometrical pattern was brought about by Sir Arthur Hill. The design adopted resembles one of the enclosures of the garden at Pisa, which was founded in 1544, and is probably the oldest botanical garden in existence\* (see *Kew Bulletin*, 1923, p. 44). The remarkable

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\* A plan of the Pisa Garden and a list of the plants cultivated was published by Michele Angelo Tilli in 1725 (see A. W. Hill, "The History and Functions of Botanical Gardens," *Annals Missouri Botanic Garden*, ii. 186-240, 1915).

sundial in the centre, designed and presented by Professor Sir Charles V. Boys, was erected in 1929, a happy combination of ancient and modern, for the ultra-modern sundial is mounted on one of the stone balusters from old Kew Bridge, which was demolished in 1899 after being in position for 110 years (see Plate V).\*

The border on the north side of this part of the Inner Garden was widened and planted with trees against the wall and with medicinal plants in front. The high bank of earth against the east wall was removed about 1930. The border at the foot was then reformed and further medicinal plants were introduced. In 1936 a number of rare British plants, collected exclusively from British localities and presented to Kew by Mrs. T. J. Foggitt of Thirsk, were added.

Lastly a few alterations were made near the house at the opposite end of the garden. The path leading from the garden door to the Director's office was re-made and placed a little further to the south in September, 1907, and on the right Japanese Crabs, species of *Forsythia*, *Berberis*, *Crataegus* and other flowering trees or shrubs were planted. The walled kitchen-garden became part of the Director's private garden and the entrance from the Cambridge Cottage garden was blocked up. It contained at that time some apple trees and bush fruits, but had become derelict. The last of the apple trees, a "Lord Suffield," has only recently been taken down.

The Cottage garden presents one interesting biological phenomenon, namely, the presence on the south boundary wall of a remarkable series of self-sown trees. According to Mr. W. Dallimore one of these is at least fifty years old, and a specimen was commented on thirty-five years ago by Elwes and Henry in their "Trees of Great Britain and Ireland" (Vol. I, p. 199). To-day, in the short stretch of sixty yards, there are no fewer than nine trees ranging from ten inches to fifteen feet high. Their presence on such a hot dry wall has often been remarked by visitors to the Gardens (see Plate VI).

This wall flora consists of six specimens of Chinese Arbor-vitae (*Thuja orientalis*) of various heights up to fifteen feet, one *Laburnum* five feet, one Pear four feet, one Lilac four feet, and one Austrian Pine four feet—the last being not strictly on the Cottage garden wall but on an extension to the east.

In this memoir we have followed the history of a portion of Kew for close on two hundred years. We have seen how Bute's modest residence and his "parcel of ground" became a celebrated house with a homely yet attractive garden which was as well known as any private garden in the land. That day has passed. But, changes notwithstanding, very much is preserved. The *ensemble* is the same. The greater part of the house with its evergreen Magnolias must look much as it did when the Duchess of Cambridge and Princess Mary used to have tea under the Chestnut and receive their many friends, and the garden, although modified, retains to a large extent the charm and peacefulness of by-gone days.

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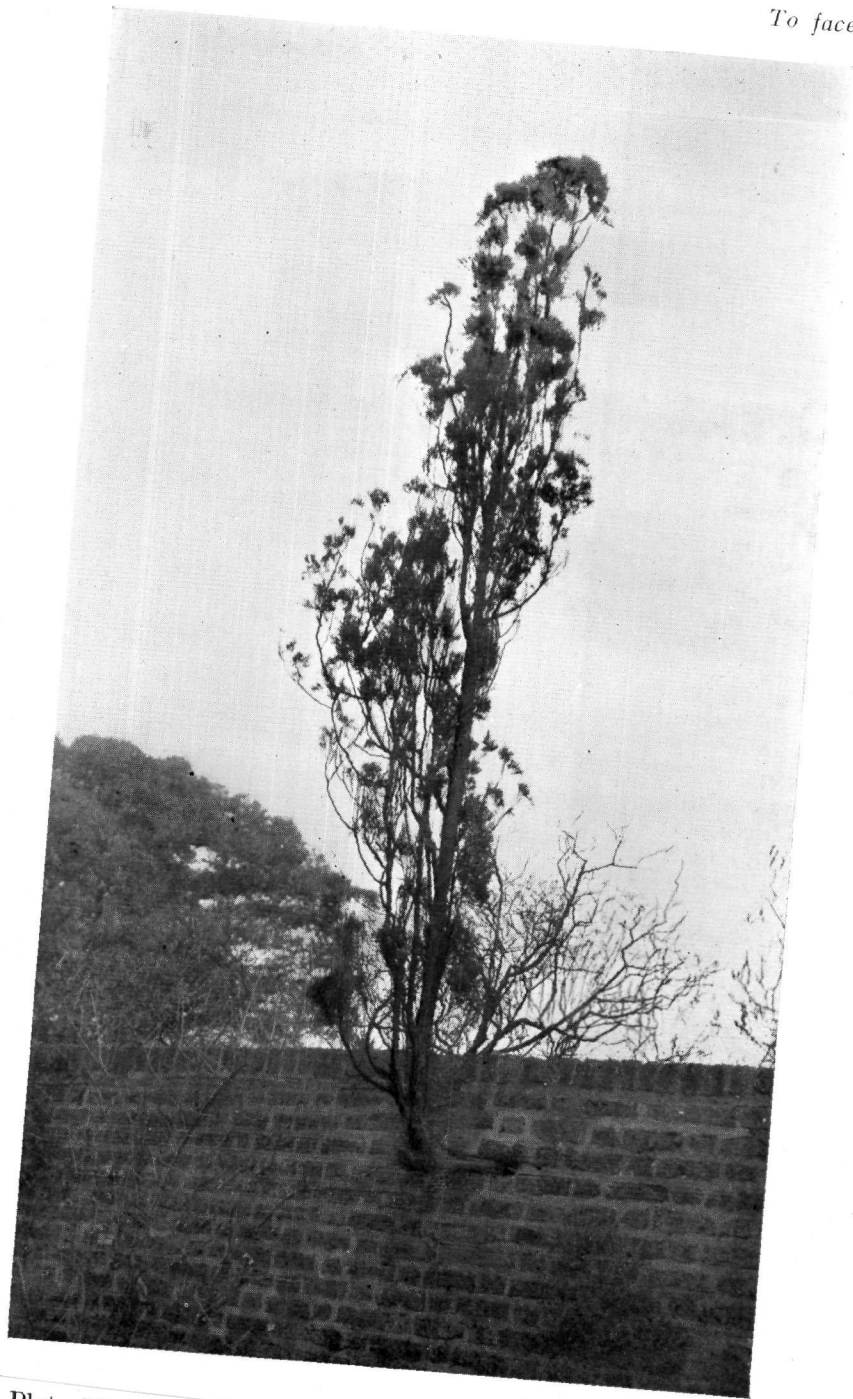
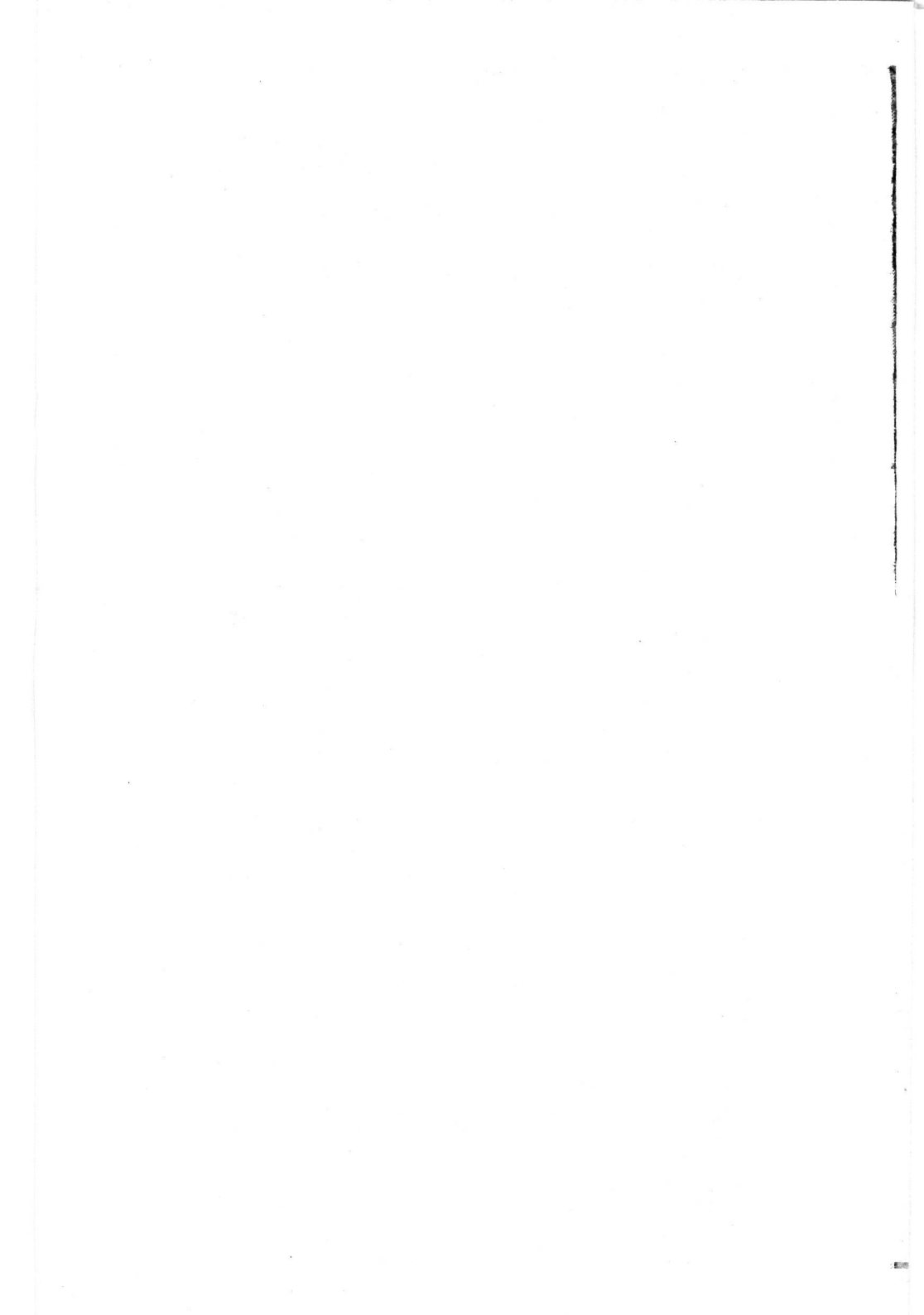


Plate VI. *Thuja occidentalis*. On south wall Cambridge Cottage  
Garden. Dec. 1940.

Photo : G. Atkinson.





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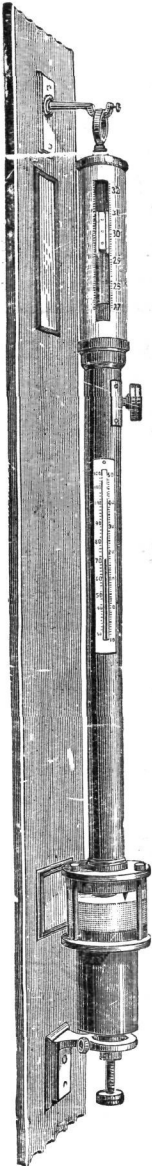
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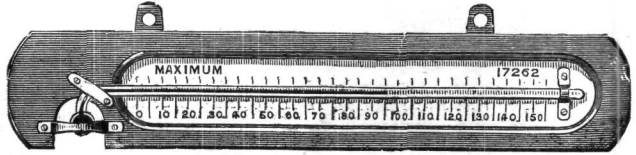
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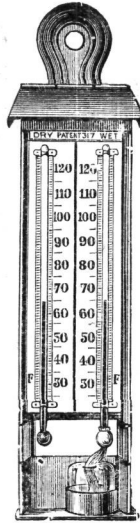
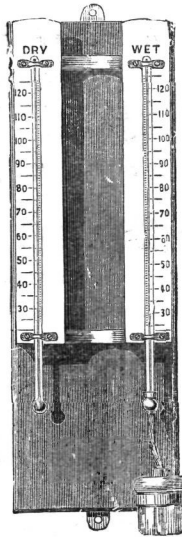


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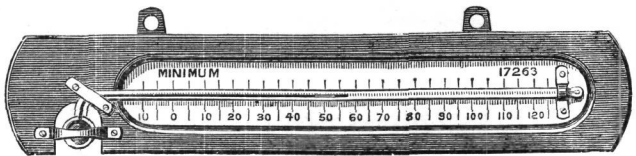
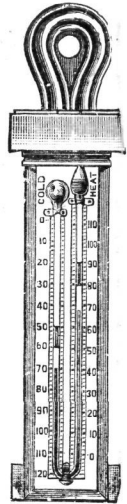
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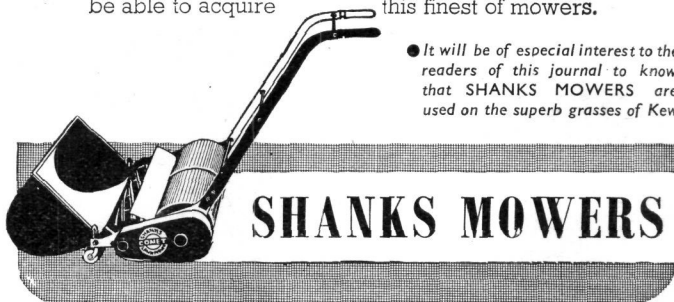
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