

THE JOURNAL OF THE KEW GUILD

Founded in 1892

The Association of members of the Kew staff past and present

Events of 1980

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**Royal Botanic Gardens
Kew**

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ROYAL BOTANIC GARDENS, KEW

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S. Henchie	Kew
J. McCracken	Aylesbury

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A. Armony	Israel
E. J. Cowley	Kew
K. F. R. Pearson	London

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D. R. Owen	Malawi
L. A. Richardson	Australia

Retire 1984

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H. Boddington	Morden
G. Ll. Lucas	Kew
N. Robson	Teddington

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Events Officers: C. Bailes and G. Pattison

Honorary Auditors: T. Harwood, A.R.P.S., and H. Fliegner

Award Scheme Chairman: Professor K. Jones, B.Sc., Ph.D., F.I.Biol., F.L.S.

EDITORIAL

Another year has rushed by, and we retain memories of things achieved and otherwise. As ever, your Committee and Kew Staff have given every assistance to make your Journal more interesting and accurate. Nine members volunteered to index nine past years' Journals, after advice from the Librarian on how to do it! And your President John Norris efficiently collated all the paperwork. To these people I am especially grateful.

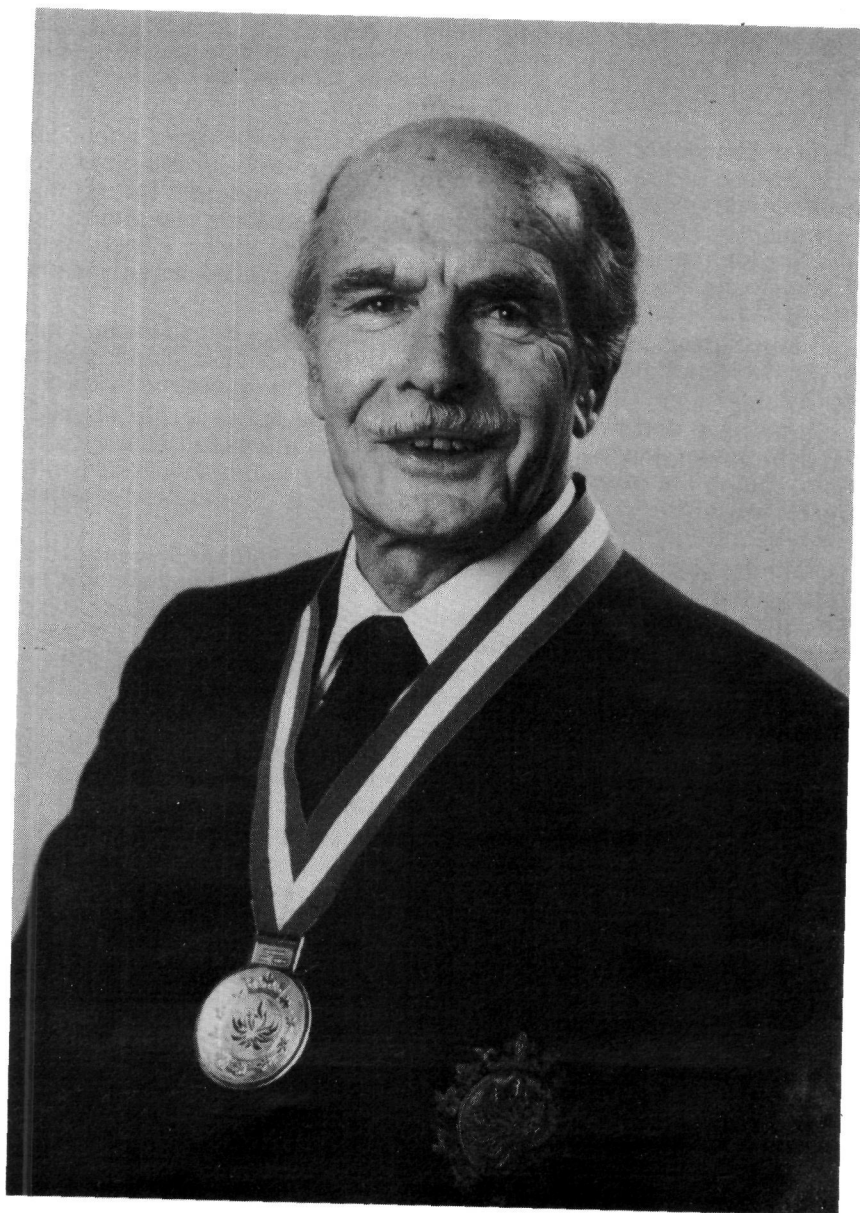
Thanks for support at the AGM! The address list is even more accurate than ever, but there *are* omissions and mistakes which maybe only *you* can correct. The 'Unknown Addresses' list has been streamlined and includes only those life members who's Journals have been returned as address unknown; and future lists will also include names of paid up members who's Journals are similarly returned. No advertising was requested this year, unfortunately. At least we tried, and succeeded to a certain extent to the benefit of the Award Scheme last year.

Once again I must thank our long-suffering Printers for their help with the Journal and assistance in keeping prices almost the same as 1980.

Keep in touch!

Richard C. Ward
Editor

JOHN LEONARD NORRIS
President 1980/81



JOHN LEONARD NORRIS

President 1980/81

Born at Montreal, Canada on 11th July 1914, John Norris was educated at the County and Technical School in Enfield and worked in several horticultural establishments before entering Kew as a student in 1936.

After completing the first year, he went to the State College of Horticulture at Vilvorde in Belgium. There he worked as a student-foreman supervising the practical work of the students. During the morning sessions when the students received their classwork, he studied for the Vilvorde Diploma. This included giving a lecture in French to the College staff and students. The subject he chose was the genus *Meconopsis*.

Sadly the tragic events in Europe which led to the British declaration of war on September 3rd 1939, forced him to return to England. After a brief stay at Kew, he joined the Royal Navy in the gunnery division.

During five and a half years afloat, he saw action in the Atlantic, Mediterranean, Indian and Pacific Oceans; made seven passages to Caen during the invasion at Normandy taking Canadian troops with their tanks and guns, and in 1945 was in Admiral Mountbatten's Pacific Fleet bound for the invasion of Japan.

With the capitulation of Japan on September 2nd 1945, most of the Fleet sailed to Australia and ashore at a Naval Camp near Sydney, he was given his first horticultural task for nearly six years; to layout and construct a garden to the house of the Naval Commodore in charge. Going off to Epping near Sydney for nursery stock, he met a pre-war Kew colleague. His father was the owner of the nursery at Epping called Hazlewood & Son.

During the war years, he met Tom Everett at the New York Botanic Garden, the Belgian Kew student Armand Van Bellingham at Lisbon in Portugal and others at Melbourne and Cape Town.

Returning to England and back to Kew, he stayed for a few months before joining the Commonwealth War Graves Commission in June 1946, with a posting to Belgium.

He remained with the Commission until his retirement in February 1979 and during 33 years service, he worked in Belgium, Holland, France, England, Italy, Lebanon, Syria, Iraq and Turkey.

John was responsible for the layout and horticultural construction of such notable war cemeteries as Brussels, Esquelmes, Geel, Heverlee, Hotton, Kasterlee, Leopoldsburg, and Schoonselhof in Belgium; the cemeteries of Calais Canadian, Boulogne, Pihen les Guines, Lestrum Paradis and Lille in France and he was Area Superintendent in charge of the construction of the Dunkirk Memorial to the Missing. At the unveiling ceremony, he was presented to Her Majesty, The Queen Mother.

During his tour in France he organised the first post war Commission Flower Show reunion and in the garden of his home at Estaires, John had the first crown green bowling green laid out.

The next tour back in England saw him as Area Superintendent in charge of the construction of the Brookwood Memorial to the Missing. Her Majesty the Queen and almost the entire Royal Family assembled for the inauguration of this memorial in 1958.

Also completed was the new Italian Cemetery and the Royal Hospital Chelsea Pensioners' Cemetery at Brookwood and the reconstruction of the Brookwood, Cambridge and Shorncliffe War Cemeteries.

Working in close co-operation with the Director of Horticulture, trials were carried out at Brookwood to allow the greater use of mechanical equipment. This included the introduction of mechanical grass edge trimmers for the many thousands of miles of lawn edges in cemeteries scattered throughout the world, hedge cutters, leaf sweepers, distributors, turf lifters, rotary cultivators and gang mowers. John made all the scale drawings for the modifications to motor mowers for gang mowing.

After tours of duty in Italy, Lebanon, Syria and Iraq, John worked in the Establishments Division at Head Office in London and later at Maidenhead. Here he carried out the re-organisation of the Supplies Section, Transport, Stores and Insurance, including a revaluation of the world-wide insurance policies and negotiations for new policies for traffic and air travel insurance.

On his last tour of duty of four years in Turkey, John was able to make the first official visit for many years to the Kephalos War Cemetery at Imbros Island, in a restricted Turkish war zone.

In 1977, John was elected an Associate of Honour by the Royal Horticultural Society.

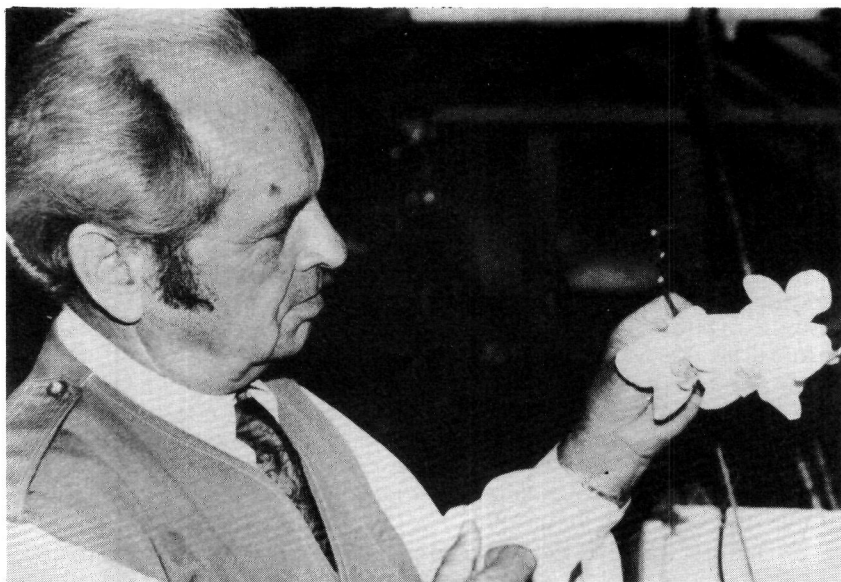
BRIAN L. PERKINS

President Elect 1980/81

After retiring from the Nairobi City Council in 1967, where I had followed Mr. H. P. Greensmith as Parks Superintendent in early 1964, I came to Mombasa with the avowed intention of enjoying the quiet life, enjoying my orchid collection, with perhaps dabbling in a little hybridisation as an interesting sideline. This pipedream failed to materialise due to the unexpected devaluation of the pound, coupled with galloping inflation to which my pension had not been tied.

So, back to work with little time for my orchids and none at all for breeding. Having set up as a consultant I have been since involved in well over a 100 projects mainly on the coast and up-country in Nairobi, Nakuru, Nyeri and Kisumu also in Serengeti, Lake Manyara and Dar-es-Salaam in Tanzania and Mahe Beach Hotel in the Seychelles.

BRIAN L. PERKINS
President Elect 1980/81



I have, and still do so, enjoy developing these projects enormously despite the ever present frustration of knowing that by far the greater number will 'go back to bush' or, at best, receive unskilled maintenance. There are few manicured gardens in East Africa as in Europe, hardly surprising in view of the lack of any real training ground here. But a small ray of real hope exists in the increasing interest being displayed in their gardens by some of the wealthier Africans. In support of this statement one of my most successful Nairobi gardens is African owned.

My present schedule leaves me little time for relaxation. On Mombasa island three Kenya Ports Authority projects, one extensive; an exciting new major beach hotel, at Diani — south of the island, including some fantastic coral rock formations but little soil, only rock barely supporting a little scraggy exhausted scrub all but defeated in an effort to survive; the near completion of a sizeable layout surrounding a complex of office blocks and apartments in Nairobi, known as Norfolk Towers (incidentally across the way from the recently bombed Norfolk Hotel) and the largest of all, the gardens at the International Laboratory for Research on Animal Diseases, admittedly largely lawns, at Kabete on the outskirts of the city.

ANNUAL GENERAL MEETING OF THE KEW GUILD

by **Martin J. S. Sands**, Hon. Asst. Secretary

On Saturday, 13th September 1980, 41 members assembled in the Jodrell Lecture Theatre at 2.30 p.m. for the Annual General Meeting. The President, Mr. S. W. Rawlings, took the Chair, accompanied on the platform by the Hon. Secretary, Dr. M. Y. Stant, and the Hon. Asst. Secretary, Mr. M. J. S. Sands.

The President first welcomed everyone to the meeting and then all members stood in tribute to Kewites who had died since the last Annual General Meeting: E. Baker (1920), G. E. Brown (1977) former Asst. Curator and past Vice-President, C. A. A. Duncan (1953), F. Flippance (1915) past President, W. G. Fry (1926), Dr. P. J. Greenway (1925) past President, Dr. C. E. Hubbard (1965) former Deputy Director and past President, R. F. Williams (1937), L. de Wolf (1938) and Mrs. H. P. Wood (1919). Because of recent notification of death, Mrs. J. Tuck (1969) who died in 1978, was also remembered.

Apologies for absence were received from the following members: C. L. Bayliss, R. I. Beyer, C. E. Cherry, J. R. Craig, M. R. Cudd, H. Flower, J. L. Gilbert, J. S. L. Gilmour, J. Griffin, D. Hardman, A. Hart, C. Hilton, R. Hughes, G. S. Joy, B. E. Lowe, G. Ll. Lucas, C. J. Mitchelmore, E. C. Neighbour, W. Nelmes, C. G. W. Poulter, R. H. Rule, J. R. Sealy, Mrs. J. R. Sealy, C. R. Stock and Mrs. E. M. Wakefield.

The *Minutes* of the A.G.M. of 1979 were then adopted and there were *no matters arising*.

The Committee then reported as follows:

In the absence of the Hon. Treasurer, the Hon. Asst. Secretary, Mr. M. J. S. Sands, presented the *accounts for the year ended 31st December, 1979*, printed in the Journal. They were reported to be sound with a total excess of income over expenditure of £1,009.43, due notably to the sale of the Wakehurst booklet yielding £841.60 and the high interest rates paid by the bank and the Charities Official Investment Fund (over 10%). The sale of Guild Christmas cards had so far resulted in a 50% profit, over half of the 5,000 stock, (produced at £128.84) having been sold at 7p each. Referring to the *accounts for the half-year to 30th June 1980*, the general deposit account was indicated to be standing at £2,550.03, the current account at £433.84 and the Award Scheme account at £1,066.51, in addition to the sum invested in the separate Charities Official Fund account. Major expenses for the half-year were reported to be £88.98 for an addressing machine, £1,416 for the Journal, £146 for postage and £84 for Students' Prizes. It was noted that if interest rates remained high, the Guild would be able to offer over £300 in Award Scheme prize money in 1981. Appreciation for the continuing efficient work of the Treasurer was expressed and Mr. T. A. Harwood and Dr. S. J. Owens were then thanked for auditing the accounts.

In the absence of data regarding the *sales of ties and badges*, the Hon. Membership Treasurer, Miss Chabert, referring to *Membership*

reported that 597 paid-up members were recorded in 1979, with an income from annual subscriptions and arrears of £767.58. In the half-year to 30th June 1980, 558 members had paid their subscriptions. Increase in the Annual Subscription was to be considered later in the meeting, and the Hon. Editor Mr. R. C. Ward, reporting on the *Journal of the Kew Guild*, supported the view that more than £2 per member would be needed in the next year to be certain of covering the cost of the Journal. He went on to indicate that there had been a general improvement in the receipt of copy for inclusion and he again appealed for help from the membership to complete the Journal on time. He concluded by thanking the Chief Librarian, Miss FitzGerald, for her help in advising the members who had volunteered to prepare the 10 year volume index which would appear with the 1980 journal. The Chairman then thanked Mr. Ward for once again editing an excellent journal covering the events of 1979.

It was reported that the *Annual Dinner* had again been very successful despite a slight loss. For 1981, an alternative venue and the style of function were then discussed, a buffet at the Chelsea Physic Garden, for example, being considered, and, if the Dinner was to continue at Imperial College, changed seating for different courses or an interval were suggested as improvements to allow members a greater opportunity to meet one another. However, in conclusion, it was generally agreed that the Dinner should continue as before, with the possibility of an additional function in the year to be further considered by the Committee.

The President, Mr. S. W. Rawlings, had represented the Guild at the *Students' Prize Day*, which he reported had been a very memorable occasion followed by tea in the Museum opposite the Palm House. After addressing the audience, Sir Brian Hayes, K.C.B., the Permanent Secretary of the Ministry of Agriculture, Fisheries and Food, had presented the prizes, and Mr. Rawlings spoke briefly after the ceremony, encouraging membership of the Guild and drawing attention to the steadily increasing Award Scheme Fund.

The President then thanked the officers of the Guild as well as the *retiring members of the Committee*: Messrs. M. Clift, J. S. Keesing, P. McKenzie (Student representative), M. Norton and M. Truman Fossum and Dr. S. J. Owens as Auditor. Mr. B. E. Humphrey and Mr. S. W. Rawlings also completed their terms of office as Vice-President and President respectively.

Professor K. Jones, as Chairman of the *Award Scheme* sub-committee reported that the meetings had been well attended and that some fund-raising had taken place with a raffle at the Dinner yielding £43.20 and the function after the A.G.M. in 1979, a profit of £15. A lecture by Mr. A. D. Schilling (Wakehurst Place) was to take place to raise funds during the evening following the A.G.M. Continuing appeals had resulted in receipt of a further £120 in donations. Distribution earlier in the year of award application forms had led to five Awards, totalling £240, being granted in July 1980. The application by the Award Scheme to have

Guild members man a garden open to the public for a day had not so far been granted, but it was agreed that any similar possibility for fund-raising using membership contacts, should continue to be pursued. Professor Jones concluded by thanking members of the sub-committee and particularly Mr. M. Clift for his work as Secretary. In discussion it was noted that the Guild still possessed Empire Exhibition posters, acquired as a gift, and it was agreed that if possible, they should be sold to a museum in support of the Award Scheme.

Election of Officers, Members of Committee and Auditor:

Mr. J. L. Norris, being the Committee's nomination, was elected as President for the year 1980-81. On taking the Chair, he spoke briefly to the meeting, indicating that apart from the personal pleasure of becoming President, it was also an honour for the War Graves Commission to be represented for the first time. On behalf of the Guild, he then expressed thanks and appreciation to Mr. Rawlings, the Retiring President for his year of office. The other Officers, four new Committee Members and Auditor were elected *en bloc*, their names appearing at the beginning of this Journal.

After a brief discussion, the Committee's recommendation, made at a meeting on 11th March 1980, to raise the *Annual Subscriptions* to £3 (£1.50 for students) per annum from 1st January 1981, was unanimously agreed. It was further agreed that if Direct Debiting should prove to be feasible for the Guild, the Committee should be authorised to introduce the procedure.

A second Committee recommendation concerning the *Address List of Old Kewites* was introduced for consideration. This recommendation that "in future the list published in the Journal should include names and addresses of all known Old Kewites making a return to the pre 1978 tradition", was countered by an itemised and reasoned argument, (copies circulated to members present and retained on file) presented by the Editor, Mr. R. C. Ward. After discussion, it was proposed by Professor Jones, seconded by Mr. Pemberton and agreed that the recommendation be rejected and the Address List remain restricted to members of the Guild.

There being no *other business*, Miss A. Chabert, retiring as Hon. Membership Treasurer, was then especially thanked for her hard work and the thanks expressed earlier by Mr. Norris to Mr. Rawlings as retiring President were again supported unanimously.

The meeting ended at 4.20 p.m. and members then walked to Museum No. 1 opposite the Palm House to join relatives for tea.

REPORT ON THE 1980 ANNUAL DINNER

Report by Graham Pattison

The 1980 Dinner was held on Wednesday 21st May at Imperial College Refectory, South Kensington, when 173 members and guests attended, this included 32 students which must be a record.

Due mainly to the efforts of student representative, Les Thornton, who has since retired to the Bahamas! My thanks for his help.

The toast to our President, Mr. S. W. Rawlings, was given by Major C. Cook, a contemporary of our President. Between the two of them they must have given the present students many ideas of practical jokes that used to be played during their time as students.

Mr. A. Kirkham, Kew student, proposed the toast to our Guest and the reply was given by Mr. C. Notcutt, Managing Director of Notcutts Nurseries, Woodbridge, Suffolk.

Our Toast Master for the evening was again our Editor, Mr. Richard Ward with our main overseas guests as: N. Lothian (Australia 1940), W. Walker (Tasmania 1937), J. Winter (South Africa 1964), G. Briscoe (South Africa 1961).

I should like to take this opportunity, as this was my last year as Dinner Organiser, to thank everybody who has helped make the dinners a success, and wish the best to C. Bailes who has taken over the job.

Note: 1982 Dinner will be held on 26th May, 1982 (provisionally).

REPORT ON SALES OF EMBLEMS ETC.

By Graham Pattison

Five ties, three scarves and one blazor badge were sold in 1980.

Scarves are still £5 and blazor badges £4. Ties: these we have sold out of after five years and the new ones are in fact £3.50 each (3½" blade x 54" long).

STOP PRESS: Kew Guild Dress Badges. Your President suggested at a past Committee that a dress badge should be produced. These are now available at a cost of £1 to members from Graham Pattison, RBG Kew, Richmond, Surrey. Add postage please.

KEW GUILD AWARD SCHEME REPORT

By Professor K. Jones (Chairman) and K. Pearson (Secretary)

The Committee was pleased to receive an increased number of applications for Awards in 1980 which may have been stimulated by our new combined publicity leaflet and application form. Awards were made to four student gardeners — Miss S. Tasker and Messrs. T. Casey, N. Huck and T. Rees to assist them on Student Exchange visits and to Mr. A. Henderson, a former student who needed help to take a course in taxonomy at Royal Holloway College. All awardees have been asked for

short accounts of the way in which they used the Award so that details can be used for publication in this Journal. Although the committee was glad to be able to make the above awards it still feels that a more diverse and adventurous range of projects of benefit to individuals and to horticulture generally could be supported by the Award Scheme.

The funds of the Award Scheme were improved during the year by a number of donations from Guild members including £100 from Mr. Brian Pitcher. A similar amount was received from the Kew Students Union as part of the proceeds from their annual summer fête. The committee wishes to express its sincere thanks to all those who have contributed either larger or smaller sums to the Award Scheme.

The coffers were also swelled by the Raffle held at the Annual Dinner. We hope that Guild members did not mind being accosted by ticket sellers on that festive occasion but they may be pleased to know that this raised a total of £43.20.

Following the A.G.M. of the Guild the Award Scheme Committee arranged a lecture given by Tony Schilling entitled "The flowers and forests of the Annapurna Himalaya". Everyone was delighted by this truly inspiring talk with its outstanding slides and we are most grateful to Tony for coming to entertain us. The lecture was followed by a sumptuous buffet supper in the Jodrell Laboratory Common Room and this too proved to be a resounding success from which a small but satisfying profit was realised.

Some say this is the work of the Great Bard himself, some disagree strongly, but one thing is beyond doubt it is an appeal from the Kew Guild Award Scheme.

Dear Kewite have you left your sense so far behind
 We wait to hear from you.
 Is your profession so bestarved of fertile naked earth
 That you may stand inert.
 Pray let us see your seed at least,
 Some proposal to further our great cause.
 If we, who know how tilth with proper germ and weather can produce
 a fruit,
 Do nought, what hope for other men.
 Such Award have we in coffer small, though with some generous
 blessing
 It may grow so great so as to oertop us all,
 Which can be yours to do you will.
 The more requests, the finer drips the distillate of our regard.
 But we would rather have a fuller flask so if you cannot find the will to
 send us notice of your will to drink
 Then send some wine for those who thirst.
 If you are a high and mighty man then praise the god of Effort,
 Fortune, Power
 And release from your safe hold some fragments of your loot.

If on the milder slopes you sit then take the olive from this verse's
 beak
 And send the bird home with a crop of gold for us.
 We will use it well.
 Only passionate lovers need not heed this call
 Though now I think that if you hear it you *must* subscribe
 For such besotted brains as Lovers be, hear nought but what they
 love.
 Hear this and know your love is false. Subscribe.
 But most of us, like most of you, in quieter suburbs grow
 And will support initiative if pressed.
 So if a lonely pound it be
 Or larger paper of reward, we say Full Thanks.
 Beyond your fund of currency we do request you give some effort to
 the cause
 Which lets us help you all our fellow men and womenfolk of Kew.
 (actually it is the work of Graham Burgess)

STUDENT EXCHANGE TO LEIDEN UNIVERSITY BOTANIC GARDEN

1st to 20th September, 1980

By Soo Tasker

The city of Leiden is quite small, built inside a protective moat or singel, and dissected by many canals. It is a University town, rather like Oxford, full of many old and beautiful buildings most of which belong to the University.

The Botanic Garden of the University, the Hortus Botanicus, was founded on April 13th 1587 making it one of the oldest in Europe. It was laid out by Clusius (Charles de l'Ecluse) and some of his original plantings still remain. Since this time the garden has been enlarged several times, it now covers approximately 30 acres.

There are 19 glasshouses, mostly built in the 1930s, including a Victorian water-lily house and a Phytotron for the propagation and cultivation of tropical ferns. There is also an Orangery, which is still used as such; temperate plants are housed in it in the winter and moved outside in the summer.

The garden is composed of landscaped arboretum (the moat of the city forms the boundary on one side) with a rock garden, herb garden, systematic beds, rosarium, lily-pond, and the 'voortuin' the decorative entrance area. The Clusius garden is a replica of the original botanic garden, with beds of herbs and bulbs, paths of crushed cockle shells and a collection of bees in wicker bee-hives.

On my arrival in Leiden I was met by Mr. Bruinsma, the Curator, and his assistant, Miss Teune, with kindness befitting a visiting dignitary

rather than a humble student. I stayed in the University Observatory, a picturesque domed building, and was able to have any meals I wanted at the nearby student 'mensa' or restaurant; everything was most comfortable and convenient.

During my first week I worked in the Clusius garden; in the second week I worked in the Seed Department, collecting and cleaning seeds, and in the third week I worked in the glasshouses. Although only a few of the 15 staff spoke English we got along very well, they were all extremely pleasant and anxious that I should have interesting work to do.

I spent a day at the Rijksherbarium; founded in 1829 and mostly concerned with the Malaysian Flora. There are 25 botanists and just over three million dried specimens; also a good collection of old books, and seed catalogues since the early 1800s. The Botanic Garden Archives hold a large collection of photographs and slides, as well as the plant records system.

During my stay at Leiden Mr. Bruinsma took me to visit the Botanic Gardens of Utrecht and the Vrije University of Amsterdam, and to the flower market and experimental station at Aalsmeer. At the weekends I visited Boskoop, Groningen Botanic Garden, Nijmegen, Delft, Rotterdam, Breda and Middelburg.

In all it was a most interesting and successful exchange; I should like to thank Mr. Pemberton and Mr. Simmons for arranging it for me, and the Kew Guild for helping to finance my visit.

STUDENT VISIT TO "LES CÈDRES"

By Neil Huck

During the summer of 1980, I went on a working visit to Le Jardin Botanique "Les Cèdres" in the south of France. My visit was arranged through Kew as part of the student exchange scheme.

The plant collection at "Les Cèdres" was founded and is still maintained by the Marnier La Postolle family. **Bromeliads** and **Cactii** form the main part of this vast and world renowned collection. The cultivation of these groups of plants, many of them from South America, has proved very successful in the mediterranean climate at "Les Cèdres".

I was able to botanise in the nearby Maritime Alps during my visit. There I found many interesting plants including **Lilium pomponium**, **Gentiana lutea** and various **Allium** sp. Situated high on the rocks above nearby Monte-Carlo is Le Jardin Exotique. The large collection of **Cactii** there thrive outside all the year round. I was interested to see some very large specimens of **Neobuxbaumia** and **Echinocactus grusonii**.

When my three weeks at 'Les Cèdres' ended, I toured Europe with the aid of a grant awarded to me by the Kew Guild. I was able to visit

Lago Maggiore on the Swiss Italian border. There I saw the famous gardens at Villa Taranto. On the tiny island of Brissago, I visited a botanic garden set up by the Swiss government containing many exotic plants being grown as an acclimatisation experiment. Then I headed north through the Swiss Alps where I found spring flowers still blooming in the higher mountain regions in late August. While in Switzerland, I also took the opportunity to visit the excellent Cactus gardens in Zürich.

I found my visit extremely useful and enjoyable. The Guild Award made it possible for me to tour and see more than I would otherwise have been able to.

For members interest current details of the Kew course are reproduced here prior to prizegiving lists.

SCHOOL OF HORTICULTURE LIVING COLLECTIONS DIVISION

GENERAL

The Royal Botanic Gardens at Kew were founded in 1759 by Princess Augusta and were originally about nine acres (3.6 hectares). Today they occupy over 300 (120 hectares), with over five acres (2 hectares) devoted to the growing of plants under glass and together with a satellite garden at Wakehurst Place, Sussex, they form a most comprehensive collection of plant material in unique surroundings. There have been horticultural students employed in maintaining the collections of plants since the time of Sir William Hooker (Director of Kew from 1841-1865) who provided a library for the use of young gardeners and the tradition has continued and expanded.

The aim of the course is to provide students with an opportunity to study and improve their understanding of horticultural, scientific and managerial subjects whilst gaining practical experience and responsibility. The course thus gives an excellent grounding for posts of responsibility in the field of amenity horticulture.

COURSE DETAILS

The course is of three years duration with the lectures given in three trimesters (three month periods) of instruction in the lecture rooms, laboratories etc. with the remainder of the time given to guided practical work within the Gardens. It has a similarity to both sandwich courses and training schemes embodying the secondment principle. The students receive a subsistence allowance which is sufficient to cover the cost of accommodation, clothing, text books etc.

THE KEW DIPLOMA

Director: Professor J. P. M. Brenan, M.A., B.Sc., F.L.S., V.M.H., F.I.Biol.

Curator: J. B. Simmons, N.D.H., M.I.Biol.

Supervisor of Studies: L. A. Pemberton, N.D.H., N.D. Arb., M.I.Biol.

FOUNDATION TRIMESTER

STRUCTURAL BOTANY A study of the external and internal structure of vascular plants including their roots, shoots, leaves, flowers and fruits.

Lecturer: D. F. Cutler
B.Sc., Ph.D.,
F.L.S., D.I.C.

Examiner: C. Clark, Ph.D.
Botany Dept.,
British Museum.

GENETICS An introduction to genetics and cytology with reference to the breeding, selection and improvement of garden and horticultural pot plants.

Lecturers: P. H. Brandham,
B.Sc., Ph.D.
S. H. Owens, Ph.D.

Examiner: L. Watts, Ph.D.,
Senior Plant Breeder,
Messrs. Unilever Ltd.

PLANT PHYSIOLOGY An elementary study of the growth and development of plants and the physiological processes involved.

Lecturers: T. Reynolds, B.Sc.,
M.Sc., D.I.C., A.R.C.S.
L. Fellows, Ph.D.
and others

Examiner: P. Newton, B.Sc., Ph.D.
Manchester University

CROP PROTECTION

Plant Pathology. Causes of plant diseases, their classification and development. Plant disease management and aspects of plant pathology relative to the introduction of plants from the wild, plant quarantine and the international exchange of plant material.

Horticultural Entomology. An introduction to pest morphology, structure and classification, with examples of control methods, materials and programmes including biological control.

Lecturers: A. Bailey, B.Sc.,
Dip. Trop.
Agri. Sci. Cantab.
B. Southgate,
M.I.Biol., M.Sc.

Examiners: J. Dickens, Ph.D.
Plant Pathology Lab.
K. Harris, M.Sc.
Commonwealth
Entomology Inst.
J. B. Sutton, N.D.H., B.Sc.
Senior Lecturer,
Pershore College.

SYSTEMATIC BOTANY The classification and identification of plants and the principles governing their naming, paying special attention to families of horticultural and economic importance.

Lecturers: P. Cribb, B.Sc., Ph.D.
C. Grey-Wilson,
B.Sc., Ph.D.
G. Bromley, B.Sc.

Examiner: C. Brickell, B.Sc., F.L.S.,
V.M.H.
Director RHS Gardens
Wisley

PLANT PROPAGATION A survey of the various methods of propagation; by seeds, cuttings, layering, budding, grafting and other kinds of vegetative multiplication. The types of structures used including construction materials heating and management.

Lecturers: L. A. Pemberton,
N.D.H., N.D. Arb.,
M.I.Biol.
A. Chabert, B.Sc.

Examiner: A. D. Webster,
Dip. Hort.(Kew), B.Sc.
SS) East Malling
Research Station.

SPRING TRIMESTER

LANDSCAPE DESIGN AND CONSTRUCTION I The principles of garden, park and estate design, preparation of plans, the construction of horticultural features; the use of drawing materials and instruments and studio work on garden design studies, and preparation of planting plans and specifications. History of Garden Design.

Lecturers: J. Medhurst, A.I.L.A. Examiner: P. Thoday, N.D.H., M.Sc.
Landscape Architect University of Bath
GLC
A. Blanc, F.R.I.B.A.

MANAGEMENT I The administration of parks and gardens, study of organisation, the supervisor's rôle, planning of work, training, human relations, personal aspects, industrial relations, legal aspects, work study including methods study, work measurement etc., local government finance, costing, budgetary control and communications.

Lecturers: Staff from Examiner: N.E.B.S.S. Examination
Management Group External Assessor —
of West London G. Oswick (British Leyland
Institute of Higher Personnel Manager)
Education

LAND SURVEY Existing survey information; elementary methods of surveying, including levelling and calculation of areas and volumes; equipment and instruments used and practical experience of their uses.

Lecturer: G. J. Smith, B.Sc. Examiner: G. Flint, A.R.I.C.S.,
Hons. Eng., Dip. Eng., Nellist Blundell & Flint,
M.C.S.I. Ealing.
Slough Polytechnic.

PLANT ECOLOGY A study of the components of the world's major vegetation types and their inter-relationships including the effects of man (pollution, reclamation and conservation).

Lecturer: G. P. Lewis, B.Sc. Examiner: P. F. Hunt, M.Sc., M.I.Biol.
Senior Tutor, School of
Architecture, Thames
Polytechnic.

SOIL TECHNOLOGY An outline of elementary chemistry and physics in relation to horticulture with a special study of soils, manures, fertilisers and their actions.

Lecturer: I. Turner, B.Sc.,
M.Phil., Ph.D.,
M.R.I.C., C.Chem.
Head of Chemistry
Dept., West London
Institute of Higher
Education.

Examiner: C. R. Adams, B.Sc. (Agric),
M.I.Biol.,
Head of Science Dept.,
College of Agriculture &
Horticulture,
Oaklands.

SUMMER TRIMESTER

LANDSCAPE DESIGN AND CONSTRUCTION II

Lecturers: J. Medhurst, A.I.L.A. Examiner: P. Thoday, N.D.H., M.Sc.
Landscape Architect, University of Bath.
GLC.
A. Blanc, F.R.I.B.A.

MANAGEMENT II

Lecturers: Staff of Management Examiner: G. Oswick,
Group of West (British Leyland Personnel
London Institute of Manager)
Higher Education

and RECREATION. The many facets of recreation, passive and active (i.e. sport) which are covered by outside specialists and lectures with visits to recreational centres.

ARBORICULTURE A study of selection, cultivation, propagation, pruning and management of trees and shrubs for gardens, parks, roadsides, shelter belts and hedges.

Lecturers: M. Cudd, Examiner: J. Whitehead,
Dip. Hort.(Kew), Dip. Hort.(Kew), N.D. Arb.
N.D. Arb., Senior Lecturer,
Adviser GLC. Merrist Wood Agricultural
L. A. Pemberton, College.
N.D.H., N.D. Arb., M.I.Biol.

AMENITY HORTICULTURE

Modern techniques and applications — the selection and production, use and handling of ornamental plants in a wide range of amenity areas and including details of grass culture.

Lecturers: L. A. Pemberton, Examiner: J. Marshall, N.D.H.,
N.D.H., N.D. Arb., National Trust Gardens
M.I.Biol., Advisor.
R. Palin,
Director,
Suttons Seeds.
G. Warwick,
Turf Advisor to GLC (ret'd)

HORTICULTURAL MACHINERY

To give an insight into the management of machinery, together with an examination of the main types relevant to Amenity Horticulture.

Lecturer: R. Kidd, B.Sc., M.Sc., Examiner: W. R. Butterworth, B.Sc.
C.Eng.,
Head of Machinery Dept., Merrist Wood.

ESSENTIAL ASPECTS

VEGETABLE PLOT Students maintain, within their own time, a vegetable plot upon which they have to grow a prescribed range of vegetables according to their own cropping plan.

PLANT IDENTIFICATION TESTS These are held twice a month throughout the year, with specimens included from all parts of the Living Collections.

WEED COLLECTION Students make a collection from a specialised habitat.

In all subjects there are additional specialist lecturers who give one or two lectures within their field of work.

PRACTICAL TRAINING

- List of Sections:
- Herbaceous** — Deputy Curator (Kew) — R. I. Beyer
hardy herbaceous plants including propagation and bedding
Assistant Curator — B. Halliwell, N.D.H.
 - Arboretum** — hardy woody plants
Assistant Curator — C. M. Erskine
 - Temperate** — tender woody plants including economic plants and hardy woody plant nursery
Assistant Curator — H. J. Fliegner, Dip. Hort.(Kew)
 - Tropical** — tender herbaceous plants e.g. orchids, ferns etc.
Assistant Curator — J. F. Warrington, N.D.H.
 - Technical** — quarantine, micropropagation, science support collections
Assistant Curator — D. W. H. Townsend, N.D.H.
 - Services** — machinery and tree surgery
Assistant Curator — S. J. Henchie, Dip. Hort.(Kew)
 - Planning Unit** — planning and interpretation support unit
Garden Supervisor — W. R. Jennison, Dip. A.D., Dip. Hort.(Kew)
 - Student and Staff Training Section**
— Supervisor of Studies — L. A. Pemberton, N.D.H., N.D. Arb., M.I.Biol.
 - Wakehurst Place in Sussex**
— hardy plants — mostly woody — including many that are not suitable for outdoor cultivation at Kew
Deputy Curator (Wakehurst) — A. D. Schilling, N.D. Arb.

PRIZES

BENTHAM-MOXON TRUST

The following prizes are awarded under the aegis of the Bentham-Moxon Trust:

The Ernest Thornton-Smith Travelling Scholarship

(Value: £1,250)

The prize is presented by the Thornton-Smith Young People's Trust under the auspices of the Worshipful Company of Gardeners in memory of Mr. Ernest Thornton-Smith, to enable a Kew horticultural student to travel to the Caribbean, tropical South America or Australasia for the purpose of enlarging his knowledge of the plants of these regions. It is awarded at the discretion of the Director, Royal Botanic Gardens, Kew.

G. C. Johnson Memorial Prize

This prize, which consists of a copy of the RHS Gardeners' Dictionary, together with a cheque, is presented from a fund administered by the Bentham-Moxon Trustees on behalf of 'The Grower'. It was founded in memory of Mr. G. C. Johnson, a famous old Kewite who had the interest of Kew students very much at heart. It is awarded for the best overall performance on the Kew Diploma Course.

Kingdon-Ward Prize

In memory of the late Frank Kingdon-Ward, to whom gardeners owe a great debt for the contribution his plant-collecting expeditions made to British gardens. The prize was founded by his sister, Miss Winifred Kingdon-Ward, to provide a yearly prize of £20 to the student attaining the highest mark for the best individual study (project or thesis).

Landsman Bookshop Prize

This prize is awarded for the best work on landscape design and garden construction.

Sir Joseph Hooker Prize

Presented by Professor J. P. M. Brenan, Director of the Royal Botanic Gardens, in memory of his famous predecessor, Sir Joseph Hooker, to the student who has done most for the Mutual Improvement Society.

Donald Dring Memorial Prize

In memory of the late Dr. Donald Dring who was a Mycologist at Kew. This prize is awarded to the student adjudged to have achieved the best results in the Crop Protection course.

The Metcalfe Cup

This prize, presented by Dr. C. R. Metcalfe, former Keeper of the Jodrell Laboratory is awarded to the student attaining the highest examination marks in the second year.

KEW GUILD PRIZES

The following prizes have been presented by the Kew Guild:

Matilda Smith Memorial Prize

Awarded in memory of Matilda Smith, artist at Kew for many years, to the student adjudged best at practical work.

Dummer Memorial Prize

As part of their training, horticultural students are required to make a collection of properly dried, named, mounted and labelled specimens of British weeds. This prize is for the best collection.

Proudlock Prize

The runner-up for the best weed collection also receives a prize.

Prize for the best vegetable plot

The students are required to maintain a vegetable plot during the first year of their three year Course. The best plot receives a prize.

Kew Guild Individual Study Prize

This prize is presented to the student with the second highest mark for an individual study.

C. P. Raffill Prize

Awarded in memory of C. P. Raffill, a former well known Assistant Curator of the Royal Botanic Gardens, to the student giving the best paper to the Mutual Improvement Society's Lecture Competition.

Professor Keith Jones Cup

Presented by Professor Keith Jones, Keeper of the Jodrell Laboratory. This cup is awarded to the student giving the best paper to the Mutual Improvement Society, and is held for one year.

MUTUAL IMPROVEMENT SOCIETY

The Mutual Improvement Society is an association of students and staff which meets regularly to hear papers read by its members, and organises debates, visits and other activities to further their horticultural knowledge. The Society awards the following prize:—

Mutual Improvement Society's Prize

For the member who has taken the most active part in its discussions and debates.

LECTURER'S PRIZE

Systematic Botany

This prize introduced in 1978 by Dr. C. Grey-Wilson and Dr. P. Cribb of the Herbarium, is presented to the 2nd Year Student producing the best Systematic Botany Project.

STUDENTS UNION PRIZES

The following prizes have been presented by the Students Union:—

Plant Identification Tests 1979-1980

Awarded to the student attaining the highest average.

Photographic Society

The Students Union present this prize for the best photographic effort by a Kew horticultural student.

Students Union Life Membership

Each year up to three awards are made for Honorary Life Membership to the Students Union as a token of respect and gratitude for services rendered.

THE GARDENS TRUST

The opportunity of Prize Giving Day is used also for the presentation of:—

The Kew Medal

Awarded annually by the Trustees of The Gardens Trust to those whose achievements with, or contribution, or service to, the gardens at Kew and Wakehurst Place are considered of outstanding merit and deserving of special honour. This medal, struck in silver-gilt, was first awarded in 1980.

BACKGROUND INFORMATION

FACILITIES

The students are provided with all necessary stationery for use within the course and there is an excellent Gardens Library maintained

for their use. Access is also readily allowed to the Herbarium Library which has a stock of over 100,000 volumes. For the keen student there are a number of valuable prizes for individual effort; the most notable of these is the Thornton-Smith Travelling Scholarship which provides up to £1,250 each year for a Kew student to visit the Caribbean, Tropical South America or Australasia to study the plant life of these regions.

TUITION

This is provided by internal and external lecturers, but students are also expected to do a considerable amount of individual study by reading. They are also expected to prepare and present written projects and a dried and pressed collection of common weeds.

EXAMINATIONS

The internal examinations are set by external examiners at various stages throughout the course and lead to the Kew Diploma which is awarded at three levels, Honours, Credit and Pass. External examinations, which are frequently taken by students, include the National Diploma in Horticulture, the Diploma in Parks and Recreation Administration (Intermediate Level), and the Certificate and Diploma of Arboriculture.

SELECTION OF STUDENTS

The entry in any year is by interview on a competitive basis. Assessment of educational attainments, previous training and confidential references are all taken into account.

CONDITIONS FOR ENTRY

Both male and female candidates, single or married, may apply and should be between 18 and 26 years of age, be physically fit, and must have had practical experience in horticulture for at least two years. They must also have had sufficient education (normally GCE or its equivalent in four subjects one of which should preferably be a science subject at 'A' level), prior to admission to enable them to manage the academic content of the course. Non-British candidates for the three year Diploma Course must be able to satisfy current entry requirements for employment in the UK.

OTHER TRAINING SCHEMES

(a) The sixth form entry scheme

Special provision is made for candidates in schools or colleges in their final year of 'A' level studies who although without practical experience, wish to make a career in horticulture. Such candidates, if selected by interview, must spend a preliminary period of one year in a suitable horticultural establishment before entering the Diploma Course. A limited number of places are reserved for entrants under this scheme.

(b) International training programme

A limited number of trainees are accepted by competitive entry for a period of one year. Trainees must be able to maintain themselves (or

have sponsors who will guarantee them financially). Trainees will not receive any financial reward for their practical duties. Trainees are governed by the same conditions as the horticultural students and have the same working hours.

Trainees whose native language is not English must provide documentary evidence of proficiency in the language both spoken and written.

ADVICE TO THOSE SEEKING ADMISSION AND THEIR REFEREES

The Diploma Course is an internal sandwich course providing an opportunity for able youngsters from all regions to proceed further with their studies without the necessity for applying for grant aid from Local Authorities. Applicants must show drive and enthusiasm with a determination to succeed. They must also be able to express themselves clearly and be willing to accept increasing responsibility. Previous experience should be broad-based to allow the mastery of most of the essential practical skills. There is also a need for self-reliance and an ability to work with the minimum of close supervision.

CAREERS

There is considerable demand for Kew trained students with opportunities occurring in most branches of horticulture. The Supervisor of Studies is able to give advice to prospective students and assist those who are on the course to obtain satisfactory employment.

Further details and application forms for the School of Horticulture are available from the Supervisor of Studies, School of Horticulture, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB.

PRESENTATION OF THE KEW DIPLOMAS AND PRIZES 1980 (Course 15)

Honours

S. Ashworth
I. Cowe

R. Harrison

Credit

C. Bennett
S. Bristow
T. Casey
P. Gibbons
A. Harrison
I. Hodgson

P. Jackson
P. McKenzie
S. McNamara
J. Morgan
J. Osi

Pass

I. Crisp

J. Whitehouse

Certificate of Attendance

J. Compton — 3 years
J. Fielding — 3 years

M. Abolaji — 1 year
A. Mazhani — 1 year

PRIZES

The Ernest Thornton-Smith Travelling Scholarship	Held Over
G. C. Johnson Memorial Prize	I. Cowe
Kingdon-Ward Prize	S. Ashworth
Landsman Bookshop Prize	I. Hodgson
Sir Joseph Hooker Prize	Miss S. Tasker
Donald Dring Memorial Prize	A. Danford
The Metcalfe Cup	S. Ashworth
Matilda Smith Memorial Prize	I. Cowe
Dummer Memorial Prize	I. Hodgson
Proudlock Prize	S. Ashworth
Prize for the best vegetable plot	S. Ashworth
Kew Guild Individual Study Prize	I. Cowe
C. P. Raffill Prize	A. Kirkham
Professor Keith Jones Cup	A. Kirkham
Mutual Improvement Society's Prize	J. Watkins
Plant Identification Tests	S. Ashworth
Photographic Society	P. Lusby
Students Union Life Membership	C. Bennett, I. Hodgson P. Jackson, J. Morgan

TITLES OF MANAGEMENT PROJECTS (Course 15)

S. Ashworth	The use and conservation of glasshouse heating fuel at Epsom Parks Cherry Orchard Nursery.
C. Bennett	An investigation into the feasibility of implementing the use of 'Digested Sewage Sludge' processed by the Thames Water Authority as a fertilizer and soil conditioner at the Royal Botanic Gardens, Kew.
S. Bristow	Future development of the Lake at Kew.
T. Casey	Tree replanting in Sutton.
J. Compton	The management of tender bulbs under glass at Kew.
I. Cowe	Establishment of aquaria at Kew of 'A feasibility study into the use of glass aquaria for the growth and exhibition of Kew's tropical aquatic and amphibious plants'.
I. Crisp	Alternate sources and uses of water at Kew.
J. Fielding	A Management Plan for High Grove Educational Nature Reserve, Ruislip, Hillingdon.
P. Gibbons (Miss)	Survey of problems of gardens owned by Paddington Church Housing Association.
R. Harrison	The biological control of pests, with special emphasis on the 'T' Range Houses at Kew.

A. Harrison (Mrs.)	Weed control on the Cadogan Estate Chelsea, with special emphasis on the use of ground cover.
I. Hodgson	The ecological approach to landscape design (focusing on woodland and grassland creation).
P. Jackson	Servicing arrangements for the fleet of Massey Ferguson tractors at the RBG, Kew.
P. MacKenzie	The management of Park Wood as an area of public recreation and wildlife conservation.
S. McNamara	The management of Epping Forest.
J. Morgan	Establishing a computerised record system in a small University Botanic Garden.
J. Osi	Management of tropical glasshouse plants at RBG, Kew.
J. Whitehouse	An instructional programme to encourage public awareness about the environmental problems of Ham Common.

THE KEW MEDAL

From Eurogardeners' News October 1980

Written by Peter Thurman and Edited by Bill Jennison

There are many 'unsung heroes' whose dedication has contributed to the international reputation that the Royal Botanic Gardens Kew enjoys.

Therefore when a sum of money became available through a Trust Fund at Kew, to be used for the benefit of the Gardens, one of the first proposals to be made to the Trustees was the institution of The Kew Medal.

This was agreed to, and medals are inscribed simply 'FOR MERIT' and will be awarded annually by the Trustees of The Gardens Trust to those whose achievements, contributions or service to the gardens at Kew or Wakehurst Place (the country annexe of the Royal Botanic Gardens Kew, in Sussex) are considered of outstanding merit and deserving of special honour.

These first awards show the wide range of contribution to the work of Kew which can be recognised and acknowledged by this award; and it is very pleasant to be able to thank some of the generations of Kew staff (and also those many people outside the Gardens who have given so much of their time and devotion in the course of their work and contact with Kew) whose loyalty and dedication have made the name of Kew Gardens known and respected throughout the world.

The first Kew Medals were awarded at the Kew Students Prize giving on September 12th; and it is a happy coincidence that the principal guest, who made the presentation, was Sir Brian Hayes K.C.B., the Permanent Secretary of the Ministry of Agriculture Fisheries and Food

The first five recipients were (in alphabetical order):—

Constable G. E. Appleby, who began work in the gardens on April 20th 1931 (more than 49 years ago), and after war service returned to serve as a Constable at Kew, during which time he has gained the respect and affection of all his colleagues, and whose interest in Kew and its plants had endeared him to the many visitors who have sought and received his help.

R. A. V. (Reg) Childs, for his leadership and initiative during the practical landscape work at Wakehurst Place, principally through the constructions of the Sir Henry Price Memorial Garden, the rock gardens, water and bog gardens, watercourses and woodland shelters; and for his work during the past years on the gradual adaptation of a great private estate garden into a great public garden.

Hugh Clamp, O. B. E., V. R. D, F. R. I. B. A, A. I. L. A., in recognition of his special services to, and personal interest in, the Royal Botanic Gardens, Kew, on behalf of Messrs. Manning Clamp and Partners (as consultants to the Property Services Agency) for projects including the reconstruction of the Temperate House, the design and construction of the Micropropagation Unit and Curator's Office, and the equipping of the new Quarantine House.

Robert Desmond Meikle, B. A., L. L. B., F. L. S., for his interest and involvement in the Gardens living collections, for his contribution to the many societies based within Kew, as a botanist of world renown, and as a true friend and colleague to the many who have sought his help and advice over the years.

John R. Woodhams, for his widely recognised personal contribution to the development of the fern collection at Kew, now widely recognised as one of the finest in the world, for his work for the Kew Guild, for his plant collecting (principally in the Far East) and for the advisory work *that he has successfully undertaken on behalf of Kew in these areas.*

THE KEW STUDENTS UNION

By Dietrich Borg, President 1980/81

The Students Union at Kew is in a state of metamorphosis! The constitution is being re-written, a fundraising sub-committee is being formed and new ideas are being sought. The aim is to try to give the Kew Students Union a real identity, to make it more than just a name and executive committee.

Traditionally, involvement of Kew students with the Students Union is generally of a low level. One of our main aims is to try to improve this situation.

The up-dating of the Union constitution with, we hope, the help of the National Union of Students or the Municipal and General Workers

Union legal department will improve a document which at the moment is very full of old moths, with an abundance of holes in its procedures, rules and regulations to match. In the up-dated version, we are going to attempt to streamline the procedural aspects, thereby allowing major decisions to be taken more easily and quickly.

The fundraising sub-committee is not only aimed at procuring large sums of money to keep the Union's bank balance healthy, but also at trying to involve more people in Union activities. This sub-committee will consist of three to four people from any of the three years and will have a chairperson who will also have a voting place on the Executive Committee.

The 'vast' amounts of money that this sub-committee will raise are going to be channelled into buying desperately needed equipment for the photographic, football, cricket, badmington and sports clubs. It will also be used for providing better entertainments for the students in the form of 'live bands', feature films, disco's and any other entertainments we can think of, at cost or lower prices. It is hoped also that there will be sufficient funds raised to buy new disco equipment, as the present disco equipment is nearly through its second box of Band Aids.

Life is not all fun however, — the Union is also trying to involve itself in the normal evolutionary process, that moulds and shapes the Diploma Course and changes it from one year to the next. We are attempting to constructively put forward the students' points of view, voicing criticism and suggesting ideas where we feel the course displays omissions or weaknesses.

Although these ideas are not totally new and members of the Students Union, like everyone else, become disillusioned, we are trying hard to make the Kew Students Union an institution that is treated seriously by both students and management and that has an active and valid rôle to play in unique phenomena of student life at Kew.

ATHLETICS REPORT

By Brian MacDonald, Sports Secretary

On Saturday October 11th, Highgate Harriers organised a fun run around the three mile National Cross Country course on Parliament Hill Fields.

Though winning was not the main aim (certificates were given to everyone completing the course, and prizes distributed at random) inevitably there was some competition between those of us from Kew. Colin Porter and Mike Burridge completed one and two laps respectively in fine style.

Derek Stimpson, myself and Paul Potter (an ex-student now at Harlow Parks Dept.) were among the also-rans.

Having organised the Round the Gardens Race and then won it, bought and engraved the prizes and co-organised the Dance at which they were presented, I'm hardly going to be too embarrassed to write the report on it.

My attempt to remove any serious competition by sending the first year favourite out on a dumper to mark the course (cunningly handing him a dud map) failed miserably. However it succeeded in delaying the start for 20 minutes, thereby reducing other competitors to shivering wrecks by the time the dumper was spotted.

Mr. Green had kindly volunteered to officiate at the start outside the Orangery and to check the timing of the first three home. About 16 runners moved away from the start as the gun went off.

Upon passing the Rhododendron Dell I knew my Dastardly Deed had paid off. The pack had thinned out, frozen limbs refusing to loosen up, and the first year favourite's adrenalin supply sadly depleted in his desperate race to the start. Only the wily Mr. BurrIDGE remained.

A friendly passing midge came to my rescue by flying directly into the leader's mouth causing him to choke and spit.

Taking advantage of his sporting apology for spitting in my direction that chronically disturbed his measured pace — I took the lead, ensuring that the only remaining part of the race I would have to report on was the finish.

The results were as follows:—

1 B. MacDonald (N. Arboretum)	14 mins. 55 secs.
2 M. BurrIDGE (Tropical)	15 mins. 6.4 secs.
3 C. Porter (Studies)	15 mins. 8.6 secs.

The Veteran's Prize was won by Don Wimber of the Jodrell Laboratory who came fourth overall. Laura Smith (North Arboretum) was the first girl home, coming eleventh overall.

This year there was one entry from Wakehurst Place — Mr. Geoff Greenough — who came tenth overall and second in the over-35 (Veterans) section.

Les Thornton in sixth place ensured that the Inter-departmental Cup went this year to the Tropical Department.

Many thanks to Mr. Green for starting the Race, to Mr. Beyer for presenting the prizes and to Tony Danford for Timing, and to all those who took part or supported the Race.

CLOG AND APRON RACE

Due to extensive advertising by Tony Kirham via the media, by 5 p.m. on Thursday 25th September, the Broad Walk was again lined with expectant members of the public and staff, as the late summer sun descended behind the Palm House. This year's Clog and Apron Race (or 'the Derby' as one West Indian tourist called it) was started by Mr. Brookes, all footwear eventually donned and photographs taken.

The slithering and skidding of clog irons on tarmac eventually developed into the usual thundering roar as competitors accelerated away leaving at least one first year student biting the dust at the start.

By the half-way mark unwitting first timers were beginning to feel the strain as more canny veterans picked them off. Last year's winner, Jim Buckland, was up near the front from the beginning despite odd clogs, but found it impossible to catch this year's winner, Chris Close. Phil Lusby was very close behind at the finish, becoming the third to cross the line.

Looking through past records it seems that this year's winning time of 53 secs. was not a record, the fastest time being 49 secs. in 1951 by someone with the unlikely name of P. Nutt. However, Chris and Jim have the satisfaction of knowing that they both beat Leo Pemberton's time of 54.8 secs. (1953).

Unfortunately there were no girls in this year's race. This was apparently due to the lack of suitable clog sizes, though at least one backed down at the last minute with the lame excuse that, with the 50 yard start, she would feel like the hare with the pack behind.

Many thanks to Tony Kirham and Mike Burridge for doing the ground work, to Professor Brennan who presented the prize (a bottle of wine) to the starter, Mr. Brookes, and to the competitors and stewards.

Editor's Note: Athletics Report copied verbatim from RBG Newsletter and thanks to Eds! Unfortunately, despite letters and phone calls no other reports were submitted by the Students Union this year.

ANTIPODEAN PEREGRINATIONS — AN ACCOUNT OF THE 1979 THORNTON-SMITH TRAVELLING SCHOLARSHIP

By Christopher Bailes, Supervisor, RBG Kew Orchid Unit.

The desire to travel to New Zealand to study its flora was implanted in me some years ago at an Alpine Garden Society lecture on New Zealand plants, and while the terms of award of the Thornton-Smith Scholarship seemed heavily weighted towards tropical areas my 'O' level geography told me that New Zealand is part of Australasia and so I duly applied. The generous and interested response I received from New Zealand contacts, both Guild members and otherwise, confirmed me in my expectations of the trip, and on the 5th November, feeling great excitement and some trepidation at the prospect of three months independent travel on the other side of the world, I set off.

After what seemed an interminable flight via Los Angeles and Honolulu, I arrived 36 hours after departing Heathrow, at Auckland Airport. Feeling surprisingly fit I decided to go into town to make contact with Philip Jew (1955), Manager of the Parks and Reserves Department for the Auckland Regional Authority. The folly of this move soon

impressed itself upon me when I discovered what jet-lag means, and a combination of disorientation and fatigue forced me to bed where I slept for 16 hours straight off! A couple of days saw my metabolism reasonably well adjusted, however, and I spent a very interesting week with Phil and his colleagues botanising around the Auckland area, including visits to a relict Kauri: (***Agathis australis***) forest reserve, and a trip to the new botanic garden Phil is creating at Manurewa, outside Auckland. My itinerary being tightly packed with prospective visits elsewhere I had to take my leave of Auckland and travel down the west coast to New Plymouth. Here Ian McDowell and George Fuller (1960 and 1953) are respectively Deputy Director Parks and Reserves and Curator of Pukekura Park. Visits to local areas of interest included Mount Egmont, a dormant volcano whose superb snow capped cone dominates the area, and the nurseries of Messrs. Duncan and Davies, where in an ultra modern computer controlled propagation facility they produce millions of plants each year rooted in a medium chiefly consisting of volcanic ash and sawdust from ***Pinus radiata***.

Again I had to leave the splendid hospitality shown me and move on, but not as far, only to the gardens run by the Pukeiti Rhododendron Reserve Trust, where Graham Smith (1959) is Curator, and is busy carving out of the New Zealand bush a garden with a superb collection of rhododendrons. The juxtaposition of maintained garden and dense bush is very striking, and the growth of plants is phenomenal in the 300 plus rain days per year.

Continuing my travels in the North Island I visited Massey University Faculty of Horticulture at Palmerston North, and then to Wellington. Here the Director of Parks and Reserves is Ian Galloway (1952), and part of his domain is the quaintly named Otari Open-Air Native Plant Museum, which houses a large collection of New Zealand plants (with collecting locations known for them all), and Ray Mole, the Curator, showed me around.

On November 30th I flew from Wellington to Christchurch, and travelled on further south into the foothills of the Southern Alps, where I began the major part of the trip, spending the next seven weeks mainly in the mountains, onfield trips studying the alpine flora. My first trip took me up the eastern side of the S. Island, stopping off at likely looking mountains in the Kaikoura range, across the island via the Richmond Range, down the west coast and across the Southern Alps proper via Arthur's Pass. The variation in the mountain flora is particularly marked with a dry eastern type and a much wetter western type. In the east are found the major concentrations of the curious 'vegetable sheep'. (***Raoulia*** and ***Haastia*** spp.), on dry, rocky habitats with great scree slides supporting their own curious, highly adapted flora. In the west the climate leads to a far lusher flora, with plants such as the 'Mount Cook Lily' (actually a buttercup, ***Ranunculus lyalli***), with large rather succulent leaves and Japanese-anemone like flowers. A visit to Christchurch followed, including a day at the Botanic Gardens, whose 'Englishness' made one feel rather homesick. Further field trips in the

South Island included the Banks Peninsula with Bill Sykes of D.S.I.R. Botany Division, and Mount Hutt with David Given, again of D.S.I.R., both of whom have recently visited Kew. Dunedin and Invercargill were also upon the itinerary, and as so often one was almost embarrassed by the number of offers of hospitality from contacts one met there. During January I also spent a week in the Ben More mountain area, and a further week in the North West Nelson Mountain with the Wellington Botanical Society, these trips being accompanied by Tony Druce of D.S.I.R., the botanist responsible for the area.

Thus December and January passed, and the 24th of January found me again in the North Island, where on my way back to Auckland I passed through the volcanic central area and visited the Tongariro National Park to see the interesting alpine there. A final day spent with Phil Jew in Auckland, and the long journey home passed uneventfully, and I passed from high summer down under to an English February. I arrived back home leaner, browner and considerably fitter than when I departed, with fond memories of a country and its people, who together had conspired to interest and delight me for three of the most exhausting and fulfilling months of my life, and I would like to use this opportunity to tender again my grateful thanks to all who made the trip possible, and so successful.

LIVING COLLECTIONS DIVISION NOTES AND GLEANINGS 1980

By R. I. Beyer, Deputy Curator

Readers of the account I wrote in the 1979 Journal will remember that my opening paragraph mentioned a feeling of gloom and despondency which affected the Living Collections Division during the year and I am sorry to admit that the events of 1980 did little to improve on this. At the end of the year, when senior staff gathered to reflect over a Christmas drink, it was evident that all were disillusioned with 1980 and look forward to better times ahead, but with little confidence.

The major development during the summer which caused this gloom was the cut-back made by central government, and particularly the decision to reduce the size of the Civil Service. Within Kew no Division was exempt from the arbitrary cuts in manning levels or the reduction in building and allied services provided by the Department of the Environment. The reduction which was imposed upon the Living Collections Division was the loss of 41 posts, including some at Wakehurst Place. Thankfully this did not necessitate any redundancies but it did mean that work commitments and programmes had to be examined yet again to ensure that the necessary reductions did not affect important plant collections. At the time of writing there is little evidence of lowering standards but we have had to reduce the bedding display along the Broad Walk and have grassed down a few beds in the Iris Garden. It will not be possible to assess the full impact until well into the summer — a

point I seem to remember making last year when we managed to maintain our normal standards and received very little adverse comment.

Against such a background it can be difficult to engender enthusiasm, but thankfully the staff at Kew have throughout the Gardens' history coped with the impossible, including two world wars, so even if our flame is somewhat dampened it is smouldering healthily.

Conversion to gas as a primary source of energy happily saw a winter free of heating oil supply problems — a topic which was becoming an annual report chestnut. The weather stayed reasonably mild and open, making it possible to press ahead with outstanding winter work. Spring and summer seemed to merge without any prolonged period of the hot balmy days of June, July and August that we hope for but rarely get — indeed summer was conspicuous by its absence. Throughout the Arboretum autumnal tints in my opinion were exceptionally good and seemed to extend over a longer period than usual. Winter so far has been reasonably open and, except for periods of rain during December which made work outside messy, completed an unexceptional year regarding weather.

It will be of interest to readers to know that the Royal Botanic Gardens has now become an official weather-recording station for the Meteorological Office. However, despite the impression that may have been gained from the press and television we have not taken over the work of the Kew Observatory which closed down at the end of the year. The Meteorological Office however wanted to continue the basic measurements which had been made at the Kew Observatory site for many years and they have provided free of charge equipment for us to make simple weather observations which we will then send to their computer centre at Bracknell. The small station is in the Lower Nursery where recording is carried out once a day by Gardens' staff. It is many years since Kew had a small station in the Director's Garden and the renewal of this facility will be extremely useful.

The long-awaited completion of the new Alpine House, near to the Jodrell Laboratory, has at last been achieved and an official opening is programmed for the spring of 1981. This new facility already houses a very wide range of choice and difficult plants hitherto impossible to grow at Kew. It is also pleasing to record that the Alpine and Herbaceous Section was awarded the Farrer Trophy by the Royal Horticultural Society in April for an exhibit of **Sedums** staged in 1979. This award is made to the best exhibit of plants suitable for the rock garden or alpine house staged during the year at one of the Society's shows other than Chelsea.

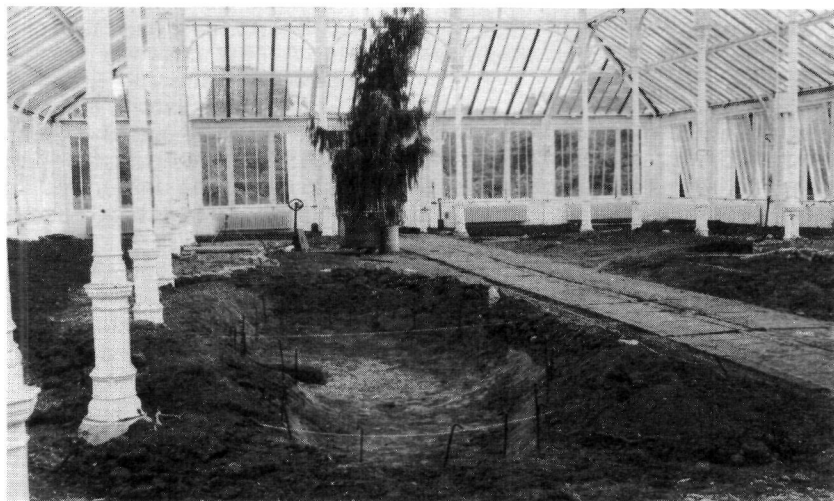
On Wednesday, 9th July, the Loder Valley Reserve for Wealden Vegetation was opened at Wakehurst Place by Sir Giles Loder, Bt. M.A., V.M.H., F.L.S. (see article elsewhere).

Landscaping of the display areas in the Tropical Section, particularly the T-Range and conservatory (No. 4) is continuing and the greater

planting flexibility this allows is well worth the effort. The most notable improvement has been an increased display of bromeliads in both houses No. 10 and 11 and the redesigned house No. 13 which will be used for the **Peperomia**, **Begonia** and epiphytic **Cactaceae** collections.

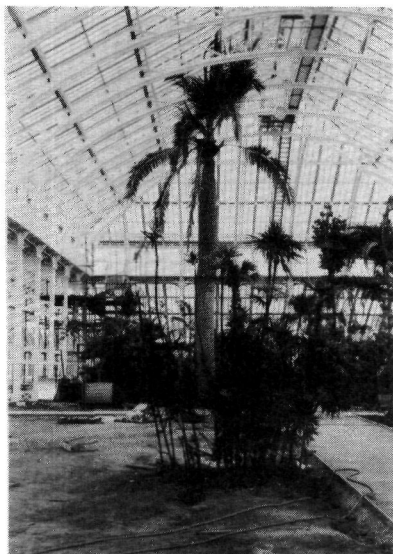
The new Quarantine House in the Melon Yard was commissioned during the spring. As the funds for this were provided by outside commercial sources associated with the cocoa industry it was necessary to install a separate heating system and direct gas air heaters have been used at Kew for the first time. Despite initial teething problems the resulting environment has proved to be very suitable for this crop and this type of heating could have wider applications where capital investment is a limiting factor.

Energy conservation is a major problem of which all glasshouse managers are becoming more aware and as a first step thermal screens have been installed in a block of glasshouses in the Lower Nursery. Whilst these have been used widely in commerce it will be interesting to evaluate the effect on the wide range of species we grow. It is anticipated however that, though there may be a slight loss of light, the increased humidity will suit many species.



Part of the Temperate House during reconstruction, 1980.

Those who visit Kew regularly will know that the area around King William's Temple is undergoing a much-needed facelift. For some years plantings of rhododendrons and other **Ericaceae** have struggled to survive in what could only be called difficult conditions. All the material which could be salvaged has been moved to the Rhododendron Dell and the area has been redesigned to accommodate a wide variety of Mediterranean woody subjects, which lend themselves to the site. On the eastern side of King William's Temple a series of York stone steps



Part of the Temperate House during reconstruction, 1980.

leading up from the lower level is being constructed and will be flanked by a low retaining wall. It will take two or three years to complete this facelift but the end result should enable us to build up a wide collection of Mediterranean plants.

Nearby, the Temperate House stands elegantly awaiting its reopening in 1982. Reconstruction work was completed in October and, whilst re-landscaping and planting has been completed in the two wings and octagons, the centre section will not be finished until the summer of 1981. Considerable effort is being expended to ensure that the soil and drainage is improved as it will be many years before this can be done again. A new pathway layout, designed to eliminate the very old formal bed system, is being

laid by Kew staff and before any plantings are made all planting areas will be steam sterilised. Worries that we would not have enough young plants to fill this extremely large glasshouse have been unfounded, in fact it seems we now really need a bigger glasshouse to accommodate the collection.

Each year we have to sadly say farewell to colleagues who retire, but fortunately George Nicholson (Supervisor, Orchid Unit) who officially left in December has returned to continue his work on orchids. The Sainsbury Trust generously agreed to pay his salary for one year so that he can be actively responsible for building up collections of primary hybrids and species of particular horticultural merit. At the same time he will be able to make available his considerable expertise to help his successor. We were sorry to say goodbye to Harold Allen who had been Birdkeeper for many years. Harold came to Kew from his native Cornwall in 1958 and for a period was responsible for the day to day repair of machinery before the present machinery workshop staff took over in 1968.

Although we are sad to see familiar faces leave, it is pleasing to welcome three new Supervisors to the Division. Simon Goodenough (ex-student) is now in charge of the Temperate Nursery, Bryan Oakes has been promoted to take over as Supervisor of Machinery Services and Glyn Smith to a vacancy in the Decorative Display Unit.

Several members of staff had the opportunity to travel abroad again during the year. Hans Fliegner and Roger Howard spent a month in

Spain collecting Mediterranean woody species, mostly seeds, for the living collection. John Woodhams was seconded for a short period to the Botanic Garden of the University of Malaya, Kuala Lumpur, to advise on the development of their garden and Graham Pattison carried out similar duties in Jalapa, Mexico. The visit of the latter was as a follow up to a visit I paid in 1978 and much of Graham's time was taken up lecturing and advising on horticultural techniques relative to the maintenance of botanical collections. During early December I spent two weeks on the island of Dominica giving advice on the rehabilitation of the botanic garden following Hurricane David in 1979 which devastated the island and is described elsewhere in this Journal. The Curator spent two weeks in the Smokey Mountains, U.S.A., with John Elsley (Missouri Botanic Garden) collecting woody plant material before going on to Mexico City to give advice on the development of the University Botanic Garden. Whilst in Mexico he also managed to do some further field collecting, mostly **Cactaceae**, in Oaxaca. Perhaps the most encouraging trend that emerges from these activities is the number of botanic gardens in the tropics now seeking to play their full part in research orientated towards conserving the flora of their particular region. Institutes such as Kew, who have unique experience in the field of botanic garden management, are under an obligation to help wherever possible which inevitably means much hard work for those involved, even if the reward is a visit to romantic and exotic places.

During the course of the year we see a number of old Kewites who have found time to return and look us up and we are exceedingly pleased to see them, but there are many others who for various reasons cannot return. This short resumé of what we have been up to is a poor substitute and we look forward to seeing as many of you as possible next year and in future years.

THE NEW ALPINE HOUSE

(Article for "Kew Guild Journal" — adapted from an article to appear in "The Garden" RHS Journal)

By J. B. E. Simmons, Curator

As early as the mid-60's a new and larger house had been sought for the expanding alpine plant collections at Kew but the project had foundered because of the difficulty of finding a site in the Gardens' crowded historical acres. The impetus to obtain a new house was renewed in 1972 when early on in his directorship, Professor J. Heslop-Harrison placed the project high on his list of priority requirements. A technical brief for the building and its location was then prepared in 1973 by the writer and the decision made to build on what was previously a site of some service houses so adding an additional area to the public part of Kew, and locating the house close to its services and support houses.

Design

The complex requirements for the house were interpreted into a design by the architects of the R. H. Partnership working on behalf of the Property Services Agency of the Department of the Environment. A pyramid 14 metres square (four times the area of the previous house) and seven metres high was chosen on the most economical form because it minimises materials and maximises exposure to sunlight. The light steel structure, designed by Simon Woolf, achieves economy, rigidity and the minimum obstruction to light. Similarly the engineering services, including a refrigerated bench, which were the work of the engineering consultants, Posford Pavy and Partners, have achieved an efficiency in operation coupled to an economy in design.

The crystalline pyramid, mountain-like, form of the house has proved an attractive design solution, both functionally and aesthetically. The superstructure and glazing (by Robinsons of Winchester) cantilevers over a mounted base that also acts as a foundation wall, rainwater store and gutter, as well as concealing an additional level of louvred ventilation above the moat. This allows in, when required, a current of air moistened by the water. Excellent roof ventilation, over 55% of the roof surface area is provided by three flights of motorised ventilators on each of the four, 30° pitch, faces. Internally a display screen shields the control equipment used to operate the automated ventilation, watering, lighting and refrigeration systems.

Construction

Construction started in 1976 and was completed in 1978; both the internal and external landscape work being completed in 1980. The rather long time scale was due to the strict cash limit for the project and the severely limited 'in house' staff available for the landscape construction work. The general form of the planting display was originally devised by the consulting Architects and then interpreted into a general design by Judy Brace of the Gardens staff. The detailed landscape construction, planting and maintenance work was undertaken by the staff and students of the Herbaceous Section under the direction of Brian Halliwell (Assistant Curator) the supervision of Tony Hall and propagation by Jenny Bowden and Stephanie Joseph. Their success in raising the new collections of arctic and tropical-montane plants and extending the overall range of alpine is probably unequalled in Kew's history. The results of their dedication and skills will surely be appreciated by all visiting connoisseurs of these plants.

Plantings

A layout of Sussex sandstone rockwork with a small pool and waterfall is used internally to provide a natural looking display area for the plantings, some of which are permanent while others are plunged. A large bench in the centre of the house is adapted, with the aid of refrigeration, to provide cold conditions for arctic-alpines — which also spend seven months of the year out of the house in a cold store at 6° to

8°C. — and a diurnal cooling for tropical-montane plants. Externally the house is flanked by rockwork and peat banks and a York stone patio enclosed by a brick wall.

Many of the arctic-alpines in the refrigerated bench originate from Greenland; through the generosity of the Copenhagen Botanic Garden. To prevent the plants etiolating they are provided with extra red light, since a proportionately high amount of long wave radiation penetrates to the Polar regions. The plants also receive supplementary light from high pressure sodium lamps on a controlled night length programme, based on that developed at Copenhagen, which extends to a 23 hour day in mid-season. In spring the bench is brimfull of interest with the garish pinky-mauve of **Epilobium latifolium**, its flowers looking much too large for its small and slender stems, the minute **Draba nivalis**, pale yellow **Papaver radiculatum** (all three collected from Greenland, though having wider ranges), and the diminutive **Primula egalikensis**, from Alaska, Canada and Greenland.

The tropical-montane plants particularly those from equatorial mountains, provide another challenge. The refrigerated bench cools them through the day and each night below ambient and there is supplementary lighting to aid the plants over winter. While in conventional cultivation some are easy to grow others are seemingly dependent upon constant day conditions with cool nights and high light throughout the year. Happily many of the latter have shown an excellent response to this unusual microclimate which has been created for them.

One such is **Espeletia schultesii**, with its rosette of lamb's wool felted leaves, a composite from the high mountains of south-west Venezuela. Even more unusual is the aquatic **Aponogeton ranunculiflorus** from rock pools in Lesotho (Basutoland) at 2,600 m, that surface freeze at night. From a thread like stalk its small, perfect, white blossoms float on the surface of its jar of cooled water. The bench contains an abundance of rarities or new introductions such as **Ranunculus paucifolius** from New Zealand and Brian Halliwell's **Douglasia laevigata** from the Olympic Mountains of western North America.

The paths within the house divide the rockwork into three areas, which are treated differently. The waterfall, pool and bog area in the north-east area contains plants requiring moist conditions. Many newly introduced and rare plants are now establishing themselves here, such as the mat-forming **Lobelia lindblomii** with small intense blue flowers, collected by David Field from Mt. Elgon in Kenya, and a handsome white-flowered **Swertia** (*S. sp. aff. petiolata*) in the Gentian family, collected on a Kew expedition, (Radcliffe-Smith & Henchie) at 2,600 m, in the Yemen Arab Republic.

An area for plants requiring slightly drier conditions is provided in the south-east corner. The plantings include some small montane cacti, the remarkable little western North American **Townsendia parryi** a dwarf composite whose blue aster-like flowers appear far too large for its overall size, and the bright orange flowered **Monardella macrantha**, also from western North America.

Many of the montane calcicoles such as **Campanula raineri**, collected from a limestone scree in Italy at 1,650 m, are accommodated in the south-west corner and in contrast a peat gully is also included for plants requiring more acid conditions. Notable here is a bright green cushioned clump of **Abrotanella forsterioides**, a rare composite collected by Brian Halliwell in Tasmania.

Externally rockwork bank plantings flank the moat on the south and east faces of the house with peat banks on the north and west sides. On the drier south face **Senecio gerberifolius**, collected by Ian Beyer from 4,500 m, on the mountain of Cofre de Perote in Mexico has provided a bold display right through to December with its bright yellow flowers standing out against its part silvered foliage. Many of the plants on the peat bank have been generously provided by the Royal Botanic Garden, Edinburgh, and the many gentians and ericaceous plants appear to be thriving in their new situation.

The site of the new Alpine House is framed by an extension of the old brick boundary wall and the wall and house have been linked together by a fine York stone patio, expertly laid by the staff and students of the Herbaceous Section. In the future it is also hoped to add in some raised stone beds along the re-aligned and landscaped approach to the house but meanwhile plant enthusiasts will no doubt enjoy the display as it stands between two and three thousand rare alpine, many of which have never previously been grown at Kew.

THE LODER VALLEY RESERVE, WAKEHURST PLACE

By J. B. E. Simmons, Curator

On Wednesday 9th July, 1980, this botanical reserve for Wealden vegetation was officially opened by Sir Giles Loder and designated as the **Loder Valley Reserve** in commemoration of the family's past contributions to the Estate.

The opening was proceeded by a seminar with papers by:—

Professor J. P. M. Brenan — 'Introduction and Review of the Royal Botanic Gardens rôle in Plant Conservation'.

Richard Bailey (University of London) — 'The Wealden Woodlands'.

Janet Forbes (Nature Conservancy Council) — 'The Conservation of Old Herb-Rich Meadows in the Weald'.

David Harvey (N.C.C.) — 'Conservation and Management of Wetlands in Sussex'.

The formal opening ceremony (Sir Giles unveiled a plaque set in a large, 2,000 year old piece of Bog Oak extracted from the Valley during reservoir construction) and was attended by invited guests, marked the climax of five years planning and work on the Reserve. The staff particularly involved with this work on site and flora monitoring are Messrs Tony Schilling, Geoff Greenough and John Lonsdale with Keith Boyer, who has now been appointed as the specialist responsible for the maintenance of the Reserve.

The extensive southern areas of the estate, mainly comprising steep-sided woodland, had formed too discontinuous a boundary to allow cohesive development. But with the proposition by the Southern Water Authority to construct Ardingly Reservoir with an 18 hectare arm extending into Wakehurst woodland, the opportunity to create a botanical reserve, in the 80 hectares of the estate surrounding the water, became feasible. Negotiations with the S.W.A. and Mid-Sussex Water Board resulted in the acquisition of additional meadowland and uninterrupted access through the previously disjunct areas which now form the Reserve. The reservoir engineers also constructed a barrier at the head of the reservoir in order to allow the RBG to form a large Reed Swamp for the establishment of wetland species.

A large area of the Reserve is designated as a Site of Special Scientific (SSSI) by the Nature Conservancy Council. A rich representation of Atlantic bryophytes, algae and ferns can be found in this area including **Hymenophyllum tunbrigense** (Tunbridge Filmy-fern) and **Dryopteris aemula** (Hay-scented Buckler-fern). Much of the SSSI is on the extensive outcrops of sandstone, but areas of woodland have also been designated and include native rarities such as **Helleborus viridis** (Green Hellebore) and **Epipactis purpurata** (Violet Helleborine).

A summary of the policy, habitats and walks is provided for the visitors by means of a leaflet (containing other information and a map) from which the following is extracted:—

"Policy

The Loder Valley is planned to provide a protected reserve for the native plants of south-east England, with particular reference to the flora of The Weald. Provision is also made within the reserve for the conservation of a number of trees and shrubs not native to the area but threatened in continental Europe. Our main objective is to provide suitable habitats for the continued success of complete plant communities. Three major habitat types are to be found within the reserve, woodland, meadowland and wetland. Each may be further sub-divided into more specific environments.

For example the woodland consists of economic forestry plantings, 'natural' Oak woods, coppice and scrub, each requiring a particular management technique.

Wildlife conservation follows naturally from our botanical commitments, each habitat being suited to a different range of bird, mammal and invertebrate species. Encouragement is given to individual species by the provision of breeding sites, food plants and completely undisturbed refuge areas.

Geology

The geology of the area gives rise to a dissected landscape containing ponds and streams, gentle and steep slopes and a wide variety of soils. Upper Tunbridge Wells Sand is found on the high ground to the west of the estate; below this is the Upper Grinstead Clay which is red at surface level. Upper and Lower Grinstead Clays are

separated by Cuckfield Stone, calcareous sandstone which forms the crests of ridges. Ardingly Sandstone forms impressive crags and rock outcrops, whilst valley bottoms consist of Wadhurst Clay. Glacially fragmented rocks are sometimes found in the upper reaches of valleys or below steep slopes.

Habitats

i) Wetland

Aquatic and wetland habitats are among the most threatened in Britain. Intensive farming practice and the demand for building land has resulted in the infilling and drainage of many ponds and marshes in recent years. The reserve provides a very varied selection of habitats including open water, marsh and reed-swamp, secluded ponds and moist woodland margins.

Look in particular for the great variety of plants to be found in these areas and the adaptations they have made to enable them to take advantage of each situation. Notice also the wealth of animal, bird and insect life associated with these areas.

ii) Meadowland

The mention of the word meadow conjures up thoughts of flower studded fields. Sadly this is no longer the case. There is very little old meadowland or permanent pasture remaining. Farming systems, change and modern selective herbicides, and artificial fertilizers, have dealt and almost fatal blow to many species of plants common only a few years ago.

Some of these plants can be seen in Hanging Meadow which has been undisturbed for approximately twenty-five years. In the paddock near the foot-bridge native plants are being introduced to enrich the flora still further.

iii) Woodland

The Woods of Wakehurst once formed part of the ancient Forest of Anderida named after the Roman fortress of Anderida (now Pevensey) of A.D. 63. This forest was part of a great wooded area which stretched from Kent to Hampshire. After the 11th century the forest was rapidly denuded especially for shipbuilding and iron smelting. However, Sussex remains to this day the most heavily wooded county in England. The woods you see today include areas of economic forestry, semi-natural oak woodland, hazel and chestnut coppice, scrub, and alder carr. Each area has its own associated flora and fauna and is managed in a way designed to preserve this particular habitat.

Walks

Two 'circular' walks are provided for restricted use subject to the conditions of entry. Each walk covers a distance of one and a half miles, takes about an hour, and is clearly marked by colour-coded larch posts. The more ambitious may combine the two routes and walk them as a complete circuit. (Full details of these walks and other supplementary literature can be obtained from Wakehurst.)"

The intention is to conserve the traditional Wealden character, beauty and interest of this area and to ensure that the diversity of scenery and variety of biological habitats are maintained. It is thus a small, but nonetheless significant contribution to the ever increasing needs of plant conservation.

(Note — entry to the reserve is to be controlled and by written application to the Administrator at Wakehurst Place.)

KEWITES ON THE ISLAND OF DOMINICA

By R. I. Beyer, Deputy Curator

Kew's association with Dominica goes back some 90 years to 1891 when a botanical station was set up to develop the island's agricultural industry. At that time the Director of Kew played an active rôle in recruiting professional horticulturists to manage such enterprises throughout the tropics and needless to say many were ex-Kewites. The British Government purchased an area of land for a botanical station just outside the Dominican capital Roseau, and Henry Green was sent out from Kew to set out experimental plots and formulate plans for a botanic garden.

It seems that Green did not stay very long and Joseph Jones left Kew in March 1892 to take over. Jones however must have found the challenge and the climate very much to his liking and he stayed to lay the foundations of what by the 1930s had become the finest botanic garden in the Caribbean. The Kew Guild recognised his professional standing by electing him President in 1921 and, in recognition of his public service, he was also appointed to the island's legislative council and awarded the O.B.E. Jones was succeeded by F. G. Harcourt who continued the work until 1939 when he retired. Again, Harcourt served on the island legislative council and also was awarded the O.B.E. for his services to the island. Two other Kewites served under Harcourt named F. L. Squibbs and W. E. Bassett but I have been unable to find out how long they stayed. Harcourt was elected President of the Kew Guild in 1962.

When Harcourt left Dominica in 1939 there seems to have been a dramatic decline in the standards of the garden and twenty years later W. M. Campbell, the Curator of Kew, was commissioned to report on the garden and to make recommendations as to future maintenance and development. Unfortunately his report seems to have had little impact. On 29th August 1979, Hurricane David swept across the island causing catastrophic damage and the garden was left in a state of ruin.

The island is now an independent state and relies on agriculture to support its economy, consequently considerable international aid is needed to enable the island's population to overcome the serious loss of crops on which they depend. Now under the Department of Forestry, the botanic garden needs to be started again, building on the skeleton which still remains. To their credit, the Dominicans realise its importance,

particularly in relation to its rôle as a public facility and as a centre for work associated with the conservation of their unique flora, but they have little if any money to achieve this aim.

A good American friend of the island, Mr. J. D. Archbold, offered to pay the expenses of a qualified horticulturist from Kew to visit the island to evaluate what immediate steps need to be taken to tidy up the site and to recommend long term plans. It was my good fortune to be nominated to undertake this task and I spent two weeks during December carrying out an initial survey.

Dominica is a volcanic island of some 30 miles in length by 16 miles wide and is still covered by large tracts of virgin rainforest and very different from the other islands in the Leeward group. The annual rainfall at sea level is 80 inches, rising to upwards of 300 inches in the mountains of the interior, so it is little wonder that the vegetation is luxuriant. Unfortunately, it is not possible in the space available to detail my experiences which were many and varied but, if you are looking for something different, I would recommend a holiday there — go prepared with waterwings.

My worst fears were realised when I saw the garden for the first time and to begin with I felt complete despair. However, two or three days spent looking carefully at the site made me realise that, though it will be impossible to recreate what past Kewites had achieved, it will be possible to develop a botanic garden with the limited resources available which fulfils the current needs of the island. Of course, this depends on money being found to employ a trained horticulturist for a period of two or three years to set up the organisation and train the staff. Hopefully it will be possible to find the money and an ex-Kewite to do this.

During my exploration of the area around the site I found a small neglected military cemetery (the British had a garrison on the island during the mid-nineteenth century) and lo and behold the grave of Joseph Jones just inside. I felt very sad that the cemetery was in a complete state of neglect. Before the hurricane some twenty royal palms had stood within the area, however all but four had been blown down. The grave of Joseph Jones is straddled by one of these and is a very sad and depressing memorial to a Kewite who helped create the tradition of which the Kew Guild is so proud.

It is my earnest hope that some way will be found to at least tidy up the cemetery by providing a small sum of money to clear away the undergrowth, dead trees, etc. Perhaps similar sentimental feelings will be expressed by other members of the Kew Guild and hopefully we can keep this small monument to our rich past in the manner it deserves. Any suggestions, or better still money?

REFERENCES: Kew Guild Journal 1921 p. 3. Kew Guild Journal 1930 p. 787. Kew Guild Journal 1962 p. 135.

PLANTS OF THE BIBLE IN GARDENS

By F. Nigel Hepper (Kew Herbarium)

Many of the plants mentioned in the Bible are to be seen at Kew, although they are not grouped together into a biblical garden as happens elsewhere. For example in Bangor, North Wales, there is one around the cathedral, while in Australia a biblical garden has been laid out near Sydney. Several others occur in the United States where there is a great interest in the subject. During the autumn of 1980 I had the privilege of visiting Amsterdam to see the exhibition of plants of the Bible sponsored by the Free University botanical garden as part of the university's centenary celebrations.

The exhibition was laid out for a month as a temporary garden in the large, closed gallery surrounding the main hall of the university. Near the entrance was a transparency show with recorded commentary in order to set the scene. It told how the people of Israel left Egypt and wandered in the wilderness before crossing the Jordan to settle in the Promised Land. Photographs of the trees and plants encountered on the way were shown, as were the crops grown in the land. The exhibits therefore began with the desert.

A full-size Bedouin tent was pitched in order to display the food plants they used. Homely items such as querns for grinding corn, sieves for cleaning lentils and strings of garlic were laid out around the half burnt logs and heap of camel dung!

The path winding around the exhibition was informally bordered by massive ropes lying on the floor in order to retain the sand and peat into which many of the exhibits were plunged. Desert plants, such as saltwort and acacia, took visitors up to the representation of the River Jordan. Here a large shallow pool was fringed with eight foot high papyrus and poplars in tubs, which were backed by an enormous photograph of the upper Jordan valley. The products of the Promised Land were imaginatively displayed. For example a portion of a barley field was carefully cut off from the wheat field by a stone wall to keep them separate according to Mosaic law, and thistles sprouted from the margins. On the other side of the path a cart loaded with sheaves stood beside a threshing floor with primitive farm implements loaned by museums. Baskets displayed all the kinds of biblical fruits, such as pomegranates, fresh and dried figs, green and black grapes, which were available as free samples to be replenished by the organisers as need be! A market type of arrangement was used for baskets of wheat and barley, as well as lentils, almonds and spices, such as coriander. A heap of fresh melons and cucumbers, though of modern cultivars, was an effective reminder of the time the Israelites longed for them in the heat of the desert. There were enormous onions, leeks and garlic, such as Moses never dreamed of! Hanging from the walls were bunches of the dried potherbs, marjoram, mint, dill and rue, coupled with photographic reproductions of them from old herbal illustrations and relevant quotations from the Scriptures.

The sequence concluded with glass-topped cases displaying illustrations, books, herbarium specimens, bibles, garden catalogues and anything more or less relevant to the theme. Even the exit was decorated with a huge, colourful display of flowers specially flown in from modern Israel, while a garden shop sold plants and books to recoup some of the expenses.

After visiting such an exhibition I was full of admiration for the organisers, especially Mr. D. Smit the curator of the botanical garden. He had started to make arrangements about a year and a half before the exhibition was due to open. He used the resources of five botanical gardens in Holland and Belgium, as well as the good will of the Israeli government and many individuals. Seeds of annual spices and cereals were purchased and the plants raised during the summer. Some of them were dried, while others were used as living plants in the display. The trees presented a problem as large pot-grown samples had to be located and then transported to the site.

The sheer logistics of the enterprise was formidable and considerable expense was incurred too. Planning and preparations had to be on a grand scale to fill the space, otherwise the display would have been unimpressive. In the event the effect was splendid and very educational. It certainly gave me the idea that local flower shows, and even Chelsea itself, would be able to stage a similar exhibition on a smaller scale.

It is a pity there is no biblical garden at Kew as we often have enquiries about the plants mentioned in the Bible. To make up for it I have personally written a booklet which HMSO have just published under the title "Bible Plants at Kew", (price £2.95, on sale in the Orangery and retail bookshops). It includes most of the species since Kew is able to provide climatic conditions for a wide range of plants. Moreover, the Museums supplement the living collection by displaying plant products such as timbers, resins and fibres. In the Marianne North Gallery there are also oil paintings of several biblical plants, some of which have been reproduced in this booklet. Altogether there are 16 pages of coloured illustrations as well as others with line drawings, and it should prove to be of interest to readers beyond the bounds of Kew itself.

THE NATIONAL BOTANIC GARDEN OF ZIMBABWE

By T. Müller

National Herbarium and Botanic Garden, Department of Research and Specialist Services, Ministry of Agriculture, Salisbury, Zimbabwe

Introduction

As long ago as 1902 the people of Salisbury set aside some land approximately 4 km north of the city centre as a place for public recreation. In 1949, 68 hectares of this land was handed over by the

City Council to the Government for the development of a National Botanic Garden, but due to shortage of funds, active progress commenced only in March, 1962.

The topography of the site is flattish towards most of the boundaries and rises to a ridge north of the centre. The total rise in altitude is from 1,500 m to 1,540 m above sea-level. The soil is a red loam derived from gabbro, which also forms large continuous rocky outcrops on the steeper slopes and numerous more isolated smaller outcrops in the flatter areas. The natural vegetation is savanna-woodland dominated by the leguminous trees **Brachystegia spiciformis** and **Julbernardia globiflora**. The average rainfall is 870 mm, which falls mainly between November and March. Light frost can occur in the colder months.

Aims of the garden

Basic to all planning is the intention to build up a comprehensive collection of plants but at the same time to arrange them so as to create an aesthetically pleasing landscape. Trees and shrubs are grouped so that they delimit pleasantly-shaped open spaces and vistas which, it is hoped, will produce an atmosphere of peace and restfulness. The object is to provide a garden of scientific value and also a place which can be a source of pleasure where people can relax from the strain of modern life.

The climate in Salisbury is suitable for the cultivation of a great number of plants from all over the world. However, because space is limited, clear objectives are necessary to determine which plants to grow and which to leave out. In order to have a meaningful arrangement of plants, the garden is sub-divided into several areas, each devoted to a specific theme which forms a component of the over-all concept.

A large portion (35 hectares) is allocated to the woody flora of Zimbabwe. Here the plants are arranged in sections, each of which represents a broad ecological unit. Walking through the indigenous areas the visitor will encounter all the major types of vegetation in the country. Grouping plants ecologically allows for a great variety of species to be planted in relatively close proximity without creating disorder. In these sections it is hoped eventually to capture some of the atmosphere that prevails in places where the natural vegetation is still unspoiled.

For important genera such as **Ficus**, **Acacia**, **Combretum**, etc., systematic sections embracing plants from the whole of Africa are being established. Almost all the species occurring in Zimbabwe have been introduced into the garden but the acquisition of a relatively complete collection from the rest of Africa will be a slow process.

About 20 hectares are used to exhibit exotic species. The idea is to concentrate on phytogeographical regions in which the vegetation is controlled by climatic factors similar to those which prevail in Zimbabwe. The plants are placed into geographically arranged sections which comprise the savanna-woodlands of South America, India, the Far East, Australia and elsewhere in Africa. An attempt is also being made to

build up a few small evergreen forests with trees from other parts of Africa, because they show interesting relationships with the forests along the eastern border of Zimbabwe. In selecting plants for the exotic sections, emphasis is placed on species that illustrate the concept of continental drift.

The remaining 10 hectares are left in their natural state as an example of the type of woodland that occurs on gabbro in the Salisbury area.

Achievements

Building a botanic garden is obviously a long-term project and, since the garden is only 17 years old, development is still at a relatively early stage. No funds for projects requiring capital were available for the first 10 years. All efforts, therefore, had to be directed towards planting trees, shaping the land and planting lawns. This is rather unspectacular development but nevertheless of primary importance; also, much can be achieved with little money. The trees form the essential framework of a botanic garden and the earlier they are planted the sooner the desired effect will be achieved. Where the newly planted trees are well established, significant changes towards the visualised goal take place every year due to the growth of trees alone. Lawn is of equal importance; it shows up the planted trees and shrubs and provides easy access to the various sections; it also prevents much of the sheet erosion that occurs if the original tufted grass cover is repeatedly cut.

About 10 years ago the Combined Oil Companies donated \$50,000 for water development. This was a great milestone in the history of the garden. For the first time a substantial sum of money was available for capital development and was used as follows: A plastic-lined ornamental lake of 0,4 ha surface area was constructed to serve also as a reservoir. Five bore-holes were drilled, three of them equipped to deliver water directly to the lake. A pump-house fitted with three pumps was built; two of the pumps are for irrigation and one for streams. Main delivery pipes from the lake to various parts of the garden were laid and further donations made it possible to instal permanent sprinkler systems in all of the evergreen forest areas. If more funds are forthcoming, projects for the immediate future include the construction of two more streams and the development of a scenic viewpoint in the central area of the garden where there is a beautiful view looking down towards the city centre.

Even at this comparatively early stage a stroll through the garden enables one to sense the atmosphere of some of Zimbabwe's diverse vegetation in its natural setting. One might start by visiting the evergreen forests and continue on through wooded savanna to lowveld riverine vegetation. Some of the highlights of such a walk through the garden may be found in the descriptions below.

Evergreen forest

In some places in Zimbabwe, mainly along the eastern border, there still exist some evergreen rain-forests similar in structure to the great

forests of the equatorial belt. They occur where rainfall is plentiful (over 1,500 mm) and some moisture is available during the dry season. Because water is not limiting to the extent that it is in drier regions, growth is quite luxuriant. The forests are often layered, consisting of canopy and under storey species, a shrub-layer and ground-cover. There are many lianes and the trees are often covered with epiphytes. The plants of the lower layers are specially adapted to reduced light intensities. The height of the canopy trees in the best developed forests as for example at Mt. Selinda, is up to 50 m. Because conditions are equable, competition between the species is less fierce and a large number of species can co-exist. This makes the forests rich in species and many plants occur that are found nowhere else in Zimbabwe, among them a great variety of very beautiful trees.

These forests are of considerable botanical interest and a great effort has been made to create replicas of them in the Botanic Garden. Since the species composition changes with altitude, the plants in the garden are arranged into high, medium and low altitude sections. Many expeditions have been undertaken to collect seed and seedlings from the forest areas and by now the three sections contain most of woody species that occur naturally. The sprinklers help to create a microclimate that allows the growing of a typical ground-cover of ferns and forest herbs. Apart from some notable exceptions, forest species grow well in Salisbury; all that is needed is additional water.

The high-altitude forest section is being developed in and around a steep-sided valley ideally suited for a cascading stream, which is a project at present under construction.

Trees planted here occur mainly high up on the eastern and south eastern slopes of the Inyanga, Vumba and Chimanimani mountains, mostly above 1,500 m. A number of yellow-woods (**Podocarpus latifolius**) are grouped in one corner and it is hoped to create eventually the unusual atmosphere that one finds in the almost pure stand of yellow-woods found high up on the Zimbabwean Himalayas. Planting commenced in this section in 1964 and there are at present 350 established trees and shrubs, representing 101 species.

The medium altitude forest section is devoted to plants that occur mostly between an altitude of 900 m and 1,500 m. The best developed forest of this type in Zimbabwe is the Chirinda Forest at Mt. Selinda, which is especially rich in woody species; most of the plants grown in this section originate from there. Planting started in 1963 and so far 700 trees, shrubs and lianes comprising some 170 species have been established. There is a planting distance of 8-15 m between the main canopy species and the trees and shrubs between them will form the lower storeys. The largest trees are now about 15 m tall and the fastest growth rate is approximately 10 m in 10 years. Surprisingly, many of the larger species have flowered at a much earlier stage under cultivation than in their natural habitat. However, a lot of growth has still to take place in order to achieve the vegetation picture aimed at. Early shade is provided by fast-growing pioneer species such as **Trema orientalis**,

Polyscias fulva and the spreading **Albizia gummifera**. Some of the important hardwoods such as **Khaya nyasica** (red mahogany) and **Lovoa swynnertonii** (brown mahogany) are growing well. **Khaya nyasica** is the "big tree" at Mt. Selinda; measuring 62 m, it is the tallest tree known in Zimbabwe.

The low-altitude forest section contains plants from the Burma, Lower Pungwe and Honde valleys but in the main it is a replica of the Haroni-Makurupini Forest, which is situated at the southern end of the Chimanimani Mountains near the Mozambique border at an altitude of about 300 m. Several equatorial species occur there, for example **Funtumia africana**, **Erythrophleum suaveolens** and **Chlorophora excelsa**, a well-known timber tree from Mozambique and East Africa. All these species grow well in the garden, especially **E. suaveolens**, the ordeal tree of Malawi, which shows an astounding rate of growth. Many of the plants suffer from frost damage in the early stages but generally are unaffected by the cold once they are established. There is also an unusual, so far undescribed species of **Uapaca**; it occurs only along streams and forms large stilt-roots like a mangrove and although it grows well in the garden it has not yet developed the stilts. About 300 woody plants representing 100 species are now established. A stream running through this section has recently been completed and about 0.5 ha of adjacent ground has been planted up with herbaceous forest-floor and forest-edge plants. This is the first time after 16 years of tree planting that it has become feasible to make an effort with herbaceous plants, which signals a new stage in the development of the garden.

High and medium altitude savanna woodland

This is the largest section in the garden. The trees and shrubs planted here grow naturally on the central plateau of Zimbabwe above 1,100 m; they are the species found from Umtali to Bulawayo on hills, rocky outcrops, sandveld, red soil belts and vleis edges. The existing mature *Brachystegia* and *Tulbernardia* trees are incorporated in the design and form the framework for this section. This is the battleground of the garden; some of the trees, especially species from sandy soils, are almost impossible to grow. **Swartzia madagascariensis**, **Strychnos innocua** and **Ochna pulchra** have gradually perished after planting. **Burkea africana**, one of the common species on sandy soil, has grown 10 cm in seven years and it has proved equally difficult to establish in its own habitat. Initial growth of many savanna species is slow; the probable reason is that an extensive root system is developed before they gain in height. However, there are many others that have a reasonable growth rate, especially some of the acacias, combretums and terminalias, which make attractive little trees in only a few years. Approximately 1,200 trees and shrubs comprising some 181 species are at present planted out.

Low altitude tree savanna

Trees and shrubs from below 1,100 m are arranged in two sections, one for plants from the northern valleys and the other for those from the

south and south-east. Over 1,400 trees and shrubs have been planted but many are still small. There is a total of about 202 species. It is surprising how many of the low altitude trees can be grown in Salisbury: species like **Amblygonocarpus andongensis**, **Erythrophleum africanum** and **Guibourtia conjugata**, found only on deep sands, have established themselves remarkably well on the heavy red soil. However, others suffer similar problems to some of the species from the higher altitudes. Trees like **Adansonia digitata** (baobab) and **Hyphaene benguellensis** grow more slowly than they do in their hot natural areas but nevertheless make healthy-looking plants. The oldest baobab has grown to 5 m in 14 years.

Escarpment species are planted on rocky outcrops and those from deeper soils on the flat area; trees and shrubs are grouped so that they will eventually give the effect of typical tree savanna as is found at lower altitudes.

The ecological units into which plants have been placed up to now are rather broad and do not really correspond with naturally occurring plant associations in the strict sense. In nature there are numerous definable vegetation types, each corresponding to a particular set of environmental factors. At present attempts are made to create some authentic plant communities such as alluvial vegetation, **Commiphora** and **Kirkia** woodland, and some of the dry forests found on deep sands, e.g. jesse bush and Kalahari Sand vegetation.

Relatively recent marine deposits are rare in Zimbabwe and occur as cretaceous sands mainly in the Gona-re-Zhou area in Nuanetsi district. Many of the species found there occur nowhere else in Zimbabwe and they are grouped in a small subsection.

Riverine vegetation

Travelling through the country one often notices a distinct vegetation change when approaching a water-course. Most rivers and streams, except where they flow through gorges, are fringed with riparian vegetation and the species that occur are quite different from those of the adjacent land. Some species are also found in evergreen forests of similar altitude but most are confined to water-sides. Riverine vegetation also changes with altitude and there are in the garden two riverine sections, one for high altitude and one for low altitude; the latter also includes species found on flood-plains. The established trees and shrubs are patiently waiting for the streams which are still to be constructed, nevertheless growth is excellent and almost all the species are easily cultivated. Both sections are nearly complete. The young **Acacia albida** already drop their leaves during the rains as they do in nature. When in flower **Phyllanthus reticulatus** produces the characteristic potato smell so typical of low altitude rivers. The fever trees (**Acacia xanthophloea**), although confined to the extremely hot flood-plains of the south-east, have grown up to 10 m since they were planted in 1970. About 430 woody plants of just over 100 species are planted in these two sections.

Forest outliers and high rainfall woodland

This is a small section containing plants obtained from places away from the Eastern Districts where, because of locally high rainfall and mist in the dry season, there is some form of evergreen forest. Examples of these outliers are found at Wedza Mountain, Inyoni Hills, Buhwa Mountain. The section also embraces areas such as Murahwa's Hill near Umtali, where the vegetation is intermediate between forest and woodland. Some very rare trees are planted here, including one specimen of **Juniperus procera**, an East African conifer, the seed of which was collected from the only tree known to occur naturally in Zimbabwe, and seven specimens of **Bivinia jalbertii**, a tree found only on the Nyoni Hills and also rare outside the country.

Functions

Apart from creating a fairly large recreation area near the centre of an expanding city, one of the most important functions of the Botanic Garden is its contribution towards education. A large and varied collection of plants enables biology teachers from primary school to university level to illustrate and enrich their teaching with living plants. Already we are able to supply a wealth of interesting and unusual material. The arrangement of plants in natural communities assists the student in gaining an elementary knowledge of plant ecology.

The National Herbarium is situated in the Botanic Garden and it houses a collection of over 250,000 dried and pressed plant specimens. These specimens include all the indigenous Zimbabwean species, a comprehensive collection of plants indigenous to adjacent countries and a representative collection of cultivated plant material. The herbarium is concerned mainly with plant taxonomy or systematic botany, which is the naming and classification of plants. This requires reference to be pressed specimens, but is greatly assisted by the availability of living material as some taxonomic research can only be done with the aid of live plants. The Botanic Garden has an important research function in helping to solve the taxonomic problems that still remain in Zimbabwe. It also supplies seed and other living and dead plant material to scientific institutions in many parts of the world. This co-operation provides a service for research in medical and other fields as well as plant taxonomy and ensures that research is carried out on Zimbabwean plants in other countries. All plants grown are recorded in a card index system, giving data on germination time, rate of growth and cultural requirements; thus a great deal of information about indigenous and introduced plants is being accumulated.

The Garden not only assists people actually concerned with botany, but also stimulates in the public an interest that will lead to a deeper appreciation of the Plant Kingdom.

In this age of specialisation there is a need to develop facilities such as botanic gardens where people can add to their general knowledge as a form of relaxation. The stage has been reached here where those who are interested in the indigenous flora can familiarise themselves

with the majority of woody species that occur in Zimbabwe. People with a *more general* interest in wild life have the opportunity to learn more about the vegetation, and this knowledge enhances their pleasure and deepens their understanding of natural habitats.

December 1980.

TOM MÜLLER

National Herbarium and Botanic Garden, Zimbabwe

Now that Rhodesia has become Zimbabwe and the country is once again internationally acceptable, more people are coming for visits. A recent visitor was Richard Ward, the Editor of this Journal. He approached me for a few lines about myself as well as the previous article. I felt hesitant, but having looked at the student photographs of 1955 and 1956, I wondered what my mates of long ago were doing and thought that by writing a little article I might induce some of the people who appear in the photographs to do likewise.

After I left Kew I was undecided whether to make a career in landscape design, botanic garden work or plant taxonomy and I worked in all three fields, including three years in the Herbarium of the British Museum. In 1962 I was appointed Curator of the National Botanic Garden of Rhodesia with the Branch of Botany in the Ministry of Agriculture. This meant developing a botanic garden from hacked-about virgin woodland. In this I found a job which provided scope for all three of the above mentioned interests. In my spare time I took a B.Sc. degree in Botany through the University of London, which was a struggle but at the same time deepened my understanding of the plant kingdom and opened new vistas. In 1975, while remaining Curator of the Garden, I was promoted to Head of the Branch of Botany with responsibilities for the National Herbarium and other general botanical problems in the country.

For the last few years I have become interested in descriptive ecology and vegetation survey, and have completed the field work for a study of the rainforests that occur in the Eastern Districts of Zimbabwe. I am also trying to get a National Vegetation Survey off the ground and during the last four years we have managed to solve most sampling and analytical problems for this project.

Some of the most enjoyable times here have been the various expeditions, mainly in Zimbabwe but also in Mozambique, Malawi, Botswana and South Africa, on which I collected live plants and seed for the garden and specimens for the herbarium.

In 1962 I married the girl whom I used to see cycling over Kew Bridge when I was a student. We have two daughters, eight and 18 years old.

I still run regularly, although at a reduced speed. However, I gave up playing soccer goalie about five years ago when getting bruised on Saturday afternoon began to lose its appeal. Tennis which I learnt to play on the lovely lawn courts at Kew is now my main sport.

My interest in plants, which causes my family and other people to think that I am slightly mad, and for which my stay at Kew is at least partly responsible, is still on the increase.

Tom Müller

December 1980

THE TRANS-ZAMBESIA RAILWAY, A LINK IN THE PROPOSED RAILROAD: Cape to Cairo. 1920

By George Coombes

Before proceeding with the building of the Trans-Zambesia Railway, I think it is necessary to know who was responsible and behind it all. As far as my memory will allow me, I will give briefly a list of the influential



George Coombes, 1915

and brilliant men closely connected with an outstanding project that has now gone down in history. Most of these brilliant men are no longer with us, their note worthy task well done, will as a memoriam to them, continue to carry on with its great aid to those who stand in need, and towards the progress of that country. First on the list is the late George Pauling, founder of the firm of Pauling & Co., a French engineering company, who undertook the building of the Trans-Zambesian Railway.

Mr. Libert Oury, Chairman of the Mozambique Co., and Trans-Zambesian R.R., and the Zambesia Mining and Development Co. He was a native of Belgium. His main office was

in London, where in 1922 we met for an interview regarding the coalfields that had been discovered at Tete, a place on the upper reaches of the River. The banks on the River at this remote place was not rocks, but a seam of pure outcrop of coal. Mr. Oury wanted to know from me all that I could tell him about that territory. He pointed to the fireplace and said don't you think that the Zambesia Coal makes a good blazing fire, and certainly a worthwhile project to go ahead with. I agreed with him.

Another great man, truly a developer, in the person of Mr. A. L. Lawley, who was one of the pioneers of the development of Beira,

Portuguese East Africa. I found him a very interesting man, and he was always ready to help. Other notables were Sir George Smith, Governor of the Nyasaland Protectorate, now under black jurisdiction, with the new name of Malawi. Dr. Banda, who practised medicine in the United States of America for a number of years, now leads the country's government. Sir Alfred Sharpe, former Governor of British Central Africa, together with many officials from Mozambique Portuguese East Africa did their part to bring the project to its conclusion. Last but not least was Sir Thomas Roy, General Manager of the Shōr'e Highlands Railway Co. Ltd., South Africa, a very close friend of mine.

Seeing that the Zambesia River is the most important factor to be considered before anything could be carried out, I think I should mention here of what the river really means to this part of the country. The river where it meets the sea, (the Indian Ocean) covers a large area. It changes its many deltas every year during the flood season, which occurs anytime from October and throughout the summer months. there is no rain from March (winter) through spring to summer. Chinde, the port at the entrance of the river, is Nyasaland's only outlet. It was almost obliterated by a cyclone that struck the place in February 1928. To reach the port of entry into Nyasaland, Port Herald, one had to take a river steamer, Stern Wheeler, stopping along the way at Wooding Stations, the only fuel they used. It was always ready cut and stacked in a convenient place on the bank for their use when needed. In the dry season river travel was very slow on account of the shallow sections and sand banks. Many times on my first trip up the river, it was so shallow that the only way we could proceed at all was by the natives kept on board with long poles to push us into the main stream and deeper water. There were many sandbars, resting grounds for large crocodiles, and unusual birds of every kind. The Flamingos were a sight to hold you spell bound. At night the vessel would pull up alongside of the river bank and stay until dawn.

We called at such places as the Caia Sugar Factory which was one of the three factories owned and operated by the Sena Sugar Company. We also made a stop at Ckupanga to visit the grave and pay homage to Mrs. David Livingston, wife of the noted explorer and missionary, David Livingston, who is laid to rest under a giant "Baobab", a tree of immense size and remarkable for the size of the trunk, sometimes 40 feet in circumference. It has many uses, and the mucilaginous pulp of the fresh fruit makes a cooling drink, also known as the "Cream of Tartar Tree".

Finally after several days we reached the place where we had to disembark. This is when I realised I was in "Darkest Africa". We pulled close to the bank, a couple of planks were laid down so that we could land. Upon landing we climbed the bank and got a first hand look of what surrounded me. Nothing but elephant grass. After a walk we finally reached a shed. If my thinking is still right this particular spot was the River Terminal, bearing the name Chiromo. Here we had arrived from a never to be forgotten river journey, and expected to find the weekly so called train awaiting us, but it was not there, and still no news

of when it would be. Travelling with me were several military officers who had to report for duty at a military camp at Lilongwe or Fort Johnston, which is at the south end of Lake Nyasa, for the war against the Germans in East Africa, Tanganyika was in progress.

Together with these officers were three government officials including myself. One was the Chief Secretary and the other an M.D. sent out to study tropical diseases, of which at that time so little was known. We had quite a wait for our transportation. We noticed another building in the distance and found it to be a commissary. We all went there to see what we could get to eat on the train, should it not have a dining car. We did not fare very well regarding eats. In fact there was nothing worthwhile to eat, only hard and dry ship biscuits, but plenty of strong drink. So the boys bought liquor. Nothing to go with it, which was bad. Not even water, if there was, you could not have drank it, too hot and no ice and no chance of ever getting any.

Finally the so called train arrived. It was made up this way, one coach for us, there were only eight or so passengers. It was comfortable, with toilet and circular shower. The other coach, mainly for baggage and merchandise probably ordered months ago, but no dining car, and nowhere to eat en route. The rest of the train was made up with flat cars, each carrying two Ford Touring Cars, open jobs of the First World War vintage, for the army officers' use, and quite a few De Luxe Buicks four door, crated in boxes. They were beautiful cars, I can vouch for that because they were offered me at the end of the war, still crated for a give-away price.

We were on our way now for the interior. Everything was going along as well as could be expected under the circumstances, until we started to climb the Shire Highlands. The temperature was excessively high and we were all suffering from the intense heat. The only water we had was in a tank placed near the roof of our coach to supply water for drinking, showering and toilet. This much needed water became useless because it almost reached the boiling point. We were sorely in need of liquid, in fact we were really suffering, the intense heat was punishing us and there was nothing we could do about it. All we had was plenty of imported Scotch, so we were forced to drink, coupled with the hard, dry ship biscuits. To make matters worse the fuel for the power was wood, and climbing the Highlands which was well forested on each side, so more power steam was needed, so the sparks began to fly. Although the spark arrestor had been placed on the engine's chimney as a protection against the flying sparks, it failed to work on this trip. It became almost unbearable without having anything serious happening. Then to add to our misery the roof of our coach caught on fire, and we had no means to check it. The train was stopped and we were in no shape to beat anything out because we all had been quenching our thirst with Scotch. Anyway we did our tired unsteady best, jumped out and gathered some boughs of heavily leafed foliage and finally doused out the fire.

Back on the train we were really thirsty, so it was a case of back to Scotch again. You can imagine how we all felt. It was a first class introduction to a country that freely indulges in such beverages. Our troubles did not end putting out the coach fire. We were on our way when again the sparks began to fly, the heat now was more intense. The Ford cars must have been almost red hot. Some of the sparks reached them and several quickly burst into flame. This is when we had a real job on our hands. After stopping the train we quickly made it to the burning cars and dumped them overboard, then we checked the rest and returned to our coach. We then made a quick exit out of that hot spot because the burning cars had caused a forest fire that covered a large area.

It was a train trip I will never forget. It will live in my memory for all time. The train arrived at the terminal Limbe, near Blantyre at midnight. Needless to say we were a worn out bunch of passengers. At last I had arrived in "Darkest Africa".

In 1920 I was called upon to join other Forestry men from neighbouring territories, such as N. E. Rhodesia, Southern Rhodesia, Beira Portuguese East Africa, Mozambique etc. I have already mentioned previously in this essay all those who are responsible for the above railroad. Special arrangements were made for our use and transportation. A train made up of coaches for sleeping accommodation and a dining car awaited our arrival at the Junction at Dondo, where the proposed New Railroad will travel north to the chosen point on the Zambesi River, which will link with the Beira and Mashonaland R.R.

Upon our arrival at Dondo we immediately boarded our special train and headed due west through Mashonaland to visit the famous Amatonga Forests. We were all impressed to see such giant trees of African mahogany and many other trees little known to man at that time, and to think we were very privileged to be able to see and study nature at its best in one of Africa's finest Forest Reserves. After our visit to Amatonga we returned to Dondo to begin our tour of forest inspection and report upon our tests of the timbers when subjected to the destructive power of the ferocious White Ants. The tests were in this way: in our party of three, we each selected the type of tree we would use for the test. We had the natives who were employed to cut and prepare the chosen timber into the size of the average railway sleeper, and place alongside a large anthill. We would then drill into the large mound and bury most of it to see what had happened overnight. We each checked our specimen and were somewhat surprised to see much of the timber eaten away.

Similar tests were made in several forest locations. We came to the conclusion that there is no timber in that region that could withstand the destructive power of the White Ants. Little could be done to check the infestation, they were found to be everywhere. The anthills along the route were like mini mountains and were frequently seen.

The track was cleared and prepared under contract of ten mile stretches by Italians. If any of the allotted ten miles had any anthills to be cleared a special rate was paid to the contractor for every one he destroyed, because it entailed a lot of extra work blasting the hills before grading.

These ants were different to the others we had to watch out for. The hills vary in size and shape. During the day you don't see any life on the outside, they do their work in the dark. The adult ant is almost a quarter of an inch in length, almost transparent with a large brown head with powerful jaws, their legs are the same colour. The queen is almost three inches in length with a white transparent body and is found in a very large cell especially made for her. They perish quickly when exposed to hot sunlight. To give you an idea of how active they are, when on my first safari in Central Africa in 1917, my camp equipment, consisting of table, chair, bed, bath and wash-bowl, especially made for tropical use, also a thick canvas mat, all fared very badly because they were part wood and metal. Before my safari had finished, the ants had practically eaten away most of the wood. I managed to make them last by dressing the woodwork with a concoction the Dispensary had given me in my medical kit to check the insects from attacking me during the day, such as Tse-Tse fly, which causes the deadly disease of Sleeping Sickness which, in those earlier days so little was known about tropical diseases, you just had to die if you were stricken, hence the term the "White Mans' Grave".

The most important thing concerning this new railway link was to decide the best location for bridging the Zambesia River. During the early years of 1900 the British Government appointed two noted civil engineers, namely Sir Charles Metcalf and Sir Douglas Fox, to journey to Central Africa to make a survey and to get all the information pertaining to the Zambesi River. I have already written about what really happens on the river every year. The first time the two engineers made the trip to Africa, the river gave them the opportunity to see one of the worst floods in years. It covered a tremendous amount of territory. The flood water was known to have reached the great Urema Depression which lies west of the Okariongonian Mountain Region stretching far to the south. The Zambesi River flood water is said to have reached the Limpopo River in Zululand. The heaviest rain storms occur in the remote hinterlands, causing a massive build-up of flood waters before it reaches the world famous Victoria Falls, which eclipses the well known Niagara Falls by being two and half times higher and twice as broad. This tremendous volume of water spills into a great chasm, and in comparison has a very small outlet, more like a large crack in the Eastern Wall. A large cloud of mist can be seen for miles rising high above the chasm and the thunderous sound, hence the description for all this natural display given by the natives of that part is "Maisija-Ya-Tounya", Thunder Sounding Smoke.

Late spring would be the best time of the year to see the majestic beauty of one of nature's greatest formations. During summer one

cannot see very much of the Falls owing to the perpetual mist cloud that almost obscures its beauty. Kandahare Island, situated several miles down the river, boasts of having a perfect rain forest with its own rare type of vegetation. It is remote and will probably remain so for all time. In my early life as I then knew that region, it was something wonderful to behold because it was still unspoiled by the hands of man. Later a change was made for the benefit of Rhodesia and territories farther north. It was decided to build a link with the existing South African Railway which travelled through Southern Rhodesia via Salisbury Bulaway, Umtali; from Cape Town to Beira (Portuguese East Africa). To build this link a bridge had to be built at the Victoria Falls. Once again the British Government secured the two well known engineering consultants, Messrs Metcalf and Fox. They decided that the bridge should be built over the outlet. This was quite a piece of engineering. As far back as I can remember, here is the way it was built.

First an arm was constructed on each side of the main Falls outlet. They remained that way for sometime until the two consultants were satisfied regarding the strength and safety of the two protruding arms. They had to be perfect in strength to receive the huge center structure, which was made in one piece, resembling a giant wedge. If I remember right, this wedge was 586 feet in length. Finally the masterpiece of engineering was slowly moved on a special track placed on the arms and together it was raised high above the arms. The giant wedge then slipped into the allotted space perfectly. Finally the railroad track was laid and now that center structure carries the weight of the train that makes a stop on the bridge for all those who are anxious to see and say that they have seen the Victoria Falls.

Finally, as I sit here still writing I feel I have so much to tell and write about, that it is very hard to confine an account of this kind. It involves a part of an unusual life style that I lived so long ago, and every event of those early days, and there were many such events taking place which are noteworthy, one feels they are worthy of recording. Whoever reads this article will, I know, fully understand how I feel at this late date in my life. I must say now, that I regret in not having written a full account of my life. I realise now I should have done so, for the countries and peoples of the world have changed so much, for all that has happened in the earlier days has now become history. Many of my colleagues have left their mark in the scattered countries throughout the world. They have done so much to add to the needs of mankind, not forgetting the pleasure and enjoyment they have left behind for everyone to enjoy. I feel a very privileged person in being able to travel to many parts of the world to see and appreciate their handiwork.

So in conclusion I will quote the ninth verse of Grays Elegy:—

The boast of heraldry, the pomp of power,
And all that beauty, all that ever gave,
Await alike the inevitable hour,
The paths of glory lead but to the Grave.

July 1980

REDEVELOPMENT AT KEW GREEN

By Lesley Adkins and Roy A. Adkins

S. W. London Archaeological Unit, Surrey Archaeological Society.

Summary

Redevelopment on the site of 47 Kew Green, Kew, London Borough of Richmond (NGR TQ 1885 7746) for the Royal Botanic Gardens, Kew, in January 1979, revealed the remains of six soakaways and a cellar, all constructed in brick and dating to the late 18th/early 19th century. They were probably associated with outbuildings belong to Cambridge Cottage.

The Cellar (figs. 2 and 3)

The butt end of a brick cellar was uncovered by the building contractors during site clearance. During this work a section of the north and south walls and most of the roof were accidentally removed. The cellar was cleared of rubble by the contractors. The exposed part of the cellar was rectangular in plan with a partition wall and doorway. The rubble and topsoil had not been cleared from beyond this doorway, but the cellar could be seen to continue for at least two metres. The main walls were 0.36 m thick and were constructed in brick using the English Bond bonding pattern. These main walls seem to have been constructed first in a prepared trench, followed by the partition wall with the doorway and finally the roof, in two courses:— the top course rested on top of the partition wall and the lower course abutted either side of the partition wall (fig 2). A small portion of lead sheeting suggested that the exterior of the vault was originally covered with lead, probably as a waterproofing. The whole structure had then been concealed with topsoil to a depth of no more than 20 cm at the highest point of the roof.

Soakaways 1-6

Six soakaways were uncovered to the north of the cellar during the building work. They were all circular and constructed in brick. All the soakaways had walls only one brick thick and none had a discernible brick bonding pattern. No dating evidence was recovered. Soakaways 2, 3, 5 and 6 were not completely revealed by the contractor's trenches.

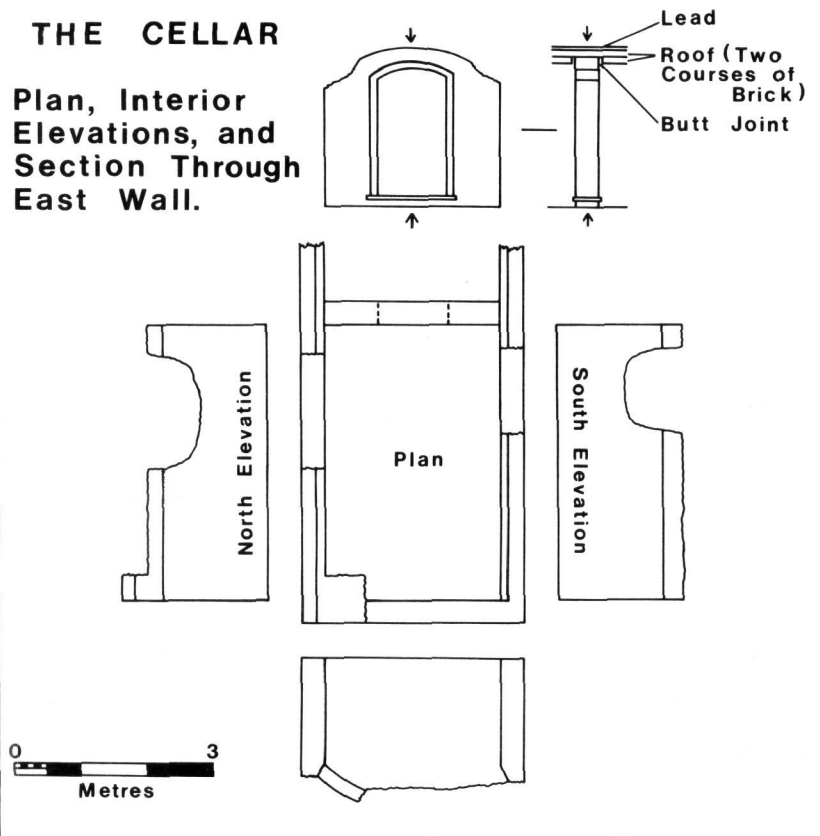
Discussion

The site of the cellar and soakaways is in the vicinity of Cambridge Cottage which is known to have existed as a private residence from at least 1760; the cottage was purchased in 1773 by George III and became a royal residence in 1838; it became part of Kew Gardens in 1904 and is at present used as a museum.

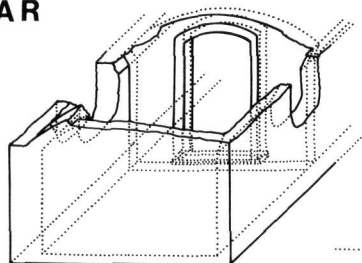
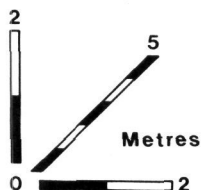
In 1771 the site of the cellar and soakaways was occupied by coach houses and stables and by 1852 the area was occupied by a forge, stables and sheds. There seem to be no records referring to a cellar or tunnel at any date and none of the buildings shown on early maps appear to coincide with the position of the cellar.

THE CELLAR

Plan, Interior Elevations, and Section Through East Wall.

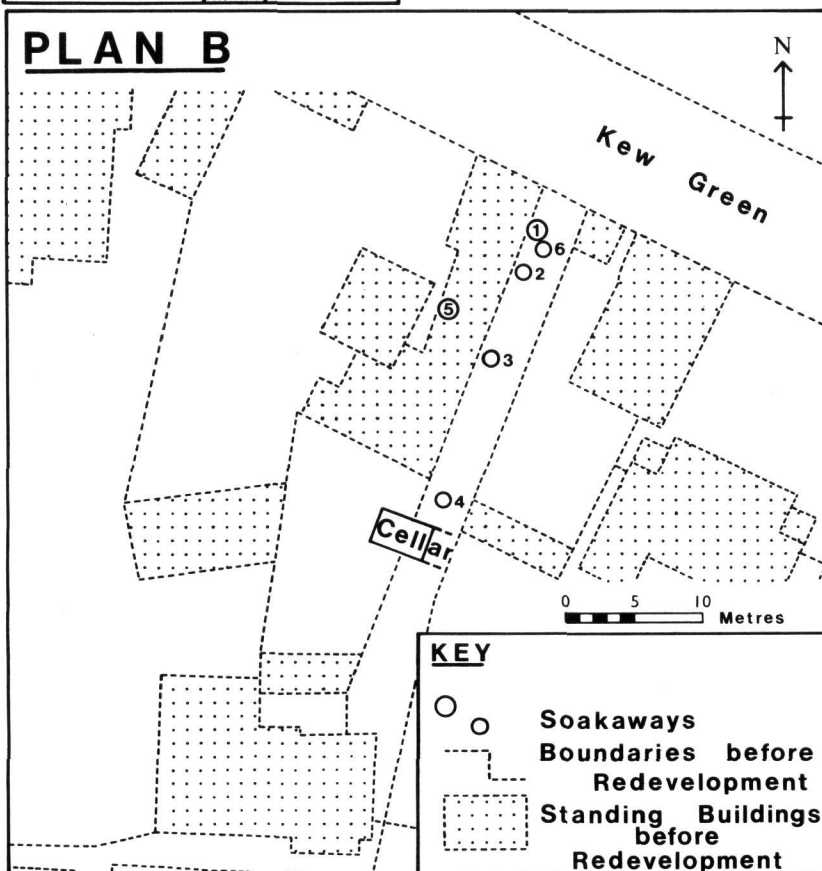
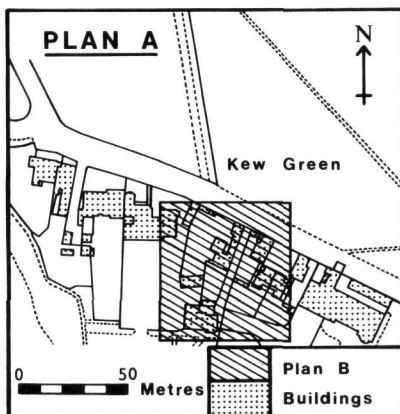


THE CELLAR



(Oblique Projection)

Hidden Detail



The type of bricks used for the cellar and soakaways is the same and so the structures were probably of similar date unless some of the bricks had been reused. The English Bond brickwork does not help in dating since this brickwork style was in use from before the 17th century and continues to the present day. The bricks have dimensions of 9" (230 mm) x 4½" (115 mm) x 2½" (65 mm), each with a shallow frog measuring 6½" (165 mm) x 2¾" (70 mm) and ⅝" (15 mm) deep. This type of brick dates to the late 18th/early 19th century. The soakaways and cellar may therefore belong to a period just before or after the freehold of the property was purchased by George III, or else to the early 19th century when many alterations were made to Cambridge Cottage and its outbuildings.

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Acknowledgements

Thanks are due to Chapman, Lowry and Puttick Ltd., (site contractors), for allowing us access to the site, M. A. Arnold-Gilliat and S. Fitzgerald of the Royal Botanic Gardens, Kew, Miss D. Howard of Richmond Reference Library and J. S. McCracken.

AUSTRALIA'S GIFT TO KEW

Mrs. Eileen Aston, wife of the Chairman of Powell Duffryn and of the United Kingdom Tree Council, rests on her spade after planting a **Eucalyptus ficifolia** in Kew Gardens.

With her are Mr. Aston and (left to right) Professor Brennan, Director of Kew Gardens, and Mr. J. B. Simmons, Curator.

The tree, needed as a replacement, was donated to the Royal Botanic Gardens by the directors of Powell Duffryn Australia.

Last October, Powell Duffryn's bulk liquid storage division opened its new plant at Botany Bay.

It was Sir Joseph Banks, the scientific director of Kew at the end of the 18th century, who accompanied Captain Cook on his expedition to Australia in 1769.

When they landed near what is now Sydney, they named their landing point Botany Bay because of the wealth of plants.

A naturalist and president of the Royal Society for more than 40 years, Sir Joseph was instrumental in contributing to the collection at Kew and initiating interchanges of plants with Australia.

The new Powell Duffryn terminal was built on reclaimed land which sorely needed vegetation.



Left to right: Mrs. Eileen Aston, Professor Brenan (Director of Kew Gardens) and Mr. J. B. Simmons, Curator.

With its regard for environmental considerations, Powell Duffryn aims to plant as many trees as possible in the area.

When Mrs. Aston attended the opening ceremony, she started the process by planting a symbolic blue gum, the national tree of Australia.

The August ceremony at Kew marked a reciprocal gesture by the directors of Powell Duffryn Australia.

Text from an item in Powell Duffryn News, Winter 1980.

TUESDAY EVENING LECTURES 1980/81 SEASON

As usual a full series of general interest talks with a botanical bias were held in the Lecture Theatre at 5 p.m. on Tuesdays during the

autumn, winter and spring. For the record the titles and lecturers' names are listed below. At the time of writing only half of them have been presented so it is possible that there may be some changes in the 1981 programme. All lectures are illustrated with transparencies and some lecturers display objects and plants of special interest.

- 23 Sept. 1980 **Prof. Lee Yong No** (Seoul, Korea) 'Korean flowering plants'.
- 14 Oct. 1980 **Dr. Jackie Reilly** (Bedford College) 'Ginger hunting in Malaysia'.
- 4 Nov. 1980 **Dr. Hugh Glen** (S. African Liaison botanist) 'Some thoughts about *Lampranthus*'.
- 25 Nov. 1980 **John Dransfield** (The Herbarium) 'Three months in Sabah'.
- 9 Dec. 1980 **Dr. Peter Brandham** (Jodrell Laboratory) 'Return to Roraima'.
- 27 Jan. 1981 **Dr. Phillip Cribb** (The Herbarium) 'Collecting Antelope Dendrobiums in Papua New Guinea'.
- 10 Feb. 1981 **Ian Brooker** (Australian Liaison Botanist) 'Up a Gum Tree'.
- 24 Feb. 1981 **Charles Jeffrey** (The Herbarium) 'A botanical visit to China'.
- 10 Mar. 1981 **Gail Bromley** (The Herbarium) 'Catinga, cerrado and churrasco — A Botanical Expedition to N.E. Bahia, Brazil'.
- 24 Mar. 1981 **Cliff Townsend** (The Herbarium) 'Herbie's First Ride — By Road, Rail and Lake in Tanzania'.
- 10 Apr. 1981 **Dr. R. Feldler** (Austria and Argentina) 'Argentinian Mountain Plants'. Lecture at Alpine House opening.
- 5 May. 1981 **Chris Bailes** (Living Collections) 'New Zealand Gardens and Plants'.

F. Nigel Hepper

TERRAPINS AT KEW

A sudden plague of terrapins early in 1980 took the staff of House No. 10 by surprise. One by one they were spotted, having wreaked havoc with the *Victoria* seedlings. Evidently somebody had a surplus of them or they were unwanted Christmas gifts released in appropriate surroundings. Five adults were caught, then two young ones turned up and were similarly dealt with.

OPEN DAYS 1980 and 1981

Owing to continuing pressure on staff and resources the biennial open days at Kew were cancelled in 1980. However, the Director decided to hold them on the 15th and 16th May, 1981.

ANNUAL RELAY RACE

This was held on Saturday 31 st May starting on the towpath outside the Brentford Gate. The course followed the same route as in previous years. Inspite of appalling weather the Kew team won competing against Kew Guild, Oaklands, Askham Bryan, Merrist Wood, Edinburgh and Pershore.

KEW FETE 1980

On Saturday 9th August about 2,000 people attended this Fête on Kew Green near the Main Gate. The takings from it plus the sponsored event held earlier in the year totalled £2,495.88 of which £1,750 was net profit for charities.

CUMBERLAND GATE

Cumberland Gate and Isleworth Gate both remained closed during 1980 owing to staffing problems.

THE MARIANNE NORTH GALLERY

A book on Marianne North's life and work entitled 'A vision of Eden' was published in October by Webb & Bower in conjunction with RBG Kew. It includes reproductions of many of her oil paintings and excerpts from her autobiography. It costs £8.95.

FOXES AND ORNAMENTAL FOWL

Following the destruction of 12 foxes during 1979 and the installation of a fence along the Old Deer Park to keep out others, ornamental fowl have been released in the Gardens. Black swans again grace the Lake, Guinea fowl have taken over the Rhododendron Dell (and sometimes may be heard in the Director's garden) and many others can be seen all over Kew.

WHITE ELEPHANT SALE

The first sale of lost property was held on 8th November. There was a good turn out of staff who rummaged through piles of miscellaneous garments, umbrellas, childrens toys and even cameras. A net profit of £75.20 resulted and was distributed equally between Staff Welfare Fund and Kew Club.

CHARITY BOTANICAL DRAWING EXHIBITION

Chris Grey-Wilson organized a very successful event which raised £920 for the benefit of Save the Children Fund. It was held on 26th and

27th November on the first floor of No. 1 Museum. Many well known and lesser known botanical artists kindly donated their valuable works for sale.

POOLEY'S COTTAGE

During the construction of the new Administration Building on the south side of Kew Green Pooley's Cottage, which had to be retained as one of the old houses of the Green, was found to be unsafe. It was therefore demolished and re-built: now it appears exactly as it used to be.

IT PAYS TO ADVERTISE?

By Graham Burgess

This is the story of a brand new Company's attempt and failure to get a Gold Medal at the 1980 Chelsea Flower Show. What better place you might ask to launch this fragile enterprise.



Imagine a small rectangular area on the aptly named *Rock Garden Bank*. Rock is what the ground was like; Garden is what we literally drilled into it and Bank is what we didn't laugh all the way to.

Here Artscapes focussed the full project direct-labour force (G. Burgess and R. Ward).

Next door, or I should say, next Garden was the Do-It-Yourself Garden. Needless to say they didn't do it themselves, in fact we were constantly approached by people who know a true Barry Bucknell when they see one with the question "Is this the Do-It-Yourself Garden?"

I suppose the fact that we had already exhausted our store of expletives, following the discovery that the Hi Mac they used in their D.I.Y excavations had made numerous trips over our site before we came, saved them from some embarrassment.

The ground yielded up small nodules of matter with every stroke of the hot picks. As the hot sun beat down we sweated to get enough depth of soil to plunge plants in. Next door on the D.I.Y. site the diamond-tipped saws had arrived. I remember with nostalgia the pungent smell as we were enveloped in the clouds of lung ripping dust as they cut hundreds of bricks.

Gradually our Garden came into reality. The special hand made brick tiles were laid and they were such a sensation we need not have installed any plants. The exhibit was small but filled with many basic



design principles such as The Golden Mean; False Perspective etc. It excited a lot of interest especially so from a millionaire from Hampstead who later asked me to design his Garden. Even later as I took this Indian gentleman round a Bird Farm and listened to his factotum bargaining

for ducks to eat! I reflected on the success or failure of the enterprise. The commission did not cover the costs of the exhibit but we did win a Flora Medal. There is always a great pleasure in making a garden and it gave me great pleasure to work with a fellow Kew conspirator. Many Kewites came to the stand and if only the RHS had put the right name down in the programme many of the overseas visitors who had promised to visit would have found us.

I don't think it was a mistake to exhibit at Chelsea. Now and then I get little pictures coming into mind like the low evening sun shining through **Phormium 'Sundowner'** and lighting up the blood red splashes on **Acer Shindesojo**. The incredulous looks as people stared at the one presentation of the colour blue (**Meconopsis betonicifolia**). The quiet crunching noise of my cheap executive briefcase being driven over by our Editor's famous Transit Truck. These and many other memories will make next Chelsea even more pleasant.

KEWITE

By Graham Burgess

Where the dark clings by the Stable Yard Gate
And the owl swoops from the holly tree cloak.
Where the sound of the old ghosts, old friends murmur
I see him.

In the sunny office on the wide wooden desk
In the cabinet of books, old gardening books
By the fingered index of cards.

In the narrow drawers of cards there is no death
In the wide woods bound by wall, ha-ha and Thames
All is kept alive in his thought.

From the keen edge of the Dawn Redwood Row
To the boundary of the Lake of morning steam
Where the swans hear him through the fog.

As the night birds fill the bamboos by the Oaks
As the dew drops fill the grass and leaves
So with his kind in Kew
I see him.

NEWS OF KEWITES AT HOME AND ABROAD IN 1980

Compiled by F. NIGEL HEPPEL

With the retirement of the Bird Keeper, **Harold Allen**, Kew has lost a well known member of staff. Since 1958 he has walked around late at

night and early morning with his gun ready for foxes and other pests. At all times he has raised numerous rare waterfowl and helped anyone with mechanical problems. His Cornish accent will be missed and we wish him well. He has been succeeded by **J. Bartram**.

Steve Ashworth (1980) is very much enjoying himself at Wisconsin State University where he is studying subjects such as landscape, floriculture, dendrology and plant anatomy. Despite temperatures dropping to -20°F , he has been out seed collecting in the Mississippi area. Some have arrived at Kew wrapped in a MacDonald take-away container! He has since broken a leg tobogganning!

Phil Astley (1979) after much careful thought has started a three-year course at Wolverhampton School of Nursing, for people wishing to work with the mentally handicapped. He is aware of the rôle horticulture can play in rehabilitating the mentally ill, so he hopes to combine his interest in working with and helping the less fortunate with his horticultural knowledge.

Christina Barndon (now **Mrs. Wharf**) who left the Herbarium in 1977, now lives in Stockport and has two daughters.

Miss Ann Berkeley (Herbarium) was welcomed to the staff as an Assistant Scientific Officer on 14th January.

Ian Beyer, Deputy Curator, visited Dominica Commonwealth for two weeks in December to advise on the restoration of the botanical garden that was damaged by hurricane David on 29th August, 1979. This garden was set up about 1890 by Joseph Jones, a Kewite who later became President of the Kew Guild.

J. A. E. Blackman (1933) who ran the Plumpton Nurseries, Plumpton, Sussex, with **Tom R. Clarke** (1933), has now retired and is living at Ditchling Hassocks, also in Sussex.

Peter Brandham (Jodrell Laboratory) spent a few weeks in April on an expedition to Mt. Roraima, Guyana. He was accompanied by **John Warrington**, Assistant Curator, Tropical Department. He had to walk through wet forest for many miles and clamber up the steep face to the shoulder-plateau.

Professor J. P. M. Brennan, the Director, has announced that he will be retiring on 31st October, 1981. During January 1980 he attended the Brazilian Botanical Society meeting at Itabuna. He also visited South Africa and Hawaii.

Peter Bridgeman (1964) has taken over Chairmanship of the Publicity Committee of the Arboricultural Association. Other Kewites on the Committee are Trevor Preston and Graham Burgess.

Diane Bridson (Herbarium) collected plants in Rwanda for about two months, January-March, in collaboration with Professor G. Troupin of Liège, but financed by a Swiss forestry scheme.

Gail Bromley (Herbarium) took part in an expedition led by Dr. R. Harley to the Bahia region of Brazil from March to July.

All at Kew were shocked by the sudden death on 20th July of **George Brown** (Assistant Curator until his retirement in 1977). He was a former

Vice President of the Guild (see KGJ 9, LXXIX: 294-5) and for many years Editor of this Journal. He had been in good form at the Annual Dinner in May when he chatted with many friends. Our sincere sympathy extends to his wife Mary and family.

Dick Brummitt (Herbarium) spent April in Malawi under ODM auspices working in the National Herbarium in Zomba.

It was with sadness that the news of the death on 24th October of **Arthur Bullock** was received. He had actually visited Kew on 27th March and on several other occasions after a gap of some 12 years since his retirement in 1968 from the Herbarium (South African Section). A seat in the Azalea garden was made by Peter Taylor and donated in 1979 by Arthur in memory of his wife.

Graham Burgess (1972) has been elected Chairman of the Hampshire, Dorset and Isle of Wight Branch of the Horticultural Trades Association.

Congratulations to **Steve Butler** (1977) who married Frances in July 1979. He is working for the Rangpur Dinajur Rehabilitation Service in Bangladesh and expects to return to England in April 1981.

Best wishes to **Anne Chabert**, Supervisor of the Micropropagation Unit, on her marriage to Paul Woods in November.

Congratulations to **Reg Childs** (Wakehurst) on collecting two well deserved medals. He was awarded one of the Kew Medals and then received the BEM in the 1981 New Years honours list.

Christine Clayton joined the Herbarium as an Assistant Scientific Officer in the General Services Unit in January, but was attracted by an outdoor life in Norfolk where, later in the year she became publicity officer for the Otter Trust.

Congratulations to **Dr. Derek Clayton** (Herbarium) on merit promotion to Senior Principle Scientific Officer in July. Derek is well known as a specialist on the grasses of the world.

Mike Clift (1958) is President of The International Plant Propagator's Society, of which Tom Wood is Secretary.

George Cobham, formerly Garden Supervisor in the Temperate Section, has resigned from Kew to start his own business.

In May **Mark Coode** (Herbarium) was given temporary promotion to Principal Scientific Officer in charge of Kew Bulletin.

Phillip Cribb (Herbarium) in August to September went to Australia, New Hebrides, Solomon Is., Bougainville, New Britain and Papua New Guinea, collecting live orchids, especially **Dendrobium** Sect. **Ceratobium** and Sect. **Latorea**. The trip was under the auspices of the Australian Orchid Science Foundation.

Harry Davies (1938) is living in retirement in Salisbury, Zimbabwe, where he went to work in 1949 at Ewanrigg National Park. He expanded it from four to 60 acres with fine collections of cycads and succulents, a water garden and a large hillside draped with bougainvillea.

We have only recently heard that **R. E. Dean** (1936) retired in 1975 from his post as Regional Maintenance Officer with the Department of the Environment.

Barbara Dickinson (1979) was working at Glyndebourne where she improved her knowledge of fruit and vegetable production, and operas! She, with her husband Neil, is living in Ringmer which she says is a most satisfactory change from the Mortlake Road! In October she started at Sussex University.

John Dransfield (Herbarium) spent 10 days in December at the Bailey Hortorium, Cornell University. He, as a palm expert, was discussing his possible involvement in the completion of the *Genera Palmarum* which was to have been written by the late Harold E. Moore.

Molly C. Eady (1945) writes from Claydon House, Bucks., which is a National Trust property, to say that she looks after the garden for the Verney family still living there. She is keen on birds and joins holiday parties on annual excursions to such far away places as E. Africa, Nepal, Galapagos Island and Guatemala, but the tomtits at home give her as much pleasure!

Tom Everett (1927), formerly of the New York Botanic Garden and President of the Guild has published his multi-volume 'The New York Botanical Garden Illustrated Encyclopaedia of Horticulture'.

Regretfully **Miss Margaret Garner** left the Herbarium as personal secretary to the Keeper at the end of October to transfer nearer home for personal reasons to the Ministry's offices in Cambridge.

John Gilbert, who worked in the Herbarium for 25 years and was latterly in charge of the Spirit collection, retired in September. For a long time a member of the Guild, John has been a frequent contributor to the Journal, and in his spare time he has always been interested in writing booklets and articles on various historical matters and on natural history, particularly when they have related to his native countryside near Peterborough. He has now returned to Wansford where he will be continuing to develop his own personal museum, and already, in the latter part of 1980 he has widened his activities to including writing three minute scripts for Radio Hereward. On his retirement he was presented with a water-colour drawing by Mrs. Mia Swann of *Acacia lebbek* reminding him of his interest in the Egyptian flora which began with earlier days of military service in the region.

Dr. Hugh F. Glen took over as the South African Liaison Officer in the Herbarium when **Dr. Charles Stirton** returned home in the summer.

The news of the death of **Dr. Peter Greenway** was received with sadness. He died peacefully on 16th February at the age of 83 at his house in Kenya. He was founder of the East African Herbarium, Nairobi, and past president of Kew Guild 1971-72 (see KGJ 8 (LXXV): 1110).

Evan Guest, who works on the Flora of Iraq in the Herbarium, spent several weeks in May as visiting professor at Kuwait University.

H. Hall (1933) has had a dozen South African plants named after him, having found 110 species new to science during his frequent botanizing trips. In 1978 he was lecturing in Germany.

Raymond Harley (Herbarium) spent two weeks in Brazil in January to attend a meeting of the Brazilian Botanical Society at Ibabuna and

made various liaison visits. On 10th March he returned to Brazil until mid-June making further collections in the Bahia Region. Shortly after returning, he married **Madeline Poole** on 21st July.

Bob Hayward (1977) has completed a three year tour establishing a new garden on an island near Santiago, Chile. He has travelled widely in Southern Chile collecting plants for the new garden and some for Kew. He has also acquired a Chilean wife and they both visited England for a short time during 1980.

J. H. Hemsley (1956), formerly of FTEA staff in the Herbarium and at present Conservation Advisor with the National Trust, visited Libya in June for three weeks to advise on the setting up of an extensive national park and nature reserve.

Andrew Henderson (1977) has subsequently been undertaking a part time degree course in botany at Birkbeck College, London, and from 29th June to 10th July was accepted to attend a special intercollegiate course in flowering plant taxonomy at Royal Holloway College, a course which counts towards the final degree. To support the cost of this he successfully applied for a Kew Guild award.

Nigel Hepper (Herbarium) visited Wageningen Herbarium and Utrecht Botanical Garden at the end of September after attending the centenary celebrations at the Free University of Amsterdam where an exhibition of biblical plants was displayed (see his report in this issue).

Pamela Holt (1974) now has a certificate of education and is course tutor to the OND in Amenity Horticulture at the Somerset College of Agriculture and Horticulture. Her main subjects are ornamental horticulture and arboriculture.

In mid-May **Sheila Hooper** and **Cliff Townsend** both of the Herbarium, set off from Nairobi for a six week collecting expedition in Tanzania, especially in the wetland vegetation of the Sumbawanga area.

It is with deep regret that we record the death on 8th May at the age of 79 of **Dr. Charles E. Hubbard** C.B.E. who was Keeper of the Herbarium and Deputy Director, and a Past President and a patron of the Guild. He became a world authority on grasses in the Herbarium. He first came to Kew in April 1920 to be a Student Gardener. In 1922 he moved across to the Herbarium where in 1957 he was appointed Keeper. The short service at Hampton Church was followed by cremation at Mortlake, attended by friends and former colleagues.

Mike Jackson (1976) became Head Gardener at Bedford College on 20th October. He says the place is very run-down and will take a long time to bring into good shape, but it is a challenge and he is optimistic.

In May we welcomed **Charles Jarvis** to the Conservation Unit at the Herbarium. He has joined the team as research assistant for Tropical Africa on a three-year project financed by the World Wildlife Fund International. Later in the year he was awarded a Ph.D. by the University of Reading.

Charles Jeffrey (Herbarium) departed on 26th March for a visit to the People's Republic of China for three weeks as guest of the

Academia Sinica. Afterwards he visited herbaria in Hong Kong, Taiwan and Japan returning to Kew in June.

Martin Kay (1976) visited Kew in April and told of his appointment as Landscape Architect to VEB Group (International) specialists in landscaping in arid areas, having previously had experience in Iran.

We hear that **Dr. Leslie Laking** (1941) is retiring in 1981 from his post as Director of the Royal Botanical Gardens, Hamilton. He will have served for 35 years at Hamilton. In December 1979 he was appointed a Member of the Order of Canada. He assisted with many specialist organisations, such as the Canada Iris Society, and in 1966-67 he was president of the American Association of Botanical Gardens and Arboreta.

Michael Lear has taken the place of **Michael Zander** (see notes under his name) as the travelling National Trust tree cataloguer. He flits in and out of Kew spending most of his time at various National Trust properties.

Sandra Leche (1977) has been working on an island of Santiago, Chile, establishing a new garden.

Les Lee (1935) lives in Salisbury, Zimbabwe, having worked there since 1935 at first as horticulturist with the Mazoe Citrus Estates and later tobacco farming.

Christine Leon joined the Conservation Unit based at the Herbarium in March. She is research assistant for Europe on a three-year project financed by the European Science Foundation through the Science Research Council.

Congratulations to **Gren Lucas**, Deputy Keeper of the Herbarium, on his award of O.B.E. in the birthday honours for services to conservation. His responsibilities in connection with the Threatened Plants Committee based at the Herbarium have taken him to numerous meetings at home and abroad. As well as Switzerland, he has been to Nairobi, South Africa and USA.

Ron Lycette (1966) has changed his job from Supervisor of Gardens at Waiko University in New Zealand to an appointment as Curator of the University Gardens at Melbourne, Australia.

Claire McCormack (1976) won a prize jointly with **Peter Styles** (1969) in the "Art into Landscape" competition organised by the RIBA and the ILA in association with the Arts Council of Great Britain.

James Anderson McPherson (1927) has died after a long illness. He was, from 1945 until his retirement, Director of Parks and Reserves, Auckland, New Zealand.

Dr. Chris Marchant, formerly at the Jodrell now at the University of British Columbia, returned to the Jodrell to study in the cytogenetics section.

Brian Mathew (Herbarium) and Chris Brickell, Director of Wisley Garden, spent two weeks in October collecting **Crocus** and **Colchicum** in Crete.

Peter Maunder (1954) of Portsmouth Parks Department has resigned due to ill health. He has also retired as Secretary to Southern Branch of the Institute of Parks and Recreation and Administration. A presentation will be made by the Branch Members in 1981 in recognition of the sterling service he has given.

In March **Simon Mayo** (Herbarium) and his wife **Anne** (Living Collections) attended a conference in Florida on Aroids followed by field work. Simon had a busy year as he was awarded a Churchill Travelling Fellowship which enabled him to leave in November for a three month survey of the forest of Mata de Pau Ferro, Paraiba, Brazil.

One of the new Kew Medals has been awarded to **Desmond Meikle** (Herbarium), along with four other recipients. This is the inaugural year of the Kew Medals which are presented at the Student Presentation Ceremony to certain people who are considered by the Director to merit special recognition.

John Morgan (1980) has settled in at the University of East Anglia, Norwich, where he has started a degree course in Environmental Sciences.

We were sorry to hear of the death of **W. A. Mullins** on 26th May. Bill was formerly in charge of a small garden behind the Herbarium, the Experimental Ground, which no longer exists. In it he grew special plants for members of staff and especially at one time the National *Dianthus* Collection.

Brian Nash (1967) has set up his own business in which we wish him every success.

We wish a happy retirement to **George Nicholson** who left Kew on 31st October. For many years he looked after tropical plants, especially orchids. He is a first class photographer too.

Congratulations to **Mrs. Jenny Page** (1978 Herbarium) on the birth on 2nd June of a second daughter, Victoria Margaret.

John Parkinson (Library) has qualified as an Associate of the Library Association.

Graham Pattison (Supervisor in the Tropical Section) participated as an instructor in a two week course on the operation and maintenance of botanic gardens held in Mexico. He also gave advice at the Xalapa Botanic Garden and at the new satellite garden at St. Christobel de las Caras in Chiapas State.

Leo Pemberton (Supervisor of Studies) took 12 second and third year students to visit botanical gardens in Holland and Germany, 2-11 May.

David Philcox (Herbarium) visited the Paris Herbarium for 10 days in April.

Barry Phillips (1972) writes from Bermuda that he has been supervising the landscaping and planting on a 12 acre site around a new hotel. It is on pure sand and fully exposed to all the wind and salt from the Atlantic. He has also established a tree surgery unit within the

the department. His wife Christine is illustrating a book on Bermuda's natural history.

Our best wishes to **Madeleine Poole** (Herbarium) who married **Raymond Harley** (Herbarium) on 21st July.

The Hardy Plant Society under the Chairmanship of **Noel Prockter** (1937) goes from success to success.

Timothy Rees, a second year student, successfully applied in 1980 for financial assistance from the Kew Guild award scheme to support a three week student exchange visit to the garden at Villa Tarranto, Lago Maggiore, Italy. The Villa Tarranto gardens were established in 1931 by Capt. Neil MacEachdam who acquired the gardens from the Countess B. St. Elie, an English lady married to an Italian nobleman. He subsequently radically altered both house and garden. One of his first acts being to instal in the gardens adequate drainage and irrigation.

In January **Steve Renvoize** was promoted to SSO. In May he married Alison White.

Graham Rice (1978) returned in May from Dublin to become technical editor on 'Practical Gardening'.

Tom Risely (1958) is at present working in Saudi Arabia and he would be pleased to meet any other Kewites who may be visiting Riyadh.

Anthony Ross (1974) has been accepted for the part-time diploma course in Management Studies at the Central London Polytechnic.

Gail Sobel (1977 ex-International Student) married **Jeremy Strudwick** in July 1978. Gail now has a double honours degree in horticulture and botany from Cornell University. They have recently been plant collecting in Chile, Gail having received a study tour award.

Samuel Sprunger (1966), who lives in France near Basel, works at a large Swiss school where he looks after a small but well stocked botanic garden and helps with laboratory work. He has recently published an illustrated book on plant material used in floral arrangements.

Elizabeth Stevens (1968) has been promoted to Horticultural Advisory Officer II at Great Westminster House. She is Assistant to the Senior Horticultural Officer carrying out research to answer Parliamentary questions, answering the Minister's correspondence and preparing talks and articles to be given by the Senior Horticultural Officer.

Jeremy Strudwick (1977) married **Gail Sobel** in July 1978. He has been head of systematics collection and rock garden at Smith College, Massachusetts, and recently visited Chile plant collecting.

Hugh Synge (Conservation Unit, Herbarium) attended the Survival Service Commission (IUCN) meeting at Gainesville, Florida in the autumn.

In May **Peter Taylor** (Herbarium) returned to Australia for another field study of **Utricularia**.

Dr. Peter Thompson (1980), has resigned from his post as SPSO in charge of the Physiology Section and Seed Bank at Wakehurst Place

having started at the Jodrell Laboratory in 1964. He has joined the family business in Somerset.

Cliff Townsend (Herbarium) visited Kenya and Tanzania during May and June.

Solomon Tubosun (1978) is now Superintendent of Parks and Gardens at Ilorin, Nigeria. In March he called to see old friends at Kew.

We heard belatedly of the sad death in March 1978 of **Mrs. Jennifer Tuck** (1969, nee **Lee**) after a long illness. Our sympathies go to her husband John whom she married in 1970.

Our Editor, **Richard Ward** (1963) spent several months in late 1980 in Zimbabwe soon after its independence and change of name from Rhodesia. He landscaped a four hectare garden for a Danish resident who lives 40 miles from Gwelo, the nearest town.

Miss Shelah Kathleen White, who worked in the Herbarium 1926-46, died at Devonport Hospital, Plymouth on 29th December 1979.

Gerald Wickens (Herbarium) left for Addis Ababa on 5th April to attend a conference on Browse Plants in Africa. He returned via Cairo where he visited the University and Ministry of Agriculture herbaria.

A. Ian Wilkinson (1955) writes about life in Liberia where he is Plantation Adviser for Firestone Plantations. In April 1980 he was in the Philippines thereby missing the coup in Liberia. He was impressed by Filipino hospitality but saddened by the devastated log-over areas not re-afforested. His first appointment was in Malaya where he stayed until 1970.

John Winter (1964) now Curator of the National Botanic Gardens of South Africa, Kirstenbosch, visited Kew and Wakehurst in June.

Congratulations to **John Woodhams** (Ferneries) for being awarded one of the Kew Medals in recognition of his services to Kew. He is well known to Kewites for among other things organising the Kew Guild functions for many years. Earlier in the year he spent four weeks, 18th February to 14th March, in Malaya. He was there primarily to offer help and advice on the development of their new botanical garden in Kuala Lumpur.

Anne Woods (see **Anne Chabert** above).

Mrs. Winifred Worth moved from the Museums in January to the Conservation Unit based in the Herbarium to act as co-ordinator for the Botanical Gardens Conservation Co-ordinating Body.

E. Verdun Wray (1948) has retired from teaching rural/environmental studies, latterly at Huntcliff School, Kirton Lindsey. However, he will be as busy as ever lecturing, writing and continuing contact with young people.

Michael Zander (1980) has been based at Kew for the last three years as the National Trust tree cataloguer. The scheme is funded by the Thomas Phillips Price Trust and jointly sponsored by RBG, Kew and the National Trust. So far nine Trust gardens have been catalogued for all trees and 43 gardens for conifers only. Michael Zander has now returned to USA and he is succeeded by Michael Lear.

KEWITES AT GATESHEAD

Trevor Matthews J.P., who is Deputy Superintendent of Parks Services at Gateshead, has recently drawn attention to the number of Kewites connected with the Gateshead Parks. He himself left Kew in 1962. His training officer is Ian Gayton, a young man who worked at Kew not long ago and is hoping to be accepted for the Kew Diploma course. At the other end of the scale there are two Kewites who have recently retired, John Ward and Cyril Wilmot.

John Ward's first taste of Kew in 1946 was that haven of plants, the Temperate House, under the eagle eye of Charles Raffle; a period in the Ferneries with Mr. Bruty was, as John says, an "education in greenery". A final move took him to George Preston's rock garden and herbaceous department before leaving in October 1947 for Castleford.

On 6th March 1949 he went to Gateshead Parks Department as general foreman; the second Kewite to be employed there — the first being P. W. Conn of Liverpool fame. John retired as Superintendent of Parks of the newly created Gateshead Metropolitan Borough Council on 6th March 1979. Always keenly interested in specialised grass areas, particularly lawns, he was presented with two pairs of woods on his retirement.

Apart from the department which literally blossomed under him, he was chairman of the Northern Branch of the Inst. P.R.A. and of the N. of England Branch of the Institute of Burial & Cremation Administration.

Cyril Wilmot went to Kew in March 1939. Prior to entry he had been a student at John Innes Institute with Edwin Cherry and he recalls the moving *Jubaea spectabilis chilensis* in the Temperate House. He recalls old Kewites such as George Preston, Stan Rawlings, Wally Everett, Roy Hudson, John Lewis, Peter Benton and Jim Eaton. After a brief spell in the Palm House he moved to the Orchids where Mr. Stenning introduced him to the orchid department with the words "You know something of orchid growing".

After war service he returned to Kew and had great pleasure in taking newly arrived demobbed chaps on evening tours to get to know the layout of Kew.

Cyril was secretary of the Mutual 1946-7 and he received the Hooker prize for his services. Dr. Metcalfe awarded him a new prize for Distinction in Class, as he had a flair for note-taking: a proud moment indeed, he says. He left Kew in 1947 to join an ex-John Innes man, G. D. Lochie, at Plant Protection, Fernhurst. He then went to Gateshead where he stayed until 1st September 1980. In 1978 Cyril was awarded the Bob Woolley Trophy by the nomination of the N.E. Local Authorities in connection with Britain in Bloom for outstanding devotion to the horticulture profession.

We wish both John and Cyril happy days ahead and continued contacts with Kew.

OBITUARIES

GEORGE ERNEST BROWN 1917-1980

Photo Vol. 9, events 1974, page 294

The Obituary written by the Curator of RBG Kew for the Gardens Newsletter speaks for all of us. With his permission we reproduce it here in full.

With the publication by Faber of his new work "Shade Plants for Garden and Woodland" so freshly in mind, the sudden death, on the 20th July, of George E. Brown at his home near Croyde Bay in Devon, made the loss of this respected authority on trees and shrubs all the more acutely felt by his many colleagues and friends.

For many years Assistant Curator in charge of the Arboretum at the Royal Botanic Gardens, Kew, George Brown was born in Jinja, Uganda, on 19th March, 1917. Although he retained a life-long interest in succulent plants, obtained from his father who was noted for his collecting of East African specimens, his boyhood days spent in the fruit growing area of Kent proved to be a stronger influence on his life and career. After attending the Royal Grammar School at Guildford, his early experience of horticulture included work with Gibson and Amos at Cranleigh, who specialised in producing herbaceous plants, and at two gardens with rare collections, Winterfold House, Hurtwood Common, owned by Mr. Armytage Moore, and Holmbury House, owned by the Guinness family.

The Second World War, in which George Brown saw service for six years with the Queen's Royal Regiment, delayed his acceptance of a studentship at Kew's School of Horticulture. This aim was eventually fulfilled in 1946 when Kew operated a special course for ex-servicemen. Success in obtaining the intermediate stage of the National Diploma in Horticulture was accompanied, in 1946, by success in the final examination of this highly valued professional qualification.

In 1947, George Brown was appointed a Lecturer at Swanley College, then administered by the Kent War Agricultural Committee. This later became the Kent Horticultural Institute, from where many of his students have subsequently achieved great success in their horticultural careers. He encouraged those with an interest in ornamental horticulture to enter Kew and some of his former pupils are now represented on the Kew staff. Returning to Kew in 1956, as an Assistant Curator, George Brown soon achieved authority with trees and shrubs — as a founder Member of the Arboricultural Association and as a knowledgeable mentor to the students at Kew. His great interest in **Ericaceae** led to his considerable involvement with the development of the Erica Garden, the **Azalea** plantings around the Japanese Gateway, and the Woodland Garden (to the rear of the Stable Yard) for **Rhododendron** species.

As a writer, his work on booklets for the Arboricultural Association and other associations led, in 1972, to his standard work on "The

Pruning of Trees, Shrubs and Conifers", later published in paperback (1976). This is now seen as a memorial to his wisdom and accomplishments.

His retirement, in March 1977, was marked uniquely for Kew by both a special dinner, given in his honour by the Curatorial Staff, and the presentation by the staff of an original botanical painting by Margaret Stones of *Chimonanthus praecox*, the Winter Sweet, composed from specimens grown at Kew.

Beyond this, George, as we all affectionately knew him, was a friend to so many, and now we have but memories of his full-framed, deep-voiced comments on all aspects of life and work. Initiator of waste recycling, mechanisation of ground maintenance and, jointly with Dr. Cutler, the Tree Root Survey. Years of active support to the Mutual, and N.D.H. practical tuition for the students. Coffee and sympathy for staff when their troubles overcame them. Of loyalty to Kew and the Kew Guild (as its Editor), of his massive contributions to this 'Newsletter'—of his humanity.

We saw his devoted family, like his trees, grow to fulfilment at Kew and to his wife Mary and children, Sally and Robert, we extend our deepest sympathy.

At the family's request, in place of flowers sent to them, any contributions to his memory are to go to the Kew Guild. As a friend and colleague, he will be sadly missed, but never forgotten.

J. B. E. Simmons

A. A. BULLOCK 1906-1980

The death of Arthur Bullock on 24th October 1980 came as a particular shock to those of us who had spoken to him just a few weeks earlier, when he paid a brief and unheralded visit to the Herbarium after 12 years of absence and virtually unbroken silence. He was clearly, indeed rather poignantly, touched by the warmth of his welcome, and left assuring us that he would be back again, for a longer stay, some time in the near future. No one, I am sure, guessed that this short visit, the first after so many years, would also be his last.

Arthur Allman Bullock was born in Grimsby, Lincolnshire, on 8th February 1906. He was the son of Albert Bullock, botany master at Wintringham Secondary School, where he received his early education. In June 1928, after three years study at University College, Nottingham, he graduated with an Honours B.Sc. in Botany, spending a further year as a Research Scholar and part-time lecturer on botany to student and adult classes. On 7th October 1929 he came to the Herbarium, as a Temporary Sub-Assistant, under an Empire Marketing Board grant scheme. The salary of £200 p.a. was scarcely generous even by the standards then prevailing, but, in 1928, the great depression (of which the current recession is no more than a shadow) was already blighting the prospects of many young graduates, and he probably thought

himself singularly lucky to have reached Kew, and a salaried post, at a time when many of his contemporaries were joining the ranks of the unemployed. But Arthur Bullock, never the luckiest of mortals, was not to enjoy his good fortune for long. In 1934 the Empire Marketing Board grant was withdrawn, and, now shouldering the additional responsibility of a wife and two small children (he had married in July, 1930), he faced the bleak prospect of unemployment in a society as yet untempered by the palliatives of Social Security. At this painful juncture, the Bentham-Moxon Trust came to his aid, and he was able to remain at Kew, as a Temporary Assistant, on terms at least no worse than those which had been offered by his previous employers, though in circumstances which must have stretched his economies to their limit. Two years later, on 26th June 1936, he was appointed a permanent, established Assistant Botanist on the Herbarium staff. Again his good fortune was to be short-lived, for with the outbreak of war in September 1939, he was, as a member of the Territorial Army, called to the colours. The next seven years were spent in the R.A.F., from which he was released, as a Flight Lieutenant, on 11th September 1946. He returned to the Herbarium 16 days later, now a Senior Scientific Officer, and except for two years absence in Tanzania and Zambia, on secondment to the Anti-Locust Research Centre, from September 1949 to September 1951, the remainder of his official life was to be spent at Kew. He was promoted Principal Scientific Officer in 1953, and retired 15 years later, on 1st May 1968.

After some years of retirement in Exeter, he moved to Poughill, Crediton, Devon, and remained there, surrounded by his adored cats, until his death.

In the pre-war period he worked first on the taxonomy of African plants, then, from 1936 to the outbreak of hostilities, on the vast collections made by G. B. Hinton in Mexico. His American researches were conducted under the supervisory eye of the redoubtable T. A. Sprague, from whom, one suspects, he acquired not only a partiality for botanical nomenclature, but a certain redilection for controversy, and a measure of verbal acerbity, which, however well it may have suited the **animus** of his mentor, never quite fitted a personality which was, in essence, warm, generous, sympathetic and kind.

In the years after the War he returned to African studies, first compiling a comprehensive bibliography of South African botany, completed around 1952, but remaining unpublished for a further 25 years. He later devoted much of his time to work on the **Asclepiadaceae** and **Periplocaceae**, but his earlier enthusiasm for analytical and descriptive botany had waned, and such investigations as he did pursue were all too readily set aside (to the distress of the management) if a disputed interpretation of the Code offered a livelier outlet for his talents. Without doubt he was, at this period, better acquainted with the provisions of the International Rules than any other member of the Kew staff, and this knowledge, coupled with considerable eloquence, and an exceptionally clear, logical brain, made him a formidable

opponent, or a useful ally, in those quinquennial debates which precede International Botanical Congresses. It also made him, for many years, a most effective champion of the oppressed, as Chairman of the local branch of the I.P.C.S. He had immense personal courage, and would unflinchingly state his views, trenchantly and without compromise, where a more prudent man might have kept silent. Such qualities, however admirable, neither disarm enemies, nor make friends.

Some people fade physically from one's visual memory within a short space of time, but I can still see A. A. B. just as I used to see him, chatting to his pal Victor Summerhayes on the ground floor of Wing A, or waiting for his prey in the old central library, spare and angular in build, with a slight stoop which could be vaguely hawk-like and menacing, not at all mitigated by a smile both sardonic and challenging, though not wholly devoid of humour. If he grew heated in argument, one could at least be sure that no grudge would be borne, indeed, within a week or two, the injury was forgotten, and he would be back again, ready for another round.

We, who knew him, are sorry that he will not call again, but, until the time comes, as it will, for the last of us to take our final departure, I venture to assert that Arthur Bullock will not be forgotten.

R. D. Meikle

Addendum

Arthur Bullock was a keen tennis player and closely associated with the Tennis Club at Kew for many years, some of them as Honorary Secretary. His son John and daughter Pamela also played and his wife Barbara was hostess at many a splendid Tennis Club tea. He was a popular raconteur after the evening games, when members adjourned to one of the local hosteleries for refreshment.

Margaret Stant

F. FLIPPANCE

President of the Guild 1958-59

Fred Flippance was born in Surrey in 1891 and died 4th March 1980. He started work in a private garden at Merrow Grange and in 1913 came to Kew. He was just one month in the Palm House, under C. P. Raffill before he was promoted to the Orchids.

War broke out in 1914 but Fred's application to join the forces was rejected on medical grounds. Over the next two years he moved to the Herbarium as a Temporary Assistant, sometimes working under Dr. Stapf. As the war carnage increased the army drew on fresh supplies of fighting men and he was called up to fight in France.

After demobilisation in 1919 he was appointed Assistant Curator at the Singapore Botanic Gardens. In 1921 he was transferred to Penang where his duties included certain aspects of municipal landscaping in addition to his work in the Botanical Garden. He was to be heard regularly on the radio.

In 1937 with the Second World War approaching he took up the post of Superintendent of the Botanical and Forestry Department, Hong Kong. The Japanese hostilities restricted a lot of his early plans but he did ensure that the valuable Hong Kong Herbarium Collection of type specimens was safely housed in Singapore. Whilst in Hong Kong he was a Justice of the Peace.

In December 1941 the Japanese attacked Hong Kong. On the 23rd Fred was captured and the Colony capitulated on Christmas Day. It was not until after his release on the 30th August 1945 that Fred returned home to find that he had been reported dead. The Kew Guild Journal of 1942 was full of such news.

He retired in 1945. Five and a half years before his death he married. Fred had a long and full life and we offer our deepest condolences to his widow Mrs. L. Flippance.

GEORGE J. W. FORD



On Sunday, October 26th, George Ford died at the age of 77 in Chester County Hospital, West Chester U.S.A. after a short illness.

After leaving school George first worked at the John Innes Institute, Merton, England. From there he moved to the Cambridge Botanic Gardens. Cambridge was his first Botanic Garden and he enjoyed the wide range of plants. He then moved to Kew where he studied until 1927.

His next move took him to the U.S.A. where he was employed by the Dupont Foundation at Longwood Gardens. In his 41 years as a horticulturist there he must have seen some of the greatest expansion in that renowned garden. He retired in 1968.

The photograph shows George and his wife Dorothy in the garden together.

We offer the Guilds deepest condolences to Mrs. Ford and their three daughters all in the U.S.A., brother Roy and the two sisters residing in England.

W. G. FRY

Mr. W. G. Fry, or Willie as he was known to his closest friends, died in Fareham on February 1st 1980.



Mrs. Phyllis Ashdown, his companion and friend for the last 20 years, tells us of the sad start to Willie's childhood when he lost both his parents at an early age. He then joined her family and for some time worked as a *Garden Boy* under her father who was Head Gardener to Lord Knutsford at Pinewood, Witley, Surrey. This obviously gave him a sound background for he went on to Petworth House and then on to Kew. Mr. S. F. Ovenden remembers him and the days they spent together in the Palm House 50 years ago. He picked up a less universal name "Fry Bug" because of the way he used to dodge between the plants. A short stocky man with a whimsical sense of humour, he exercised

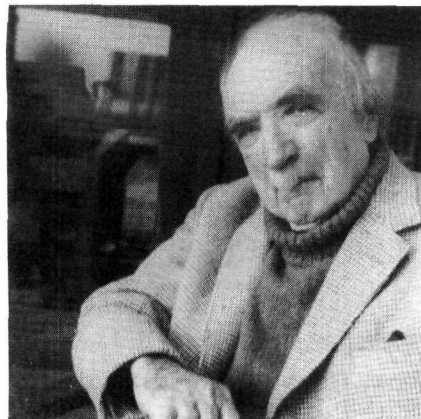
his mind with fellow Kew Chess Players and beat the field in the Annual Thames Swimming Race between Brentford Gate and Kew Bridge.

He left Kew in 1926 and went to Reading University where he gained his Diploma in Horticulture. Then he became an Inspector with the Ministry where he stayed until his retirement in 1959.

Most Kewites never completely retire and Mr. Fry was no exception. He continued to give support to the community through the local Horticultural Society where he was Secretary and later Vice Chairman.

To all his friends we offer our sincerest condolences.

DR. P. J. GREENWAY, O.B.E., D.Sc., F.L.S.



Dr. P. J. Greenway died peacefully in his home on the morning of the 16th February 1980 at the time the partial solar eclipse was being observed. A letter from Nairobi informs us that he had been into hospital with a mild chest complaint but had later been discharged because he was responding well to medication. Sometime later he became progressively weaker and quietly slipped away. Before he died he had had one last look round his garden in a wheelchair. There was a simple funeral service on

the 25th February and he was later buried according to his wishes at Langata Cemetery.

Peter Greenway was President of the Guild 1970-71. In his letter from Nairobi (read out at the Dinner) came the familiar ring of enthusiasm as he admitted his work was not work but an absorbing hobby.

He came from Wisley where he had handled the seed coming in from Wilson, Farrer and Kingdon-Ward. Sir David Prain was Director when he entered Kew with W. Watson and J. Bean, Curator and Assistant Curator respectively.

William Taylor was the Foreman in the Tropical Department where Peter worked in the Palm House and Water Lily House. Later he moved onto the Ferneries and the Aroid House but it was the Propagating Pits that interested him the most.

Eighteen months past and he was asked if he would like to work in the Herbarium. At first he worked under Dr. Otto Stapf and then Dr. T. A. Sprague naming plants from South America. An ocean of distance but fortunately not an ocean of time separated him from his favourite continent, Africa. Soon his wish came true and he was put to work in the African Section under John Hutchinson (now Dr. J. Hutchinson). He named plants from all parts of this great continent.

In 1924 he left Kew to join Dr. Burt Davy in the Imperial Forestry Institute, Oxford.

On one of the return visits to Kew he was asked by the then Associate Director of Kew (Major T. F. Chipp) if he would like the job of Botanist in Charge of the E. A. Agricultural Research Station, Amani, Tanganyika Territory. He occupied this post from March 1928 until his retirement in 1958. He came to love the continent and chose to pass out his days there.

His friends were many in this country and throughout Africa. He will be missed by everyone.

DR. C. E. HUBBARD, C.B.E.

Died May 8th, 1980

Dr. Charles Hubbard was Deputy Director of the Gardens from 1959 to 1965. His career was typical of what is possible if someone with a good brain, enthusiasm and diligence can do if there is opportunity for lateral as well as upward movement within an organisation.

He was a Norfolk man who started work as a Gardener in the Royal Gardens at Sandringham in 1916. In 1920 he came to Kew, still as a Gardener, but it was not long before his approach to plants drew him towards the Herbarium.

There he came under the watchful eye of Otto Stapf. Otto Stapf was the great authority on grasses and it must have pleased him immensely to find that the young Charles Hubbard had a special aptitude with this

group. The two worked together and before long Charles Hubbard had taken up the baton himself and was engaged in detailed field studies in Australia and Spain.

In 1935 he was already an authority on grasses and he took charge of the Grass Section in the Herbarium. In the words of his colleagues the work that followed was outstanding. He was awarded the O.B.E. in 1954 and three years later became Keeper of the Herbarium and Library. In 1959 he became Deputy Director.

In 1960 Reading University conferred on Charles Hubbard an Honorary Doctorate of Science. He retired in 1965, 45 years after entering the gates as a gardener. The Linnaean Society of London awarded him the Linnaean Gold Medal in 1967 and their Veitch Memorial Gold Medal in 1970.

In the Herbarium he leaves a vast store of information (e.g. work on the Flora of Tropical Africa, and on almost every plantsman's bookshelf he leaves his book on British Grasses).

In his retirement he wrote a full account of the life and works of the late W. B. Turrill for *The Biographical Memoirs of Fellows of the Royal Society* (1971).

Whilst he was Deputy Director Charles Hubbard did much to bring into reality the then new Three Year Diploma Course for Students.

This kind and generous man will be deeply missed.

JAMES ANDERSON McPHERSON, N.D.H., A.H.R.I.H., F.I.P.R.A.

Although his long illness had separated him from us for some years, news of Mr. James McPherson's death must have greatly saddened all who admired his genial disposition, his love of plants, and his concern for the proper training of young people in the horticultural profession.

Gaining his early training at Dunedin Botanic Gardens, and later in Christchurch, he was accepted as a student to Kew in 1924. There he excelled in his studies, returning to New Zealand to become Superintendent of Parks in Invercargill (1927), Director of Botanic Garden, Christchurch in 1933, and finally Director of Parks and Reserves in Auckland from 1945 until his retirement.

As an Associate of Honour and Dominion Councillor, Mr. McPherson was a leading personality within our Institute, and was elected to the Examining Board as early as 1937. Always keenly interested in the welfare of horticultural societies, he was a Life Member and Vice-Patron of the Auckland Rose Society until his death, and contributed much to the origin and success of the Auckland Horticultural Council.

But above all, Jimmy Mac, as he liked to be called by his friends, was a Southerner with an unquestionable knowledge and admiration of the vegetation of the Southern Alps. He was an authority on the botany of the region and a correspondent on this subject with the famous New Zealand botanist, Dr. L. Cockayne. This correspondence is now in the Turnbull Library.

One of the most pleasing photographs I have of Mr. McPherson was taken in the Christchurch Botanic Gardens in 1937, with seven of the trainees then studying under him. Some of the men trained by him, or who have come under his influence, now hold key positions within the horticultural profession in this country, and one is heartened by the fact that they too are concerned with the training of the young, so that Mr. McPherson's work lives on.

Jas. A. Hunter, (A.H.R.I.H.), Morrinsville

MISS EMMA VIOLET PAINE

Photo: One of Group p 23 1n 1941 Journal

Miss Emma Violet Paine died on the 13th January 1980 after being admitted to the hospital at Worthing on 4th December 1979. Although she outlived all her relations she had a very good friend in Mary Chambers. Mary had known Violet (or Victoria as she was known) since 1934.

Victoria came to Kew as a Student Gardener from Swanley. She already had the Swanley Diploma in Horticulture and took to her studies at Kew avidly. Her practical ability brought her a Foremanship first in the Propagating Pits and later in the Decorative Department. She had a particular interest in Decorative Plants (her Mutual was on the Propagation of these plants). Fred Larkeby, of No. 4 fame, remembered Violet.

Violet was an officer of the Kew Women Gardeners Guild in 1940-41 and the Secretary in 1942. In 1942 she obtained the N.D.H. Final. During the war years the men were away in the forces so her temporary post virtually held the responsibilities of Assistant Curator. When the men returned she had to relinquish her post. In 1948 she left the Gardens to take up a teaching post in Putney. The present Curator, Mr. John Simmons, remembered her being spoken well of even in the 1950's.

MRS. JENNIFER TUCK (née Lee) — JENNY LEE

We belatedly record the death of Jennifer who was a Student 1966-69. She died in March 1978 following a long illness. Our sympathies go to her husband John (Tuck) who was also a Student at Kew. John and Jenny were married on 19th September 1970.

LUCIEN EDWARD DE WOLF

It is with much regret that we record the passing of Lucien De Wolf who was born at Ternat in Belgium on the 8th August 1910 and died 12th November 1976.



Lucien studied at the State College of Horticulture at Vilvorde and in 1931 gained the State Diploma with Honours. He went on to take the advanced course of colonial horticulture and was awarded the diploma.

In 1933 he started his professional career working at the Jardin Colonial de Laeken. He moved to the Botanic Gardens at Brussels in 1934 and continued there until 1937 when he entered Kew as a Student Gardener.

His arrival at Kew caused a little disturbance, because after he had been enrolled as a student, it became known that he was married having in fact brought his wife with him to Kew. One of the conditions of Student Gardener entry into Kew at that time was, that the student had to be of bachelor status. At first he was told that he had to leave, but

after prompt intervention by Consular officials, he was allowed to stay. He was presumably, the first official married Kew student.

On completion of his course at Kew he returned to the Botanic Gardens at Brussels and was promoted Hort. Engineer on the 30th June 1941, Curator on 1st March 1958 and Director on 1st April 1965.

Lucien was involved with the move of plants from the old Botanic Gardens in the centre of Brussels to a new site at the Domaine de Bouchout, Meis; about eight miles north of the capital where the National Botanic Garden of Belgium is now established.

He was well known on the Continent for his patronage for the development of horticultural study and for his lectures. A member of the Committee at the International Exhibition in 1958, member of the Belgian Floralties Committee, Botanical Secretary of the Société Royale Linnéenne et de Flore de Bruxelles and adviser to the Ministry of Agriculture.

To his wife and family we extend our sincere sympathy.

John L. Norris

MRS. H. P. WOOD

Mrs. H. P. Wood died on the 27th February 1980 at the age of 85. She was one of the very first Kew Lady Gardeners. Before and during the Great War she worked in the Tropical Department.

She left Kew for a brief stay in Canada and then came home to raise a family. Her daughter kindly furnished information for this Obituary. Her son seems to have been influenced by his mother's enthusiasm for the family's 600 acre forested estate in Herefordshire, for he eventually worked in the Kew Herbarium researching the Borneo Forests.

To Mrs. Wood's daughter (Mrs. Bletchley) and her son we offer the Guild's condolences.

OBITUARIES

To the relations and friends of the Kewites listed below the Kew Guild offers its deepest sympathies. Full Obituaries will be included in the next Journal. If you have any memories of these fellow Kewites please write to me.

C. C. A. Duncan

E. Baker

Mrs. Cranfield

Carrick

W. Everitt (1928)

Obituaries compiled by Graham Burgess.

INCOME & EXPENDITURE ACCOUNT FOR

1979		1980	
£		£	£
	DEBIT		
	To:		
	Kew Guild Journal:		
1,459.80	Printing 1979 Journal inc. blocks	1,416.00	
84.00	Prizes awarded by Guild	84.00	
52.82	Hon. Officers expenses	51.10	
15.00	Benevolent payments and wreaths	15.00	
282.72	General Printing, Postage, Stationery etc.	419.34	
14.95	Guild Emblems	—	
	Award Scheme: Printing, Prizes, Lecture		
74.12	Expenses	323.51	
10.00	Insurance	13.50	
14.72	Guild Dinner Deficit	59.52	
19.56	Christmas Cards	—	
<u>2,027.69</u>		<u>2,381.97</u>	

BALANCE SHEET FOR THE YEAR

1979		1980	
£		£	£
	LIABILITIES		
	Capital Fund:		
10,238.97	As per attached Statement of Assets	10,688.99	
	Current Liabilities:		
	Life Subscriptions:		
	48 @ £1.00 Half Rate	24.00	
	52 @ £2.00 Half Rate	52.00	
	73 @ £3.15 Half Rate	114.97	
	4 @ £5.25	21.00	
	7 No Record	—	
<u>217.35</u>		<u>211.97</u>	
<u>10,456.32</u>		<u>10,900.96</u>	

THE YEAR ENDED 31st DECEMBER 1980

1979		1980	
£		£	£
	CREDIT		
	By:		
	Annual Subscriptions & Arrears	956.83	
	Donations	40.25	
	Award Scheme Donations	39.00	
1,074.26			1,036.08
	Dividends:		
	From Charities Official Investment Fund		
	General Fund	426.40	
	Award Scheme	159.65	
631.55			586.05
	Interest from Barclays Bank:		
	General Deposit Account	280.49	
	Award Scheme Deposit Account	165.02	
286.71			445.51
	Wakehurst Booklet:		
841.60	Receipts from Sale of Booklets		482.40
	Award Scheme Lecture & Raffle:		
24.55	Sale of Tickets & Wine less cost		88.99
	of Food & Drink		
71.80	Sale of Emblems		33.40
47.55	Sale of Journals		10.10
57.00	Sale of Christmas Cards		140.33
	AGM & Tea:		
	Receipt from Sale of Tickets less cost of		
2.10	Gratuities		3.75
<u>3,037.12</u>			<u>2,826.61</u>
	Balance at 1st January 1980	10,238.97	
	Reduction of Life Subscription Liabilities	5.38	
	Add Excess Income over Expenditure	444.64	
		<u>10,688.99</u>	

ENDING 31st DECEMBER 1980

1979		1980	
£		£	£
	ASSETS		
	Invested Assets:		
	Charities Official Investment Fund		
	Shares at Cost: General Fund	4,000.00	
	Award Scheme Fund	2,000.00	
6,000.00			6,000.00
	Current Assets:		
545.40	Journal Value of Stock	496.20	
101.74	Guild Emblems Purchase Value	71.38	
480.60	Wakehurst Booklet Purchase Value	265.93	
109.28	Christmas Cards Purchase Value	50.40	
—	MM2 Addressing System	88.98	
			972.89
	Cash at Barclays Bank:		
1,970.64	On General Deposit Account	2,281.13	
1,062.39	On Award Scheme Deposit Account	1,515.05	
186.27	In Current Account	131.89	
			3,928.07
<u>10,456.32</u>			<u>10,900.96</u>

Audited and found correct:

Signed — T. A. Harwood
H. J. Fliegner
2.2.81

RULES OF THE KEW GUILD — Published every second year. Alternating with Staff List, and incorporating any changes.

Name of the Society.

- (1) The name of the Society shall be "The Kew Guild".

Objects.

- (2) The objects of the Guild shall be—
- (a) the advancement of knowledge of horticulture generally and in particular in connection with the work of the Royal Botanic Gardens, Kew, and among members of the Guild.
 - (b) the encouragement of horticultural education at the Royal Botanic Gardens, Kew, by the provision of prizes and grants for Student Gardeners and the administration of the educational funds of the Guild.
 - (c) the provision of facilities for leisure time education and recreation in the interests of the social welfare of Student Gardeners and others having need of such facilities who are within the provisions of Section 1 of the Recreational Charities Act, 1958.
 - (d) the administration of the charitable funds of the Guild and the assistance from such funds of members of the Guild who are in need.
 - (e) the publication of a Journal in furtherance of the objects of the Guild or any of them.
 - (f) generally to do all such acts as shall further the active and corporate life of the Guild and may be lawfully done by a body established only for the purposes recognised by the law of England as charitable.

Membership.

- (3) (a) Membership of the Guild shall be open to past and present Curators, Assistant Curators, Garden Supervisors, Student Gardeners, scientific, horticultural, professional and executive members of the staff of the Royal Botanic Gardens, Kew and Wakehurst Place; also International Trainees and Research and Liaison Scientists, provided they have worked continuously at Kew or Wakehurst Place for at least twelve months. The term "Kewites" where used herein or by the Guild in other publications shall mean a paid-up member of the Guild.
- (b) In addition, the Committee may admit to membership of the Guild any member of the Kew staff outside the categories set out in (3) (a) who is deemed worthy of membership of the Guild.
- (c) Honorary Membership may be awarded at the discretion of the Committee to a former officer (Hon. Editor, Secretary or Treasurer) who has rendered outstanding service.
- (4) Members of the Guild shall have the right to vote at meetings and to compete in competitions, and shall be eligible for election as officers of the Guild or to serve on the Committee.
- (5) Any member wishing to resign shall give notice to the Honorary Secretary or the Honorary Treasurer before the first day of December in the year of his or her intention to resign.
- (6) (a) The Committee may by resolution communicated to the member in writing and stating concisely the grounds for which it proposes to act call upon any individual to resign from the Guild and if the member does not so resign within forty-eight days after being so called upon the Committee may by resolution terminate his membership.
- (b) before coming to any decision the Committee shall give the member affected proper facilities for stating his case to them either orally or in writing as the Committee may determine.

Annual Subscriptions.

- (7) The Annual Subscription which shall be payable on January 1st of each year shall be such a sum as the Annual General Meeting shall from time to time determine and

- shall entitle members to all publications of the Guild. A member whose subscription is one year in arrears shall not receive further publications until his arrears be fully paid. The annual subscription is £3.00 (**Student Gardeners £1.50**).
- (8) Any member whose subscriptions are fully paid may on the payment of a lump sum predetermined by the Annual General Meeting 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. The provisions of this Rule may be suspended by resolution of an Annual General Meeting for such period as the Annual General Meeting shall think fit. (This rule is at present suspended.)

Management of the Guild.

- (9) (a) The business of the Guild shall be conducted by a Committee composed of the officers and ordinary Committee members. The officers shall consist of the President, two Vice-Presidents, the immediate Past-President, the President-Elect, Honorary Secretary, Honorary Assistant Secretary, Honorary Treasurer, and Honorary Editor. The ordinary Committee members shall consist of four present Kewites, twelve Old Kewites and two Student Gardeners.
- (b) Nine members of the Committee shall form a quorum. The Committee shall meet from time to time as may be necessary. Nine members of the Committee may by signed written notice to the Honorary Secretary request him to call a meeting of the Committee and if such meeting be not called within thirty days of the despatch of such notice the said nine members may themselves call a meeting of the Committee by twenty-one days' notice in writing sent to all members thereof.
- (c) The Committee may regulate its own proceedings by standing order or otherwise as it may think fit. No act or proceedings of the Committee shall be invalidated by any vacancy on the Committee or any sub-committee thereof on the grounds that a member of the Committee or of a sub-committee thereof was not qualified at or had become disqualified after the date of his appointment. The Chairman of the Committee shall at Committee meetings have no second or casting vote in the case of an equality of votes.
- (d) At least seven days' written notice of a meeting of the Committee shall so far as practicable be given to every officer and other members of the Committee.
- (e) A Chairman of the Committee shall be elected by the Committee to take the Chair in the absence of the President, the immediate Past-President, the President-Elect and Vice-Presidents.
- (f) There shall be two Honorary Auditors chosen from among members of the Guild who are not members of the Committee.

Election of Officers, Committee, and Auditors.

- (10) (a) The President, the President-Elect, Honorary Secretary, Honorary Assistant Secretary, Honorary Treasurer, and Honorary Editor shall be elected annually at the Annual General Meeting. One Vice-President shall be elected annually at the Annual General Meeting and shall hold office for two years. Any vacancy among the officers shall be filled as soon as possible by co-option by the Committee, and any person so co-opted shall hold office until the conclusion of the following Annual General Meeting.
- (b) Four ordinary Committee Members (three of whom shall be Old Kewites) shall be elected each year and shall hold office for four years. They shall not be eligible for re-election for at least twelve months after the end of their term of office. Any casual vacancy on the Committee shall be filled at the next Annual General Meeting, the member elected completing the term of office of the member whom he has replaced. The Student Gardener representatives shall be elected annually by the Student Gardeners.
- (c) One Honorary Auditor shall be elected each year and shall hold office for two years.

- (d) Candidates for election as officers or ordinary Committee members or Auditors may be proposed by any member of the Guild provided that the names of candidates be sent in writing to the Honorary Secretary at least twenty-eight clear days' before the Annual General Meeting.

Meetings.

- (11) The Annual General Meeting shall be held at Kew on either the second or third Saturday in September. At the Annual General Meeting the Report of the Committee and a Statement of the Accounts shall be submitted and election of officers and Committee members and Auditors shall take place. **Fourteen clear days before the Annual General Meeting the Honorary Secretary shall circulate to all members with an address in the United Kingdom a financial statement together with the agenda of the meeting which shall include a list of candidates for election as officers or ordinary Committee members or Auditors together with their proposers.**
- (12) A Special General Meeting of the Guild may be called at any time by the Committee and shall be so called within fifty-six days of receipt by the Honorary Secretary of a requisition in writing signed by not less than thirty-five members stating the purpose for which such a meeting is desired and setting out any resolution which it is desired to propose thereat. Notice of the meeting with an agenda thereof shall be sent to all members with an address in the United Kingdom at least forty-two days before the date appointed for the meeting. Amendments to any resolutions set out in the agenda shall be sent to the Honorary Secretary at least twenty-eight clear days before the date of the meeting and shall be sent by him to all members with an address in the United Kingdom at least seven clear days before the date of the meeting. No business shall be transacted at such meeting other than that specified in the notice and no amendment of any substance to any resolution proposed at the meeting shall be allowed. The Chairman of the meeting shall be nominated by the Committee.
- (13) The accidental omission to give notice of a meeting to or the non-receipt of notice of a meeting by any member shall not invalidate any proceedings or resolutions at any meeting of the Guild or any Committee thereof.
- (14) At a General Meeting each individual member whose subscription is fully paid up to the date of the meeting shall have one vote and no more except the Chairman who shall have a second or casting vote in the case of an equality of votes.

Alteration of the Rules.

- (15) These Rules may be altered by a two-thirds majority of those present and voting at an Annual or Special General Meeting. Any proposals for the alteration of Rules shall be sent to the Honorary Secretary in writing at least twenty-eight clear days before the date of the Annual or Special General Meeting and shall be sent by him to all members with an address in the United Kingdom at least seven clear days before the date of the Annual or Special General Meeting.

Dissolution of the Guild.

- (16) A motion to dissolve the Guild may only be made at a Special General Meeting and to effect a dissolution at least three-quarters of the members actually present and voting at the meeting shall vote in favour of the dissolution. If a motion to dissolve the Guild is carried by the said majority the Guild's surplus funds, property and assets (if any) shall be disposed of for charitable purposes in connection with education and research in connection with botany and horticulture as the members may at the said Special General Meeting decide, or failing any such decision to a charity connected with botany and horticulture to be nominated by the Director of the Royal Botanic Gardens, Kew, for the time being, to the intent that no member of the Guild shall receive any of the said funds, property and assets by virtue of his membership.

Property of the Guild and Trustees.

- (17) (a) The Guild may purchase or otherwise acquire and hold property of any nature and may sell lease mortgage or otherwise deal with the same. Any property belonging

to the Guild may be invested in the names of not more than four and not less than two Trustees who may be appointed from time to time by the Committee and any vacancy amongst such Trustees shall be filled by the Committee. Such property may also be invested in the name of a limited company established by and under the control of the Guild for trust purposes.

- (b) Such investments may be in or upon such shares, stocks, funds, securities, investments, and property, real or personal, freehold or leasehold in any part of the world upon such terms and conditions (if any) as the Committee shall in their absolute discretion think fit and in all respects as if the Committee were the sole beneficial owners thereof. The Committee may from time to time direct the Trustees to sell vary and transfer such investments and property.
- (c) The Committee may deal with the said investments as if they were the sole beneficial owners thereof.
- (d) If legal proceedings of any kind are resorted to or defended by the Guild the Trustees shall on the instructions of the Committee but not otherwise prosecute or defend such proceedings either in the name of the Guild or in the name of the Trustees or otherwise on behalf of the Guild as may be necessary.
- (e) The Trustees shall in all respects act as required by the Committee and a copy of a minute of the Committee signed by the Honorary Secretary shall be conclusive evidence of its decision.
- (f) Any Trustee may be removed from office by a resolution passed at a meeting of the Committee by a vote of not less than three-quarters majority of the members of the Committee present and voting at the meeting. At least seven clear days' notice of a special meeting to remove a Trustee shall be given to all members of the Committee and the agenda for the meeting shall state concisely the reasons why the removal is considered necessary and the accused Trustee shall be permitted to make his defence orally or in writing.
- (g) The Trustees shall be effectively indemnified by the Committee from and against any liability costs expenses and payments whatsoever which may be properly incurred or made by them in relation to the trusts of the property and investments of the Guild or in relation to any legal proceedings or which otherwise relate directly or indirectly to the performance of the functions of a Trustee of the Guild.
- (h) Except where otherwise provided the Trustees may act by a simple majority of those present and voting at a meeting of the Trustees.
- (i) The Trustees shall from among their number appoint an Honorary Secretary.

ADDRESS LIST OF OLD KEWITES — GUILD MEMBERS (December 1980)

updated by Eirene Smith, Membership Treasurer

N.B.—Designations/Abbreviations are not shown, neither are Horticultural qualifications. However the editor will be pleased to show these when individuals request it in writing.

(The names of Past Presidents are preceded by a dagger, Life members by an asterisk. The year of leaving Kew is indicated. Members currently working at Kew are asterisked on the Staff List, published biennially. By agreement with the Department of Education and Science holders of the Kew Diploma may place Dip. Hort. (Kew) after their names: this is not indicated in the following list).

- 1973 Abrahams, M. R., 31 Barcombe Heights, Paignton, Devon TQ3 1PY.
- 1959 Adams, R., 63 Franks Avenue, New Malden, Surrey, KT3 5DD.
- 1938 * Addison, G. H., Lot 5, Owen Road, Darlington, W. Australia, 6070.
- 1957 Addison, P., 6 Walney Road, West Derby, Liverpool, L12 5EW.
- 1949 Ainslie, E., 32 Bakewell Road, Hazel Grove, Stockport, Cheshire.
- 1939 * Airey, J. E., Westmoor Gardens, Mansel Lacy, Hereford.
- 1945 * Albert, Mrs. H., 65 Summet Street, Oyster Bay, Long Island, New York, U.S.A.
- 1962 Aldous, J., Roebuck, Dolly End, Witney, Oxon.
- 1961 Allen, J., 6 The Green, Richmond, Surrey.
- 1945 * Ambrose, Miss R. M. (See Mrs. J. Souster).
- 1926 * Anderson, A. W. C., 324 Church Street, Timara, New Zealand.
- 1965 Anderson, G. H., B.E.M., 29 Glenwood, Harmans Water, Bracknell, Berks.
- 1947 * Armstrong, C. E., Kesteven Farm Inst., Caythorpe Court, Nr. Grantham, Lincs.
- 1970 Armstrong, G. D., Botanic Garden of Smith College, Northampton, Mass., 01060, U.S.A.
- 1931 * Arnold, T. A., Box 90, Bedfordview, Transvaal, S.A.
- 1944 * Ashby, Mrs. D., 145 High Street, Harston, Cambridge.
- 1956 Ast, R., Huobhalde 12, 6330 Cham/Switzerland.
- 1954 Attenburrow, D. T., c/o Fisons, Levington Research Inst., Ipswich, Suffolk.
- 1950 Attwood, C. A., Atlas, East Lane End, Fairmoor, Morpeth, Northumberland.
- 1910 * Aubrey, A. E., 83 Newbridge Street, Wolverhampton, Staffs.
- 1939 * Aves, J. J., P.O. Box 1454, Parks Department, Pretoria, S.A.
- 1972 Axton, Miss M. R., 41 Wilmot Way, Banstead, Surrey.
- 1939 * Balch, R. W., East Taieri, R.D.2, Mosgeil, Otago, New Zealand.
- 1971 Bamkole, C. B., Parks & Gardens Unit, University of Ife, Ile-Ife, Nigeria.
- 1962 Baren, M. E., 4 Branwell Drive, Haworth, W. Yorks.
- 1958 Barker, L. P., 29 Somerville Square, Mossipit, Stafford, ST17 9JK.
- 1968 Barker, Mrs. D., 41 Caxton Road, Otley, W. Yorks LS21 3LL.
- 1966 Barnes, A. L., "Brandon", 35 Walton Avenue, Twyford, Adderbury, Banbury, Oxon.
- 1960 Barnes, H. P., 14 St. Austell Road, Park Hall, Walsall.
- 1927 * Bassett, W. E., M.B.E., 26 Binsted Avenue, Felphan, Bognor Regis, Sussex, PO22 8HY.
- 1962 Bauman, R. C., M.Sc., Box 3924, Wilmington, Delaware, U.S.A. 19807.
- 1954 Baverstock, E., 1 The Cottage, Sidcup Place, Sidcup, Kent.
- 1956 Bayliss, C., 236 Rochester Road, Gravesend, Kent.
- 1978 Beardmore, S., 48 Ladybrook Road, Bramhall Park, Bramhall, Cheshire.
- 1953 Bee, R. A., Director of Parks, Parks Department, Cumberland House, Crown Square, Manchester, M60 3BB.
- 1942 * Bell, Miss C. O. (See Mrs. C. O. Martin).
- 1963 Bell, H., 1, Moel Ganol, Mold, Clwyd, N. Wales.
- 1918 * Bell, Miss V. S. (See Mrs. Danes).
- 1964 Bentall, M., P.O. Box 984, East London, S.A.
- 1947 Benton, P., 35 Hutton Park, Hutton Moor Road, Weston-super-Mare, Avon, BS24 8RY.
- Bernard, D. J. W., 39 Paradise Road, Richmond, Surrey.
- 1967 Bessler, W. E., 41 Bell Road, East Molesey, Surrey KT8 0SS.
- 1967 Beswick, J., c/o PO Carey Gully, S.A. 5144 (State Highways Department, PO Box 19, Walkerville, Adelaide 5081).

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