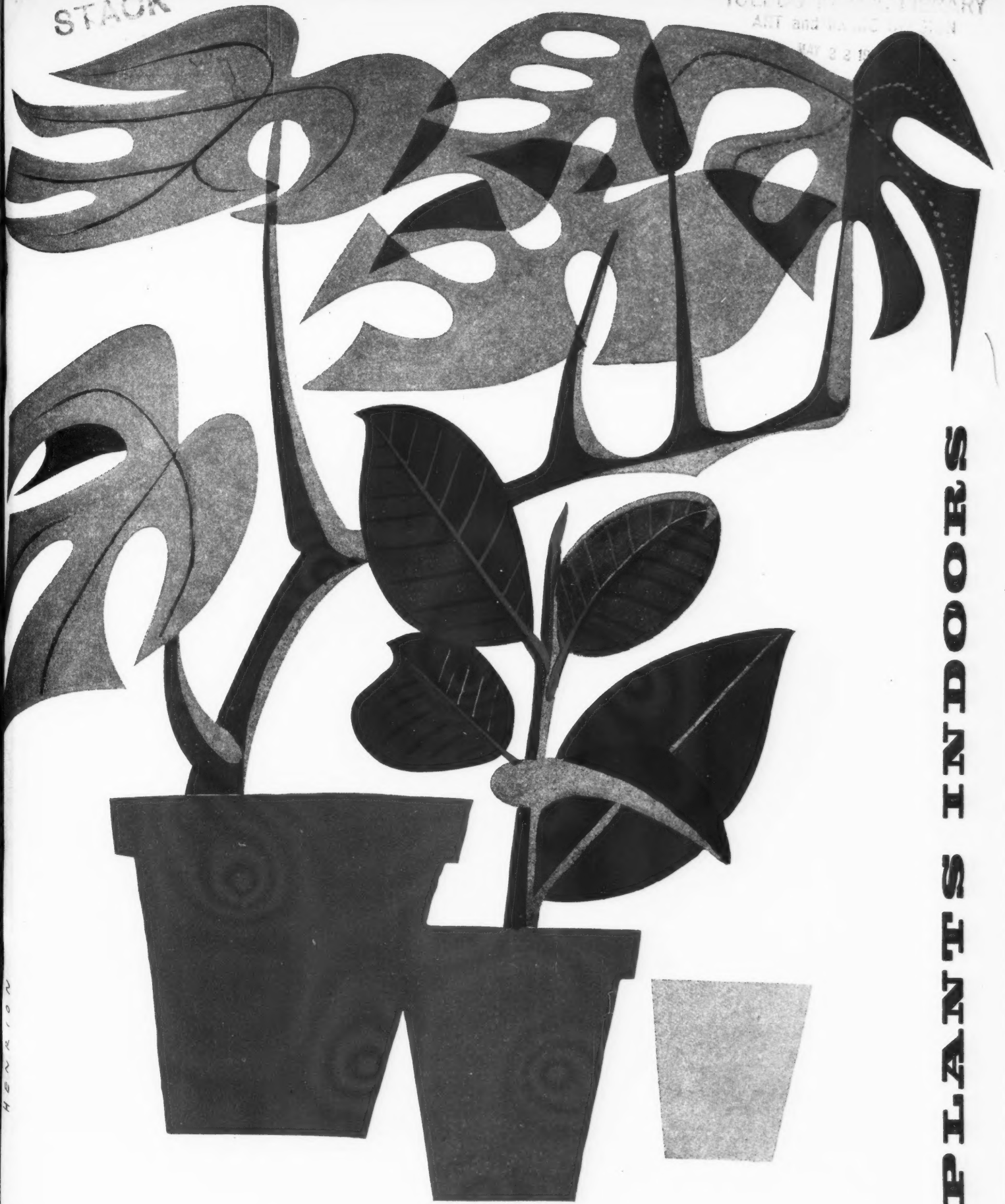


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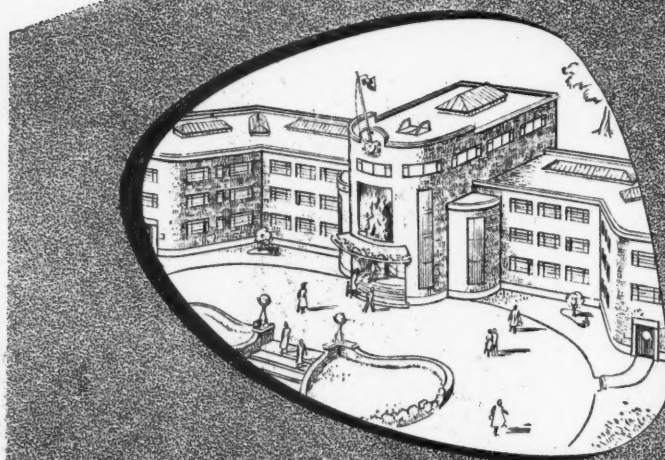
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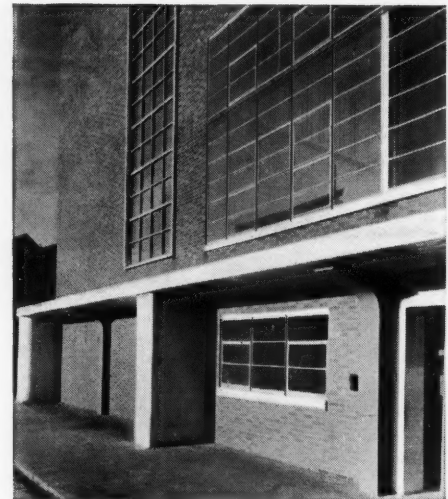


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designed by HOWARD, SOUSTER and PARTNERS

architect in charge: R. R. FAIRBAIRN

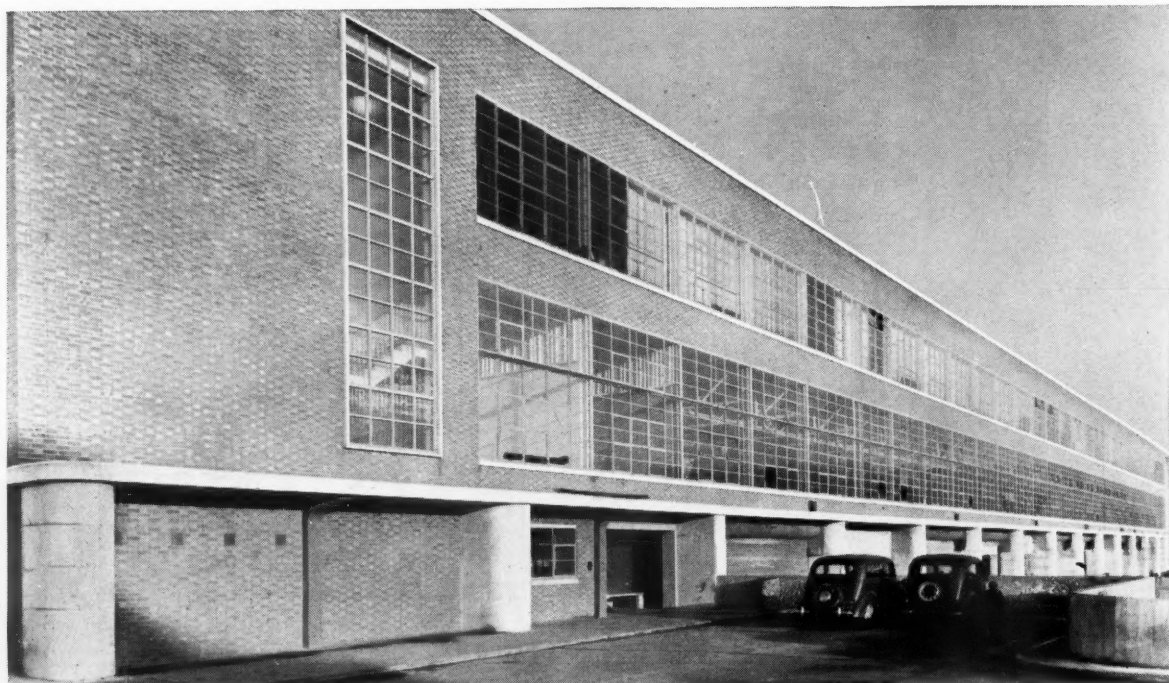
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To level the site for this building 1/2 million cubic yards of soil were excavated. The foundations commenced at the beginning of May, 1949, and the final taking over of the factory for production purposes was about the middle of August, 1950. The factory has a total floor area of 852,000 sq. ft., the bulk of this at ground floor level. At the Southern end there is a receiving basement for goods and a first-floor office block to accommodate the planning staff. The building is faced with "PHORPRES" RUSTICS, which blend happily with the local surroundings and are toning down well. In many instances "PHORPRES" RUSTICS have also been used internally; for instance, in the Canteen and Main Workmen's Entrances. In these cases special pointing was incorporated. The approximate number of bricks used for the job was 423,000 RUSTICS and 1,131,000 COMMONS.

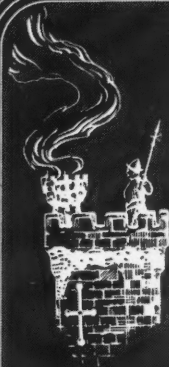


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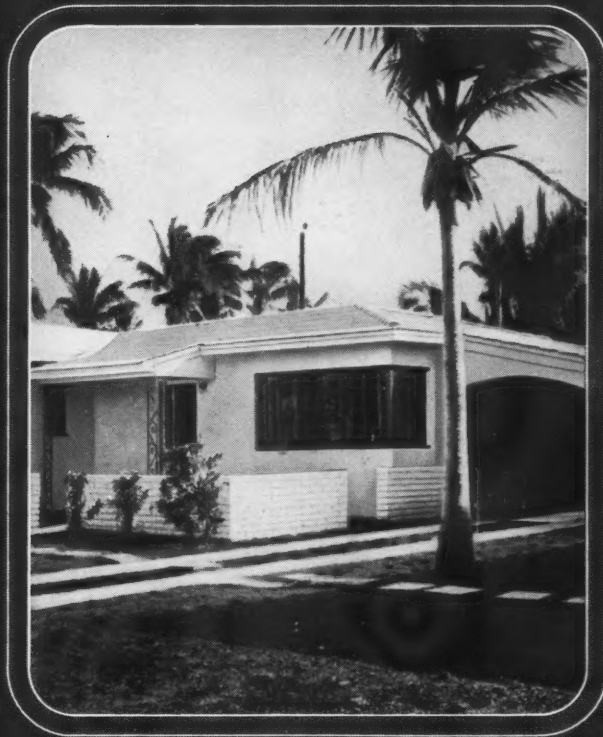


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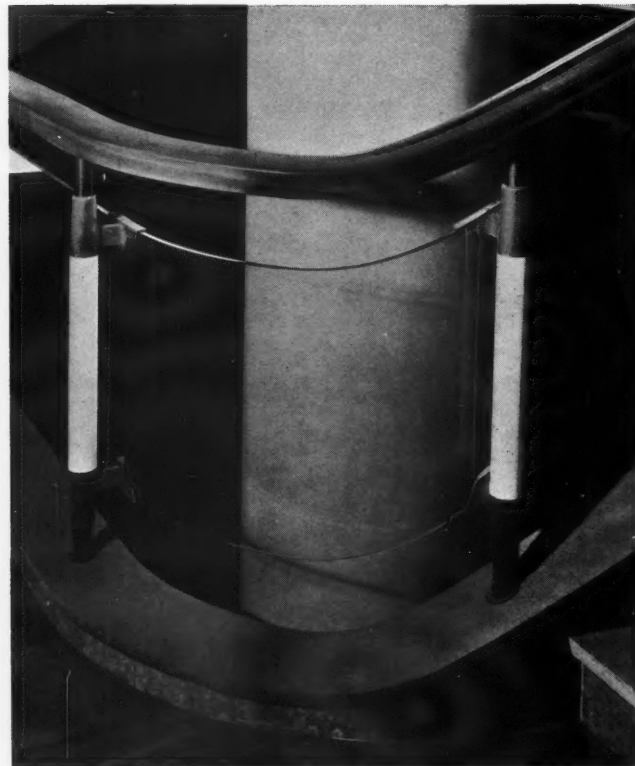
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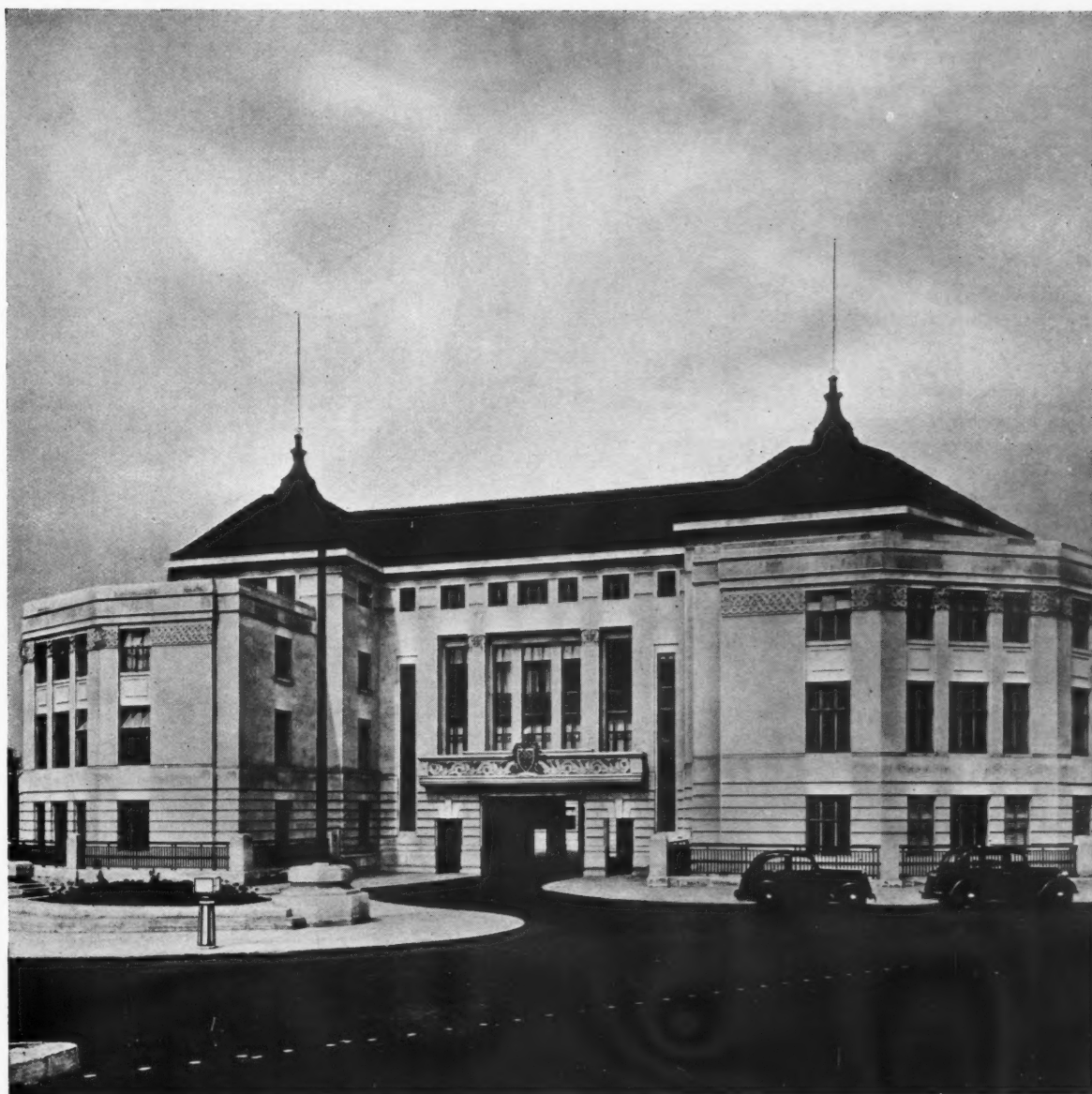
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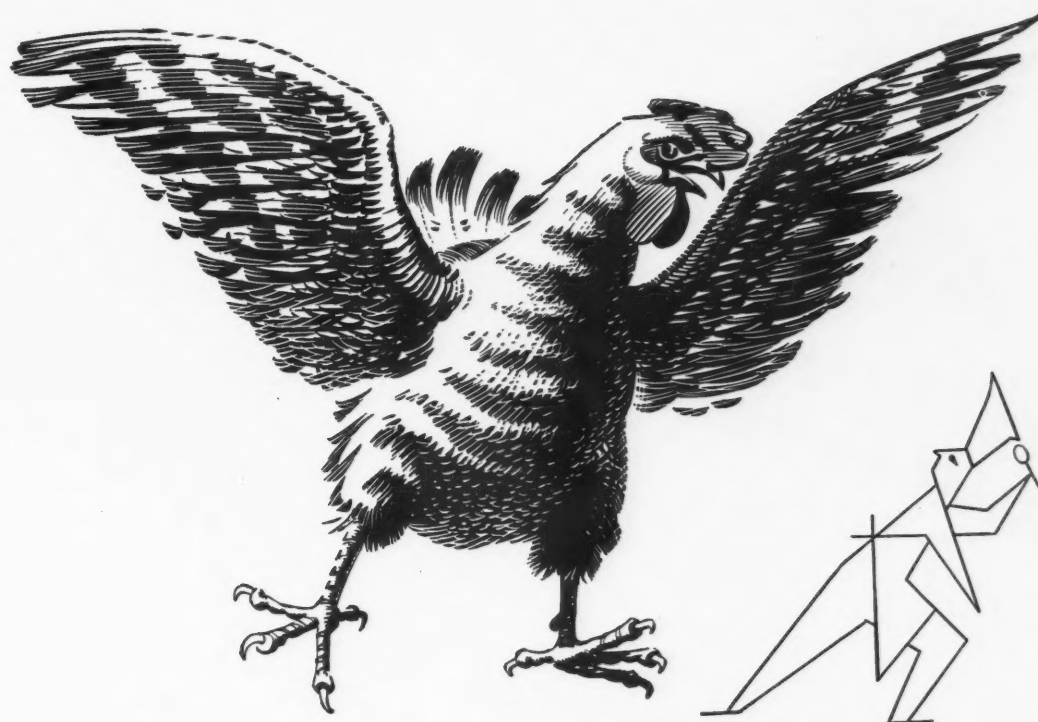
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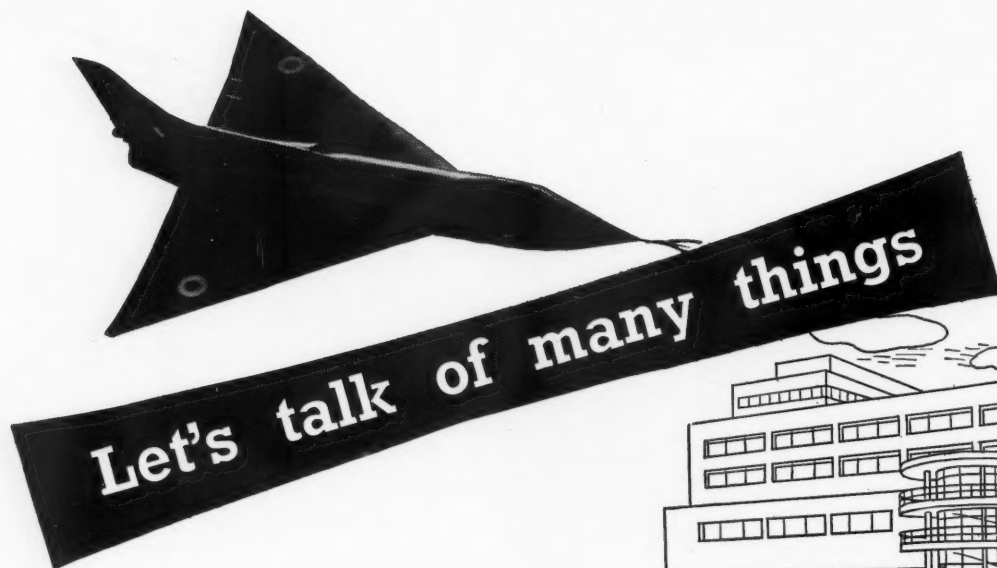
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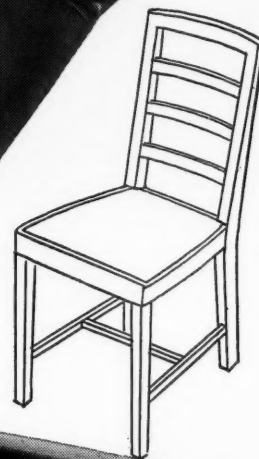
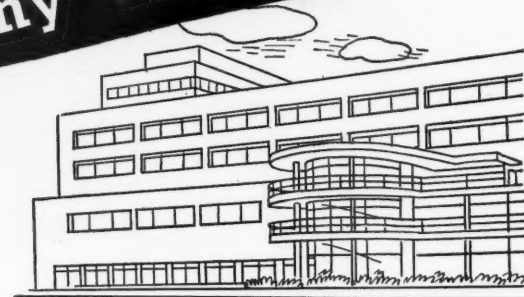
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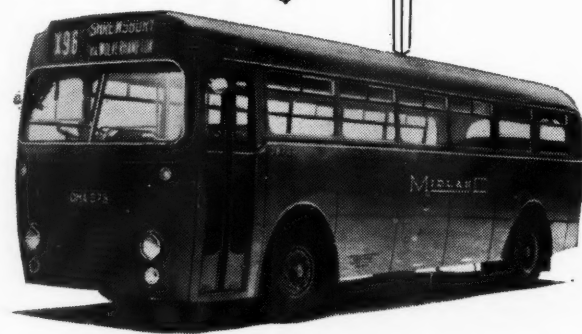
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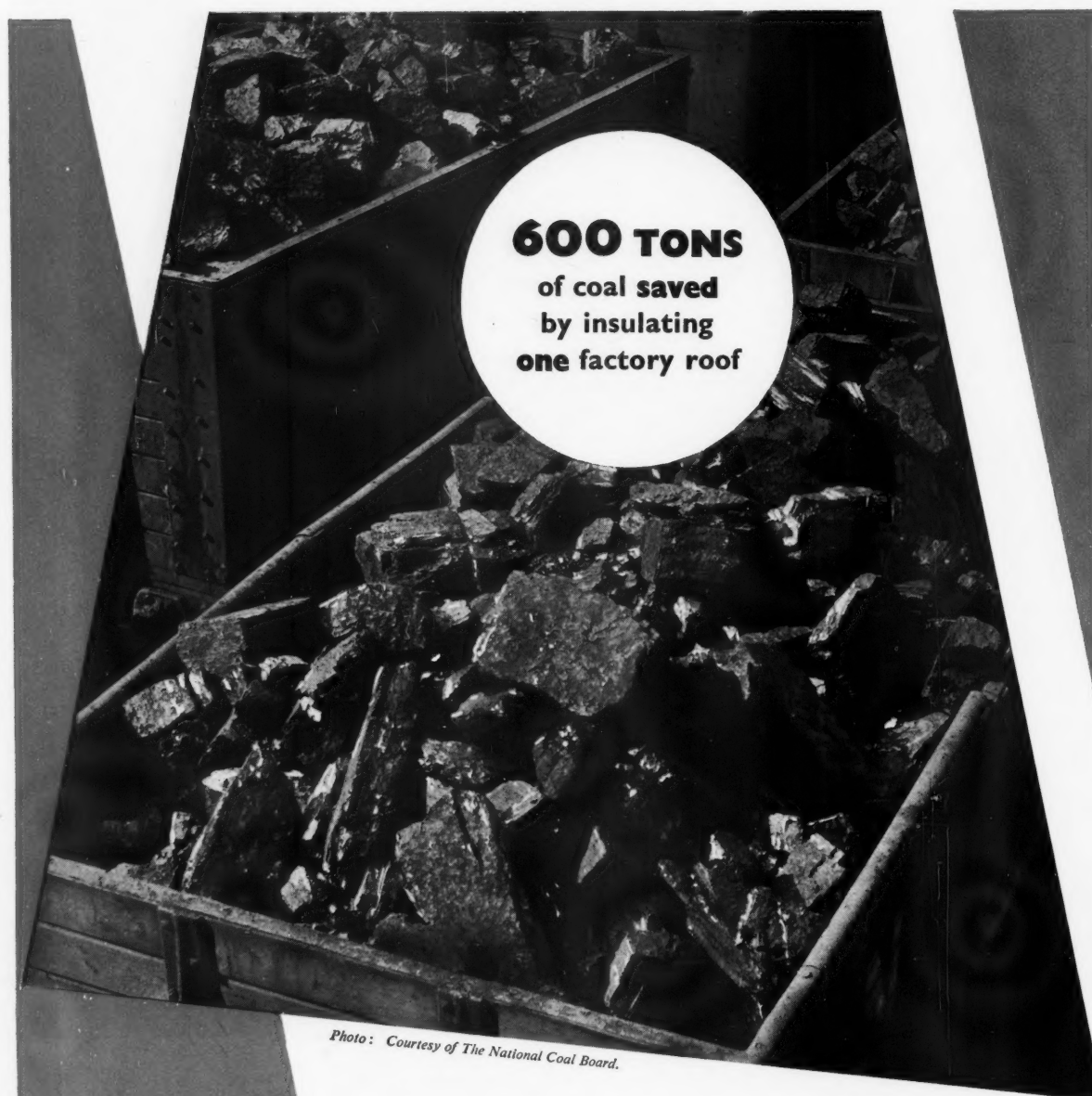


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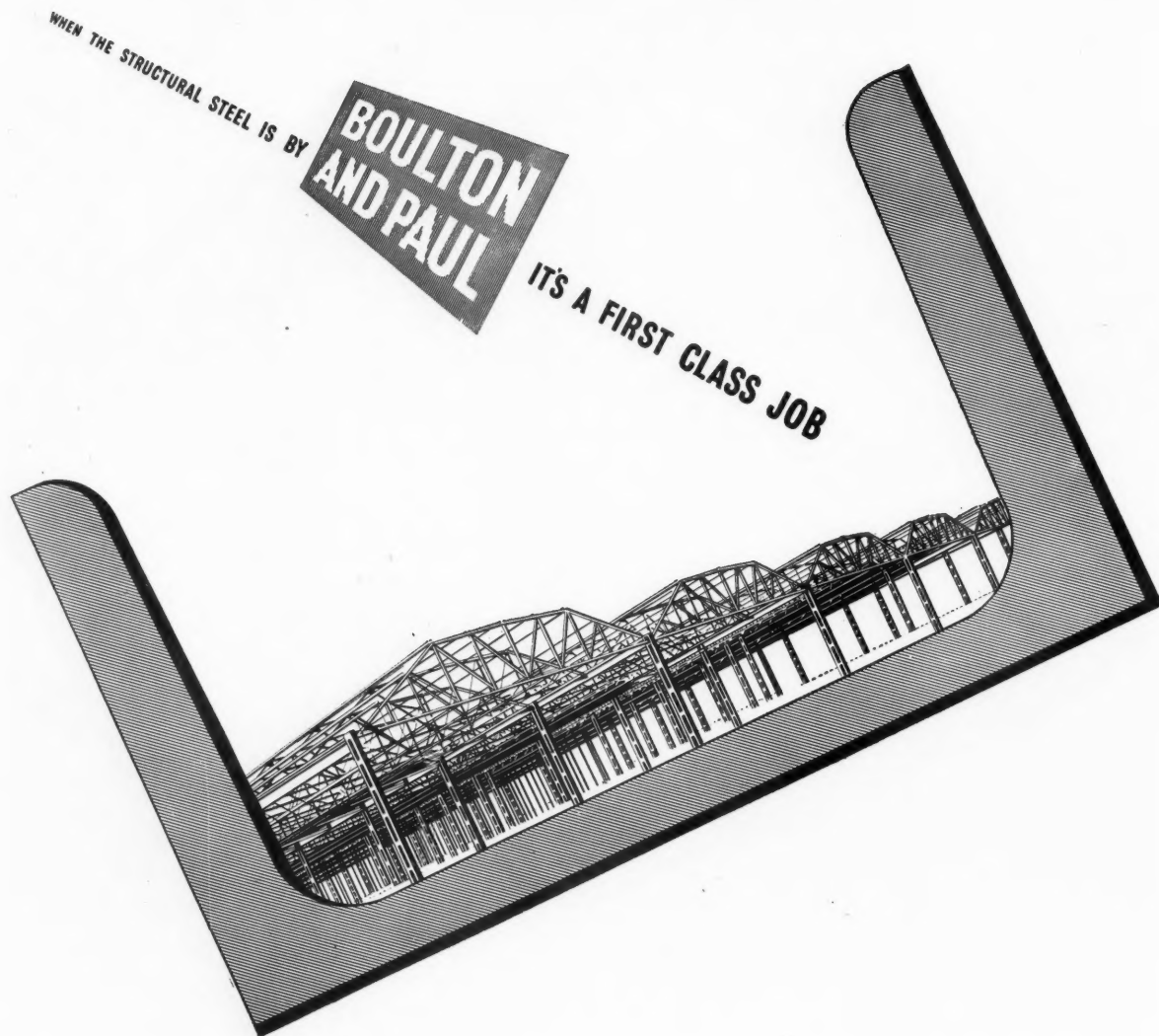
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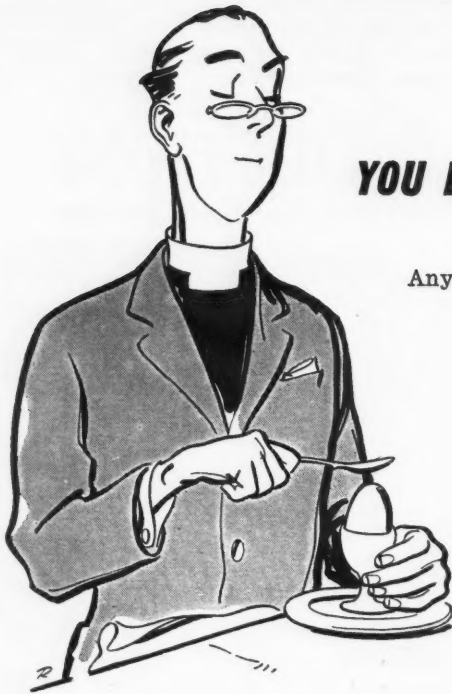
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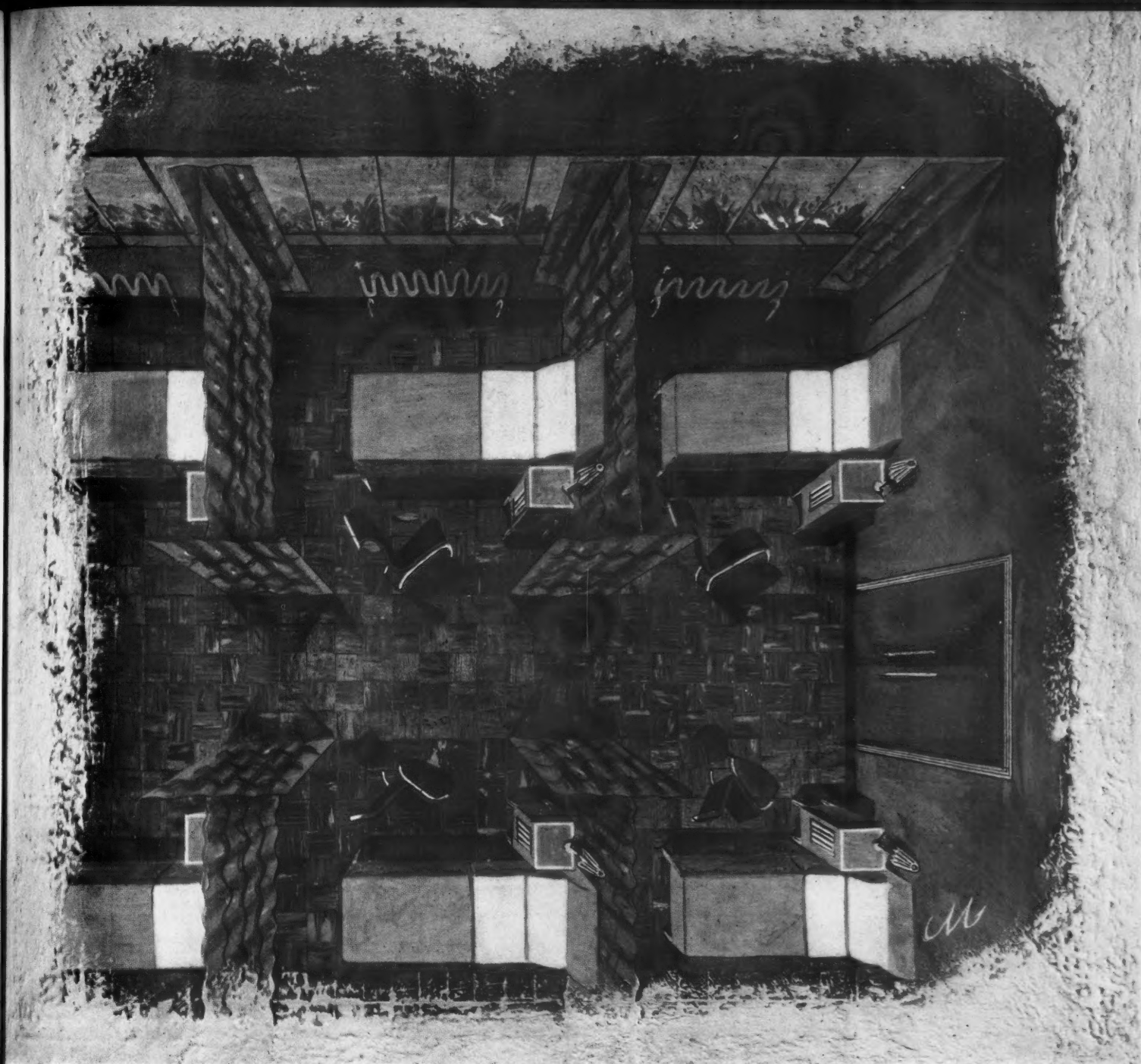
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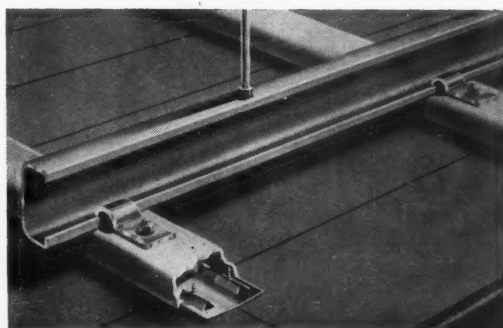
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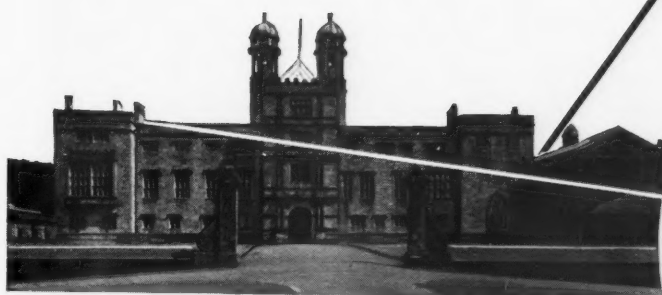
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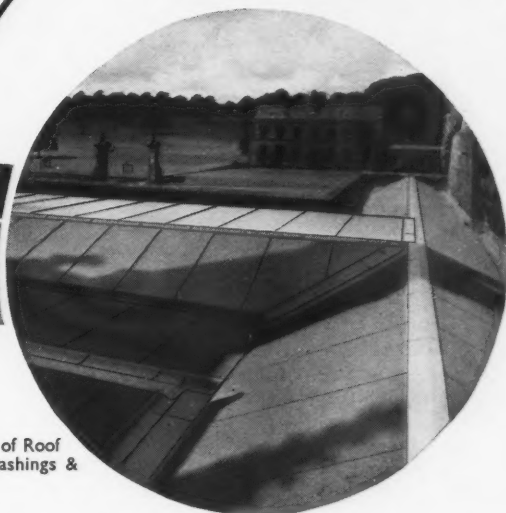


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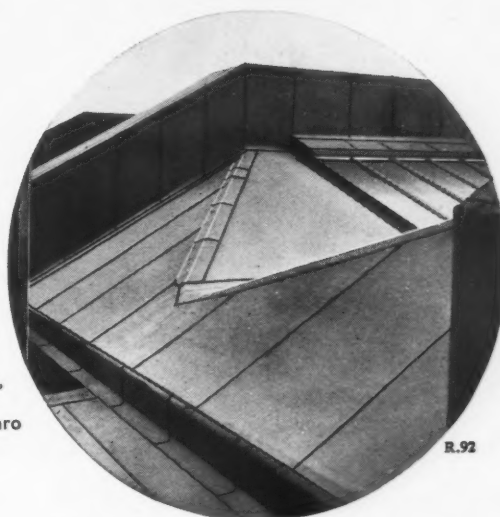
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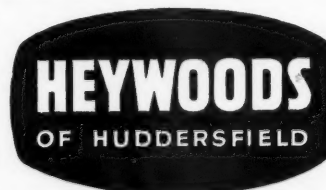
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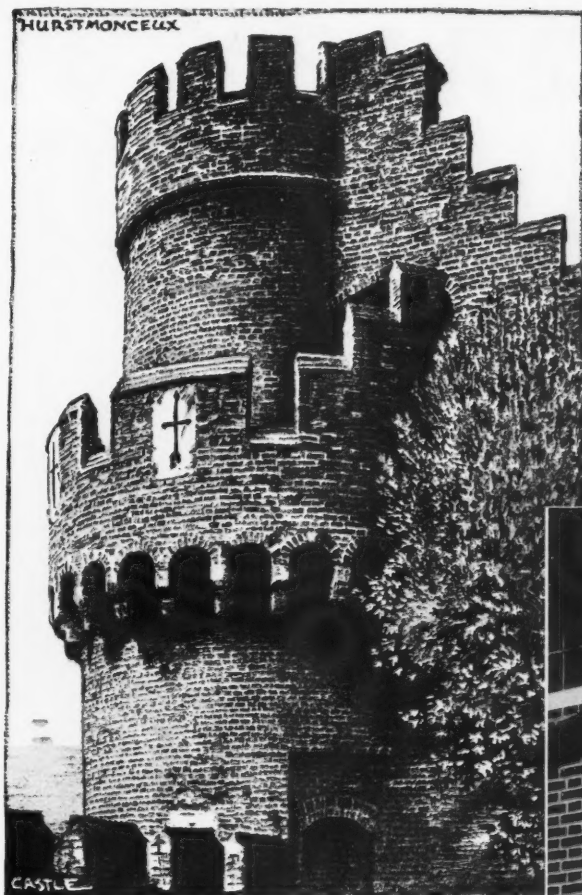
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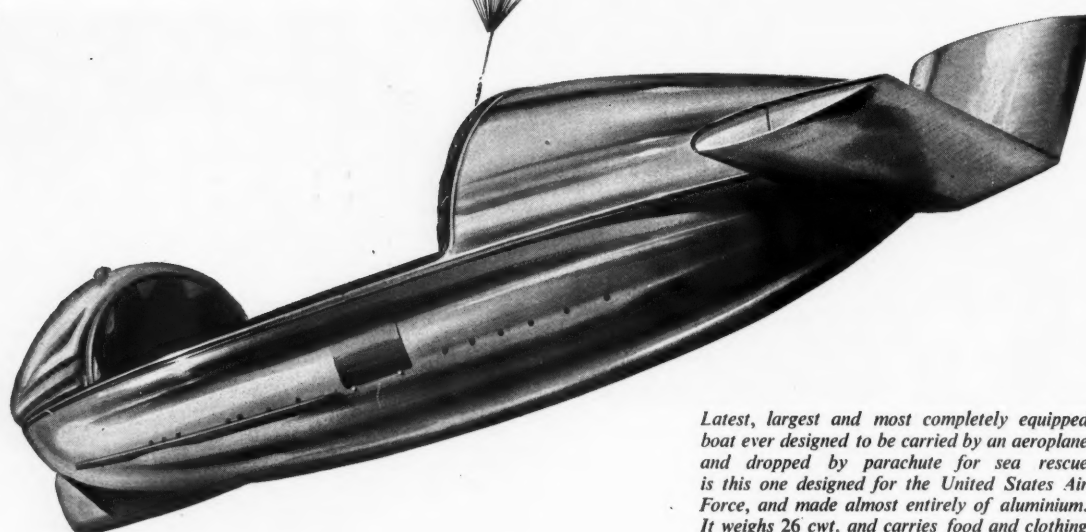
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*A doorway. Fairholme Estate, Bedford, Middlesex.
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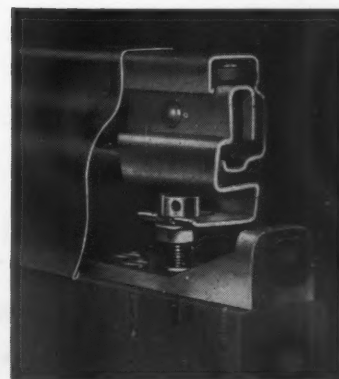
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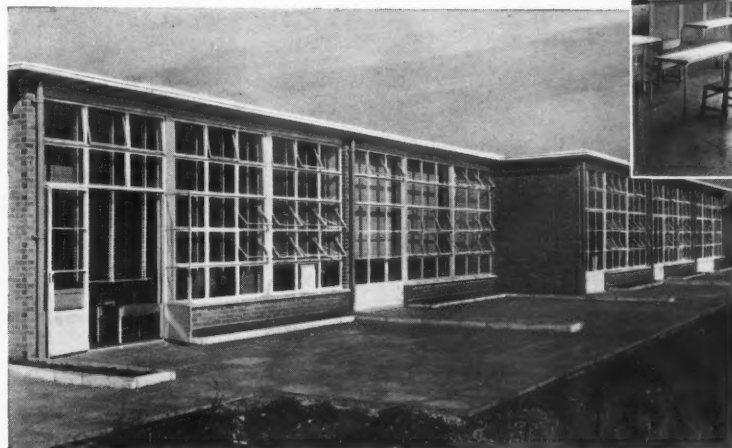


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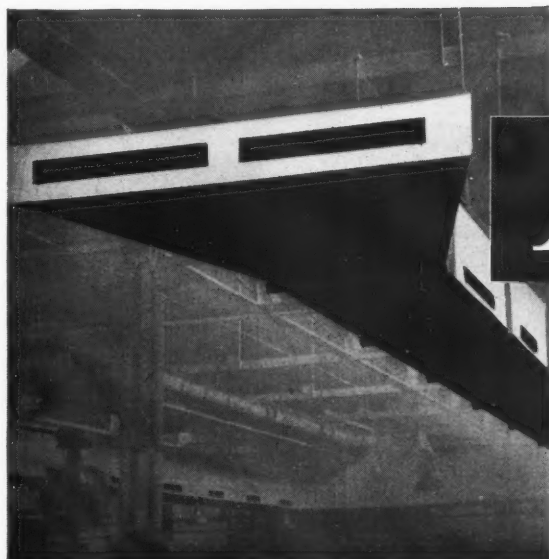
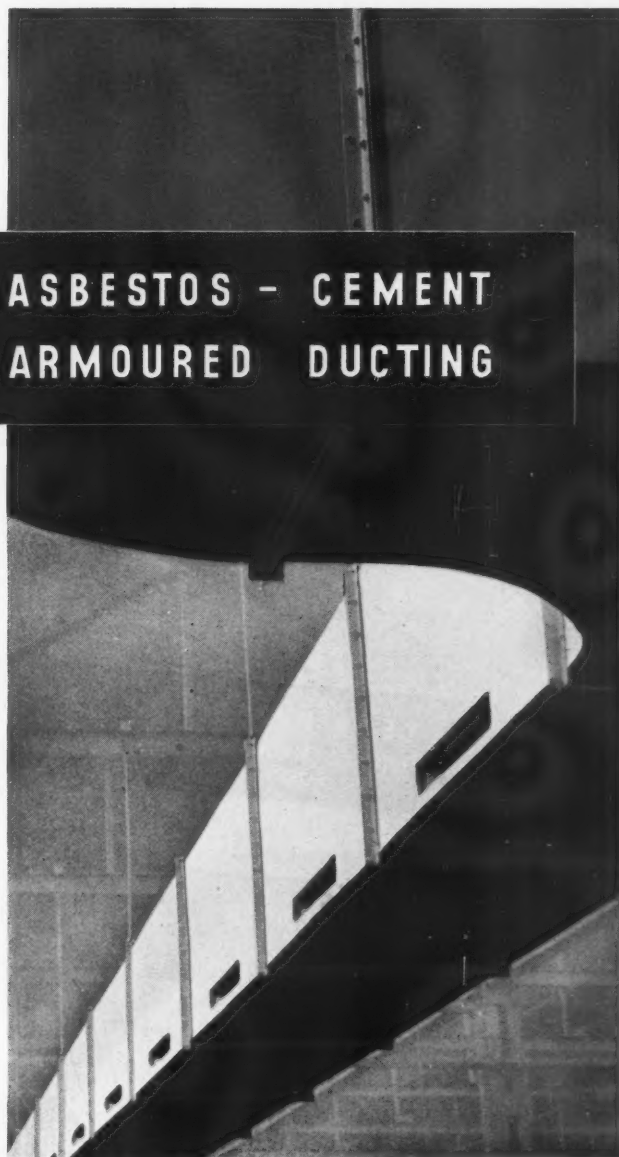
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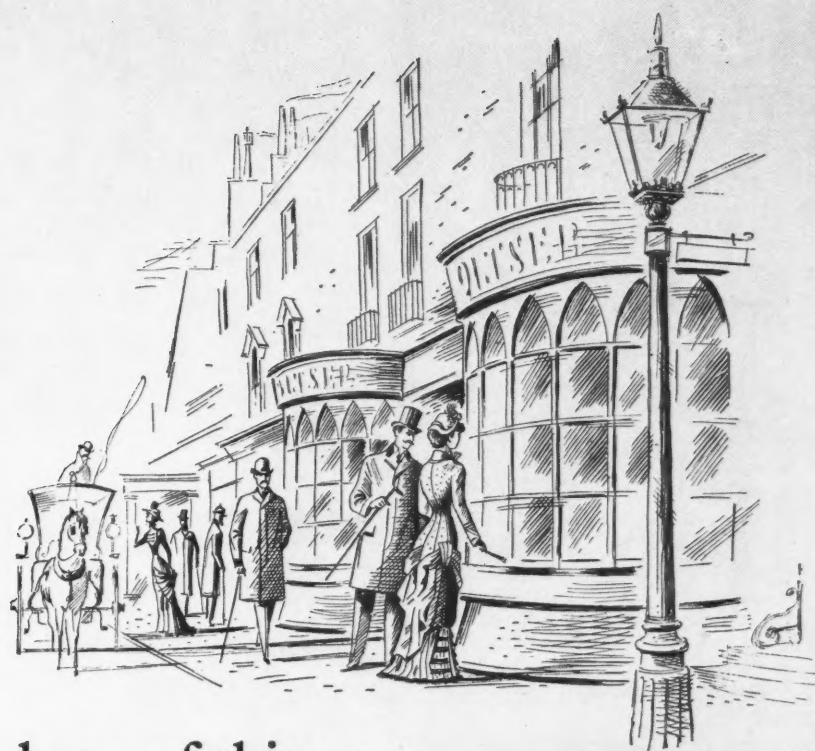
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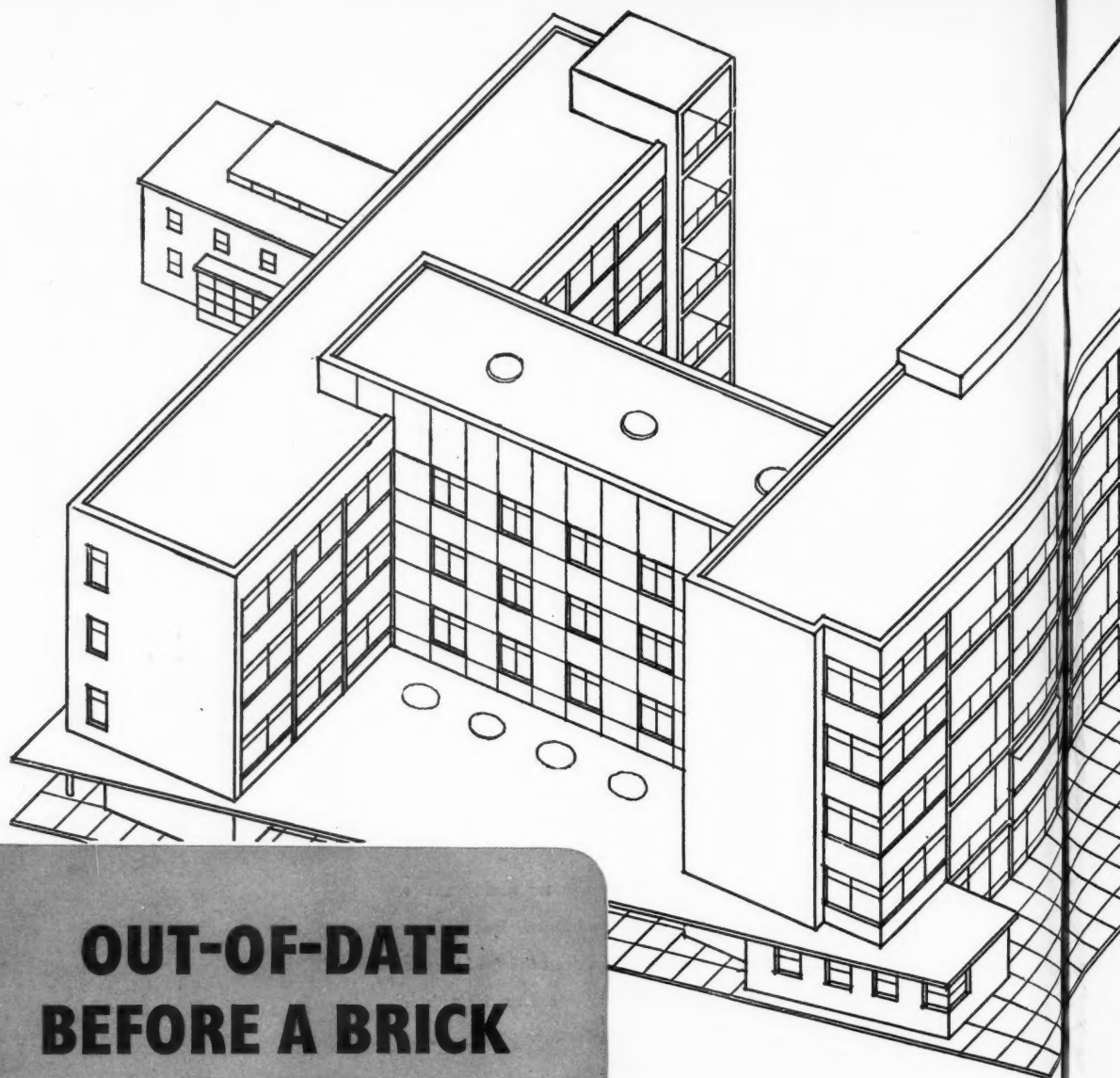
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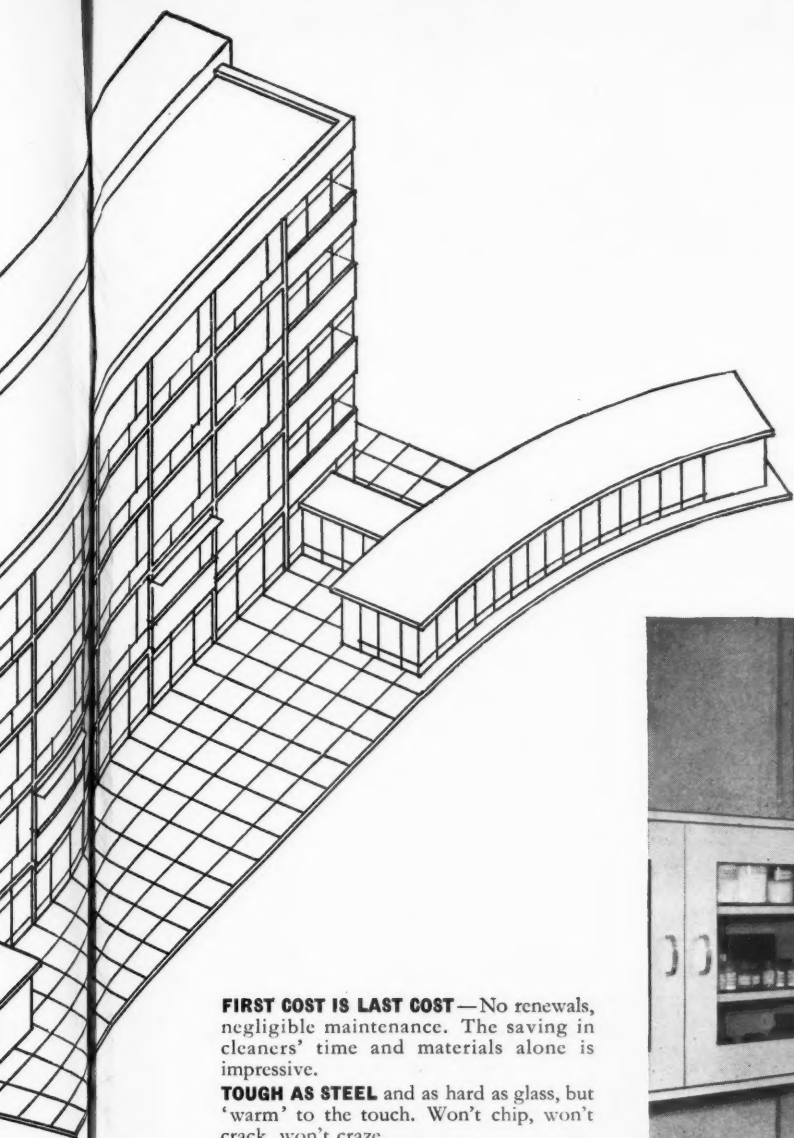


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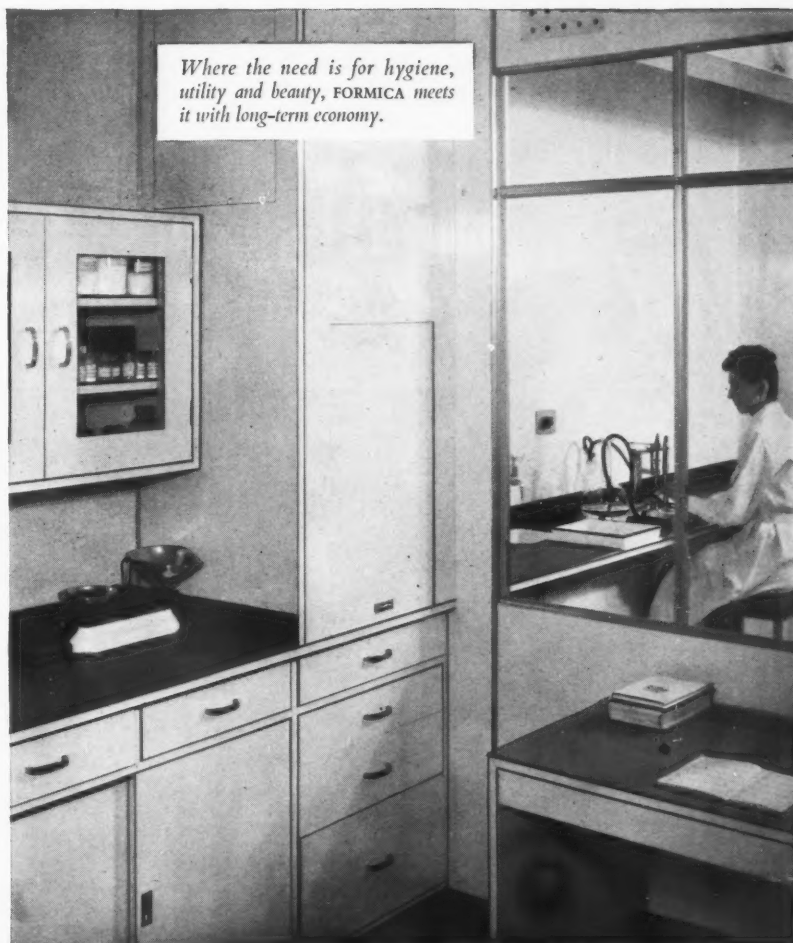
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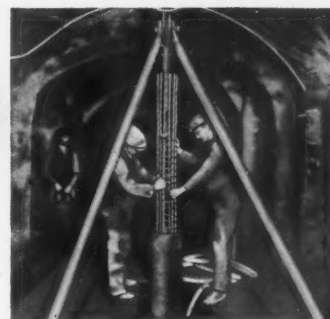
BEARING TESTS.					
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B.E.A. Deptford Power Station	15' 0"	17"	65 tons	.171"	.111"
Royal Society of Medicine, Henrietta Street	28' 0"	17"	75 "	.178"	.08"
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Wimbledon Park Estate, Albert Drive, Wandsworth	41' 0"	2-17"	200 "	.145"	.04"
Denmark Hill Flats, Camberwell	25' 0"	17"	75 "	.116"	.06"
Champion Hill Flats, Camberwell	35' 0"	13½"	70 "	.175"	.14"
Rotherhithe Arches, British Railways (S.)	18' 0"	17"	80 "	.04"	Nil.
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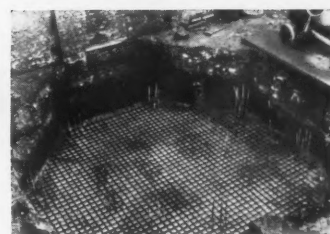
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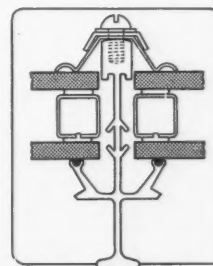
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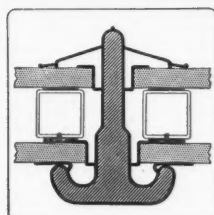
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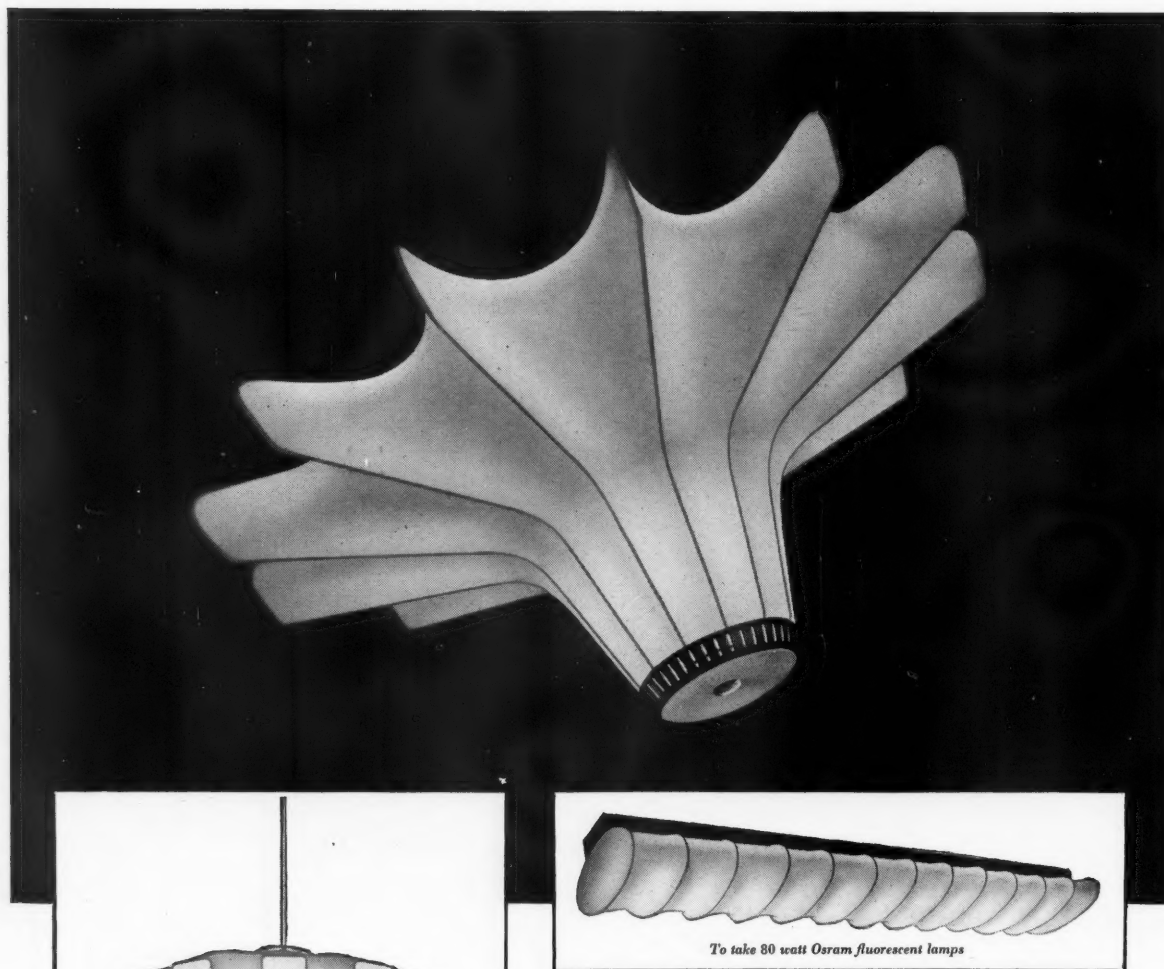
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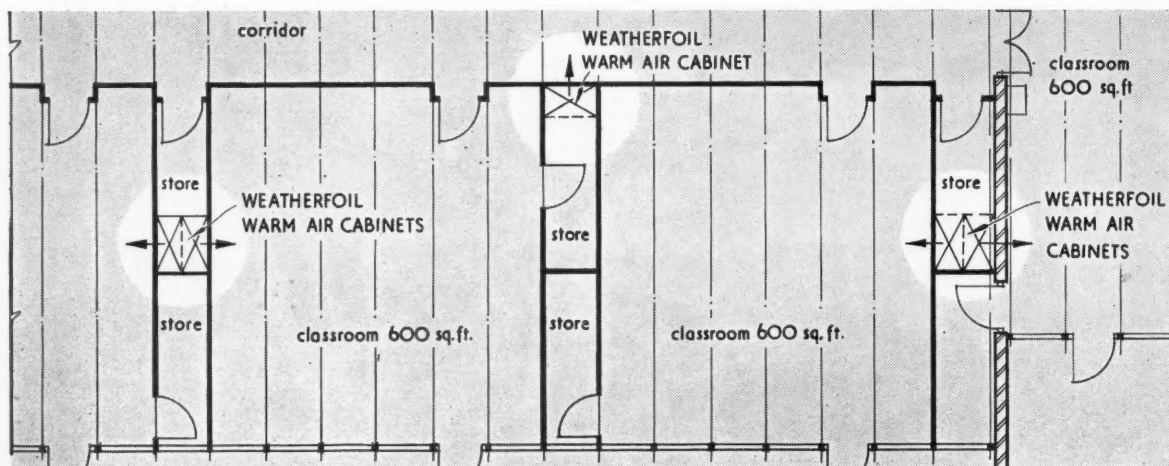
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PLANTS INDOORS

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May 1952 Five Shillings

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a short history of the

ORIGINS

of the taste for indoor plants



THESE WORDS ARE WRITTEN IN PRAISE OF ROOM plants and about their cultivation and possible use in interior decoration. They are also written to encourage still further a revived interest in a favourite occupation of our forefathers. We have not yet reached the pitch of enthusiasm which these plants now arouse in the Scandinavian countries, and to a certain extent in Austria and Germany and in the USA. In fact so familiar are English visitors with these plants in their Danish or Swedish setting that they have mistakenly thought of them as native to those countries. The truth is, of course, that a great many of them were familiar in England and Scotland in the eighteenth and nineteenth centuries. In order to prove this point and also because the subject is not without value and interest for its own sake, a brief account of the old-fashioned taste for foliage and flowering plants would not be out of place here.

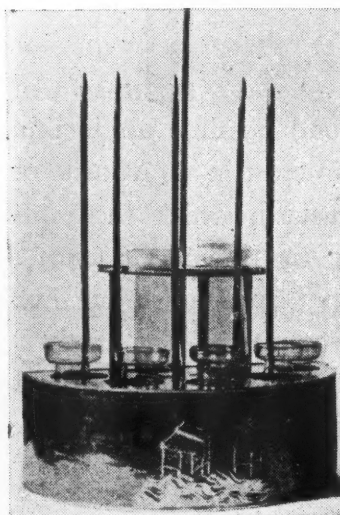
Englishmen and Scotsmen have written books about plants in rooms from the seventeenth century and, perhaps, earlier. The first clear reference to this subject is contained in a book called *Floraes Paradise*, published first in 1608 and after the author's death reissued with omissions and rearrangements as *The Garden of Eden*. It was written by Sir Hugh Platt, member of Lincoln's Inn and knighted by James I for his inventions, who in his preface described the contents of his book as not written 'in a Scholler's private study, but wrung out of the earth by the painfull hand of experience.' He recommended that pots of sweet Marjoram, Basil and Rosemary should be brought indoors and that 'Pompions,' a form of gourd, and 'Cowcumbers' pierced with growing barley, might be hung from the ceiling to keep flies off oil paintings. As a further essay in the useful and decorative, he suggested that vines, apricots and plums growing on the outer house wall be allowed to wander indoors and crawl over the ceilings. The success of these first adventures must to a certain extent have depended on the existence or not of domestic heating and certainly it is more than a coincidence that the flow of books about tender tropical and sub-tropical plants and their use in houses coincided with improvements in methods of heating orangeries and the design of the earlier forms of greenhouse.

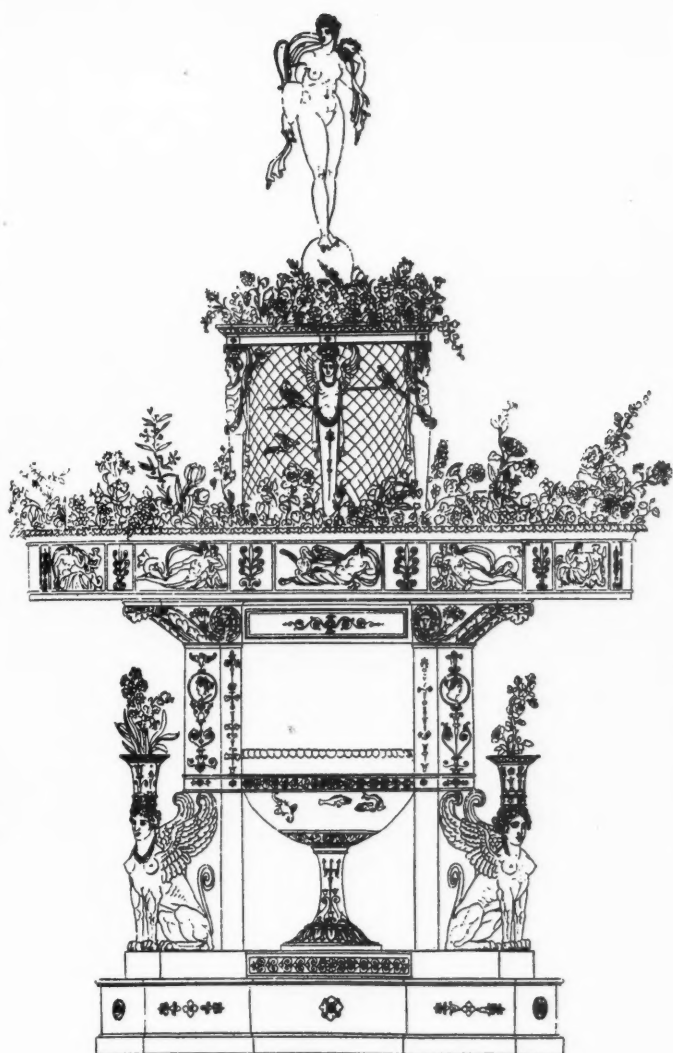
Heating by an extraordinarily complicated system of coiling brick flues, carried sometimes for a distance of fifty feet within brick walls, was in use in the seventeenth century and more commonly in the eighteenth century, though what may have often been used was the primitive idea of putting red-hot embers in a hole in the floor, a method which we know to have been adopted in the Orangery of the Apothecaries Garden at Chelsea in 1684. Glass roofs were first installed in Orangeries in 1717 and experiments in their pitch and design were carried out in the middle and end of the eighteenth century by Abercrombie and Speechley in England and by Kyle and Nicol in Scotland. It was, however, not until T. A. Knight, brother of Richard Payne Knight and one of the first presidents of the London Horticultural Society, published his papers on glasshouses in the *Horticultural Society Transactions* in 1809 and on curvilinear structures in 1822 that a real contribution was made to the problem of roof pitch. But perhaps the chief problem of these early pioneers was the provision not only of heat but of ventilation, the circulation of warm air and the regulation of humidity. The first attempts in the use of hot air heating were made by Dr. Anderson in 1802 in a greenhouse at Isleworth and in the following year by Stewart

and Jordan, whose greenhouse was very similar. Neither proved workable as the air in the one case was too dry and in the other not sufficient. For some years afterwards houses warmed by cockle stoves were much in vogue and were used extensively until the 'forties. Hot-water systems for heating were first introduced from Holland, so it is recorded, by William Atkinson of Paddington in 1822, but John Claudius Loudon, whose monumental encyclopædias on every conceivable branch of horticulture and building filled nineteenth century bookshelves, claimed that it was first practised in France in 1777 by M. Bonnemain and introduced into this country by a French émigré Count Chabannes in 1816 at Sundridge Park, Kent. Loudon, however, did admit that Atkinson's system was the most successful and his hot-water system, soon improved and cheapened by successive horticultural engineers, made possible the astonishing growth of glasshouses which ranged from Paxton's huge 300-foot structures to domestic conservatories of all sizes and the elegant heated fern cases in Victorian drawing-rooms.

The Victorians developed a mania for glass as a building material, as London and provincial food markets, railway stations and Decimus Burton's edifice at Kew bear witness. The stimulus for this was an enthusiasm for the hot-house exotics which were pouring into the country from the tropics and the Orient from about the end of the eighteenth century and the necessity to provide favourable conditions for their culture. It is also obvious that since methods of heating became more efficient so the importation of tender plants became more rapid. And so from an action and reaction which intensified each other, tropical plants and improved greenhouses multiplied at an almost unbelievable rate. Mr. Geoffrey Taylor in his interesting book *Some Nineteenth Century Gardeners*, calculates that of the 238 new plant species first introduced into England in 1845, only some 35 were hardy and that all the rest were new orchids, or greenhouse, conservatory or stove plants.

These plants needed expert guidance in their care and hence the many horticultural instruction manuals that were published from the last quarter of the eighteenth century and onwards. The most interesting of the early publications is John Abercrombie's *Gardener's Pocket Dictionary*, 1786, which described several exotic trees and shrubs native to India and other tropical and sub-tropical countries and which at that time were grown in the large stove collections in this country. It mentioned five varieties of Fig, *Ficus religiosa*, the sacred Indian Fig tree; *Ficus Benghalensis*, the

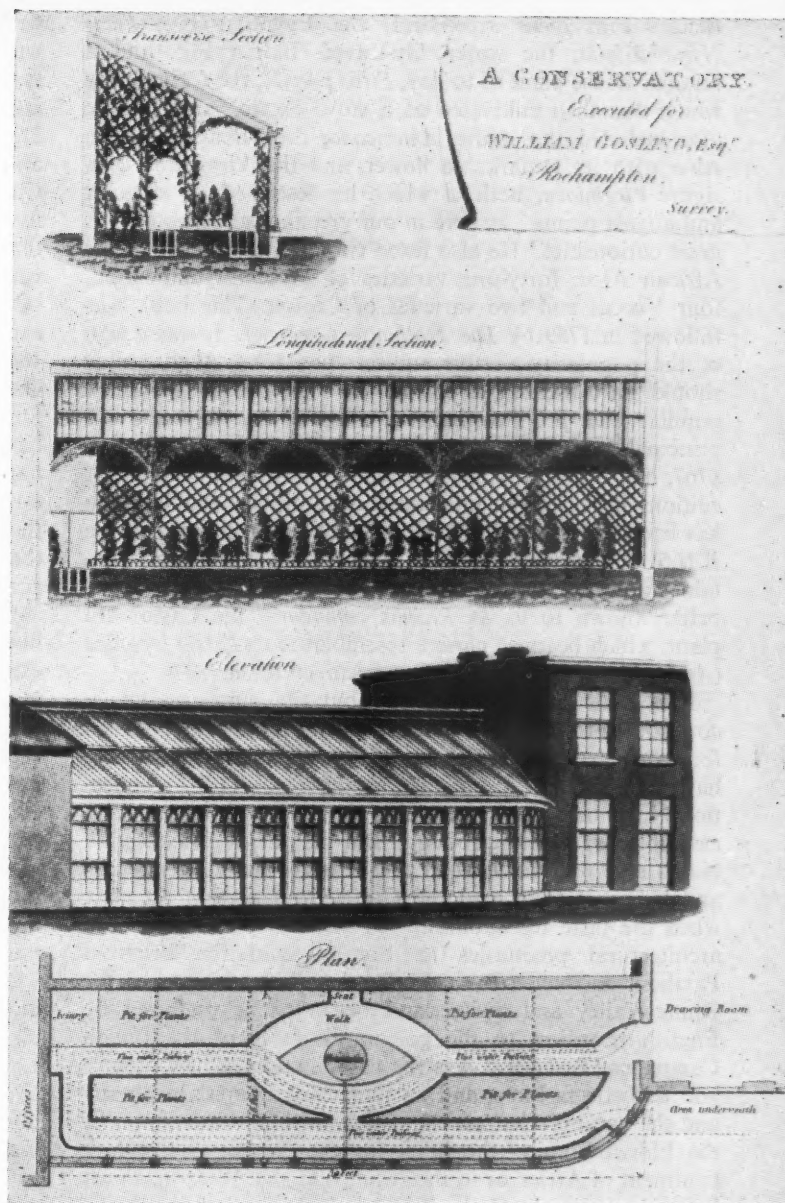
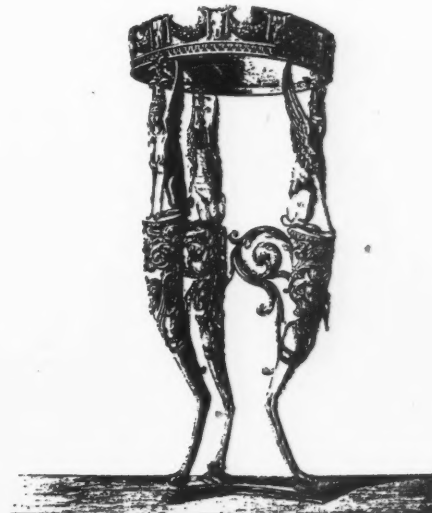
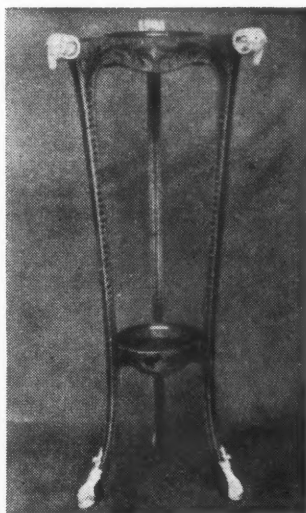




*Percier et Fontaine.
Jardinière ou Table à Fleurs exécutée pour le C. W. au Suède*

2 Feet

A jardinière by Percier et Fontaine incorporating aviary and aquarium made for a Swedish Count in 1801.



George Tod's Conservatory designed for William Gosling, Esq., at Roehampton, shows a 50-foot run of glass. It adjoins the drawing room and is heated by a flue below ground level. From Greenhouse, Hothouse and Stove, 1807.

Bengal Fig; *Ficus sycomorus*, the Egyptian Fig; *Ficus Nymphaeifolia*, the water lily-leaved Indian Fig; and a familiar house plant of to-day, *Ficus pumila*, the Chinese Fig which was then cultivated as a stove exotic. Abercrombie also included the *Agave Americana*, the Great American Aloe with its remarkable flower, and the Virginian Aloe, *Agave Virginiaca*, both of which he described as 'singular and august plants . . . here in our greenhouse collections as great curiosities.' He also listed twenty-five varieties of the African Aloe, forty-one varieties of *Mesembryanthemum*, four *Yuccas* and two varieties of *Croton*. This book was followed in 1789 by *The Hothouse Gardener*. It was a sign of the popularity of this subject that John Abercrombie should have written about it. He was one of the most popular and prolific garden writers of his day and his principal work *Every Man His Own Gardener*, published in 1767, had run into sixteen editions by 1800 and twenty-four editions by 1839. An interesting note on this humble man has been written by F. M. G. Cardew and published in the *R.H.S. Journal* of June 1947. *The Hothouse Gardener* contained an interesting entry about the *Palma Christi*, which is better known to us as *Ricinus communis*, the Castor Oil plant, which bears so close a resemblance to *Fatsia japonica* (*Aralia Sieboldii*) as to be often mistaken for it.

It is difficult to be precise about the influences which contributed to the zeal of late eighteenth century Englishmen for tropical exotics. In the earliest stages these plants may have been thought of only as a suitable subject for a collection, in much the same spirit as certain libraries were assembled or paintings bought. But the pursuit of collecting plants rose to fever heat in the period when all gentlemen and ladies of taste read the Gothic romances of the day, when the taste for sublimity led to the building of such architectural phantasies as Fonthill and the Brighton Pavilion, and when the new picturesque landscapes of the Rhine Valley and Switzerland began to be preferred by English travellers to the golden distances of the Italian Campagna. Perhaps it was the combination of new literary and æsthetic fashions and an increasing interest in botany and the natural sciences, coinciding with the birth throes of the Indian Empire, the thirst for exploration in the dark continent of Africa or in the swamps of the Amazon, which began and stimulated the flow of plants from these places. Lord Macartney's remarkable embassy to China in 1793, when he embarked, not only with rich gifts for the Emperor, which included telescopes and rapiers, Vuillamy clocks and

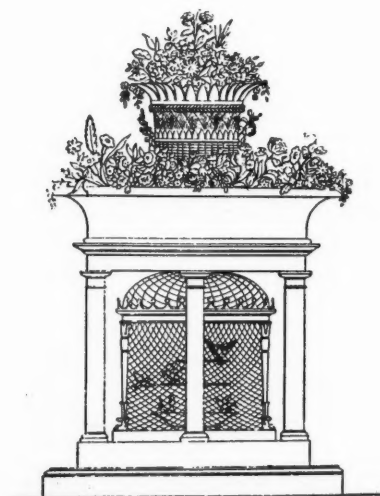
Crown Derby China, but also with two botanists equipped with plant boxes, was undoubtedly another source of new specimens for home collectors. And so, some few years later, were the fruitful explorations of plant hunters such as Douglas and Robert Fortune and the men sent out to Asia and South America by private nurserymen like Veitch of Chelsea. This taste for exotics must have been cultivated first by the aristocracy of the day, if for no other reason than that they only could have afforded the time and money which were required to surmount the incredible difficulties of keeping their new specimens alive. The clients of the early greenhouses illustrated in Tod's *Plans for Greenhouses*, 1807, were the Earls of Chesterfield, Coventry and Upper Ossory, the Duke of Bedford and the Marquis of Blandford. Surely only the most devoted and wealthy enthusiast could have maintained with any pleasure the beds of fermenting bark in the six to eight feet wide hot beds which stretched down the centre of the orchid houses and which were thought at that time, and for some time afterwards, to be the only method of obtaining the high humidity and temperature considered necessary for stove plants.

By the end of the first quarter of the nineteenth century, however, the conservatory and greenhouse had become an example of taste, a mark of elegance and a necessity for maintaining the prestige of the rising middle classes. But although they could, with their newly minted wealth, afford such luxuries and were prepared to pay, the majority had not the knowledge of how to furnish them. The horticulturists set out to remedy this deficiency. Charles McIntosh writing from Claremont in 1838 observed: ' . . . it would appear that authors for the most part have confined themselves to providing for the wants of the great and the opulent, while the more humble, and by far the most numerous class of plant cultivators have been left as it were without the benefit of instruction.' This he proceeded to do in *The Greenhouse, Hothouse and Stove*, a volume of 400 pages packed with information. As might be expected Claudius Loudon had stepped into the breach before McIntosh. *The Greenhouse Companion* was published in 1824: 'A Greenhouse which fifty years ago was a luxury not often to be met with is now become an appendage to every villa, and to many town residences.' The plants which were recommended for these appendages included many of the most popular greenhouse plants of our own time.

It is also significant that the second half of Loudon's book was entitled *The Proper Treatment of Flowers in Rooms*, for



1824



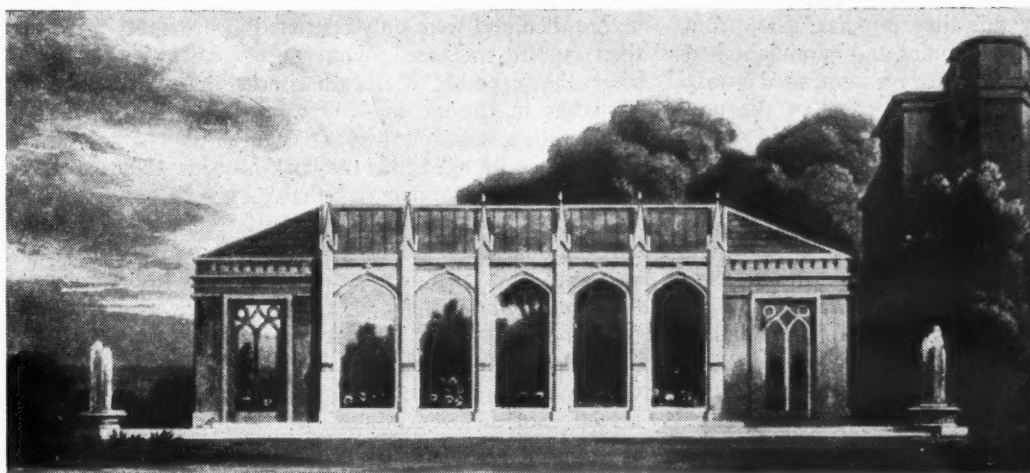
1825

by then many plants had issued from the conservatory, had flowed into halls and drawing-rooms and had met the hardy annuals and garden bedding plants which now discovered themselves admirable pot plants for window decoration. The practice of horticulture was becoming not only a mark of elegance but also a respectable hobby, which all classes could indulge in. The London Horticultural Society, founded in 1803, which later became the Royal Horticultural Society, was followed by others in nearly every provincial city and town. Nursery gardens to meet the demand for pot plants flourished at Maida Vale and Hammersmith, Hampstead and in South London, within a morning's drive of Pimlico and Kensington. Florists' Clubs were founded and spread among the artisan population and to quote Geoffrey Taylor once again: 'Flower fancying, together with bird fancying and pigeon fancying—quite different fancy departments—in those days took the place that in ours is taken by football pools, greyhound racing and the cinema.'

Although books of horticultural instruction continued to be published in a flood there soon appeared books which were also instructors of taste. It will be sufficient only to mention two. In 1839 an enthusiastic amateur, one Commander James Mangles, privately printed a small book for the guidance of his friends, called *The Floral Calendar*, which so charmingly reflects the enthusiasm of a typical Englishman of his day for gardening and for plants in general that it requires notice. After some preliminary chapters on outdoor gardening, including a curious paragraph on the physiology of plants which states, as a scientific

fact, that plants have an excrementitious discharge from their roots, the rest of the book is found to contain a miscellany of information on the furnishing of conservatories, on the heating of greenhouses, designs for flower stands, advertisements of books and patent flower pots, notes on the growing of favourite plants and on keeping gold fish, illustrations of designs for plant stands and lists of all kinds from 'Botanical Objects for the microscope' to 'Some of the Principal Gardens in the Kingdom,' also seed lists which included, amongst others, exotic greenhouse seeds. It also illustrated with small hand-coloured engravings cast-iron contrivances for securing pots on window sills, which the author claimed was a necessity for small houses with very small windows. In fact, the author went into the problem in great detail, recommending a particular make of light wrought-iron railing since 'the gold ornament of the railing is adopted in imitation of some examples of this mode of decoration in use at St. Petersburg.' It has, in fact, many curious parallels with the present issue written in 1952, at least in its assortment of matter, its tabulated information and its partiality for designs because they have been seen in a foreign capital. It is to be hoped that ours will be read with equal sympathy in 2052.

The second of these books is better known, Shirley Hibberd's *Rustic Adornments for Homes of Taste*, which was first published in 1856. Its purpose was soundly moral and uplifting: 'to enlarge the circle of domestic pleasures . . . to quicken observation . . . to strengthen family ties . . . to cheer the loneliest with amusements . . . and help



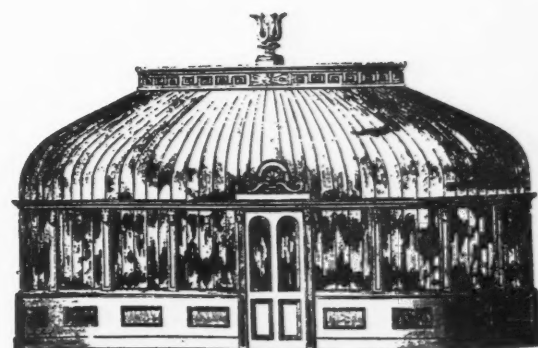
Papworth thought that conservatories should have a distinct architectural form and not be mere adjuncts to existing mansions. They were to be used for the display of plants, for recreation, and as breakfast or morning rooms. The one opposite is from *Cottages Ornées*, 1818. Below is an elliptical greenhouse from the *Book of the Garden*, 1853.



1838



1840



1853

the soul in its aspirations by conducting it away from disturbing scenes . . . and the home of taste 'is one of the latest fruits of the high tone to which social life has attained in this country of late years.' Throughout his pages the author constantly reiterated or implied that Taste and Morals were almost synonymous: 'Taste is the application to nature of the same faculty which in morals enables us to distinguish between right and wrong.' Ruskin's teachings had percolated down as far as plants in flower pots and the sediment remained to have its unfortunate effect on horticultural and garden writing throughout the nineteenth century and well into the twentieth. Nevertheless, certain parts of this book are of interest. It is well illustrated by engravings which have their period charm. Ferns and fern cases received detailed attention. In its simplest form a fern case is a flower pot with a bell glass fitted close down on the soil within the rim of the pot. Victorian fern cases were never simple, however. Enclosed window gardens, or plants growing between double windows, were equally popular at that time and except that Hibberd found it necessary to call them 'Hortus fenestralis' they are much the same in principle as some of the contemporary designs shown in this issue. The Victorian flower and plant stands, or 'jardinières,' a most sensible and pleasing idea which we can afford to revive, were used to display the potted flowering Hydrangeas, Pelargoniums, Azaleas, Begonias, Fuchsias and so on that were brought in from the conservatory for the purpose, and pot holders, silver and glass flower baskets and épergnes of the most elegant and recherché designs were examples of taste in the dining-room.

Balcony gardens were by this time popular, since from the Regency period cast-iron balconies and verandahs had become architectural features. Hibberd recommended a walk through Piccadilly where, he recorded, some of the best examples of balcony gardens were to be found and where Irish Ivy, *Aristolochia siphio*, Virginia creeper and *Ampelopsis tricuspidata* were trained in festoons across extensive frontages.

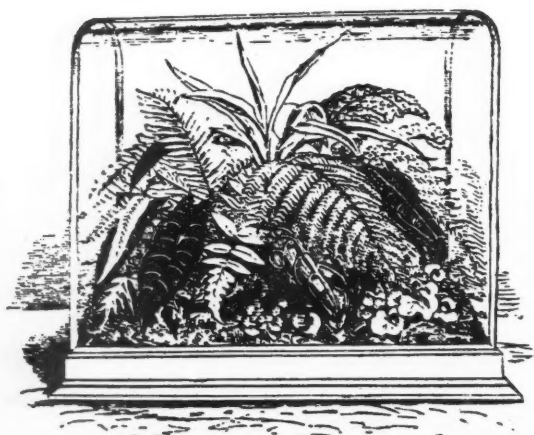
Of the plants recommended by Hibberd for window and room decorations and which are also included in this issue are Agaves, Aralias, Aloes, Dracenas, Echeverias, *Ficus elastica*, as well, of course, as many varieties of Pelargoniums, ornamental Vines and Veronicas.

From the days of Shirley Hibberd onwards the enthusiasm for room plants continued to grow, though it must be admitted that although we may prefer the foliage plant for

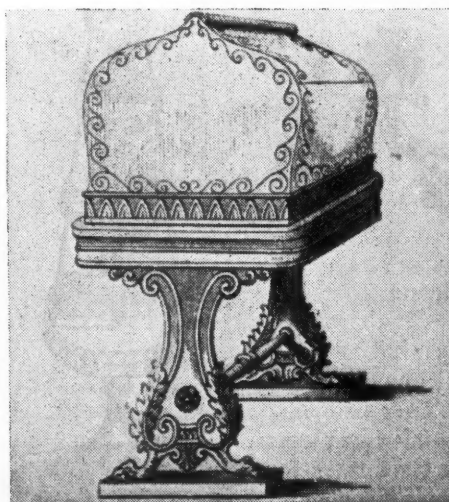
its form, the Victorians liked colour in foliage as well as flower and for this reason their favourite conservatory and indoor plants were Crotons, Dracenas, Begonias, Geraniums, Ericas and Camellias, as well as plants such as palms, which had romantic associations.

The Geranium has been a favourite with us since the seventeenth century. Pelargonium, which is a term covering the half-hardy varieties of the family Geraniaceæ which originated in the Cape, were first introduced about 1690. John Abercrombie in 1786 listed twenty-three Cape varieties which included ivy-leaved and scented-leaved strains. But the great age of this family was the Victorian. In gardens, zonal Pelargoniums glowed in rich masses in intricate carpet beds, edged with the blue Lobelia, a fellow exile from the Cape, and grouped with yellow Calceolarias. In greenhouses and conservatories multitudes of hybrids of every conceivable shade of red and orange and with an immense variety of foliage stood ranged on staging or in flower stands faced with coloured tiles. Their popularity was also due partly to the fact that they were not subject to any disease except attacks by greenfly, which McIntosh suggested could be removed by the application of tobacco smoke blown from fumigating bellows. Fortunately science has now come to our aid with cheaper substitutes. The great Victorian authority on the genus was Robert Sweet, whose five volume *Geraniaceæ* published from 1828 in monthly parts was, until recently, the standard work.

Palms which had long been used as a motive in architectural decoration only really became popular about 1860. They had, of course, been introduced into this country before then and were only restricted in distribution because their culture was, as Loudon observed, 'less a matter of nicety than expense.' McIntosh asserted that the finest species of palms in Europe in 1838 were grown in the Earl of Tankerville's stove houses at Walton-on-Thames where, having been plunged into the bark hotbeds, they had made astonishing growth. The fact that they were only grown by the aristocracy, that they were the largest of all exotics in size, marked them out as a symbol for elegance. It must also have been hard to resist trying to grow 'the well-known farinaceous nutriment sago' *Cycas circinalis*, especially as it only grew to two or three feet in height, or the great fan palm *Corypha umbraculifera*, which must have been familiar to old soldiers of the Queen who had often, perhaps, used a section of their leaves as shelter against heat and tropical rain. It was not long before hardier forms were imported.



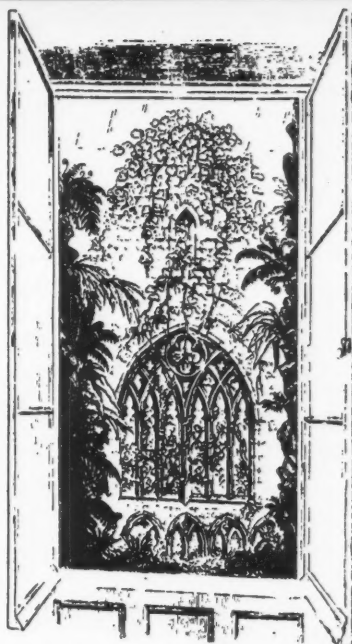
1842



1845

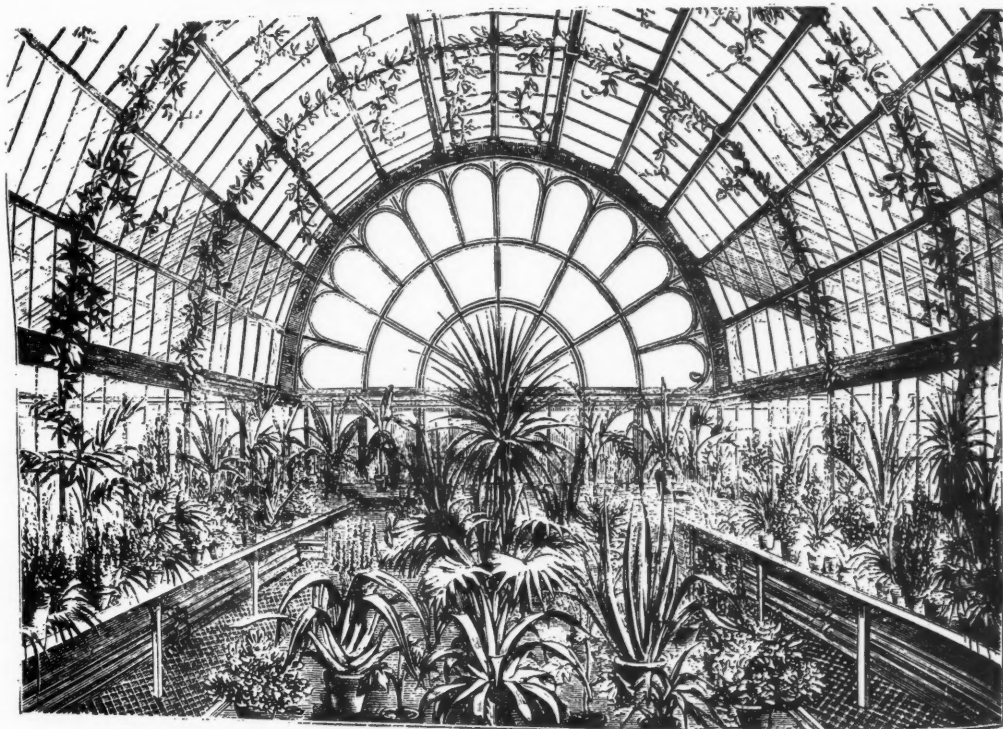


1850

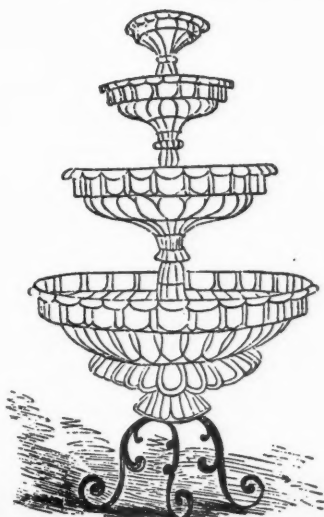


On the left is a gothic revival jardinet for foliage and climbing plants constructed from iron rods on a hexagonal wooden base and lined with zinc. Illustrated in the *Gardeners' Magazine* for 1875.

Opposite, a fern case for hall or landing built out from a window and containing a prospect of Tintern Abbey. From *Ward's Plants in Closely Glazed Cases*, 1842.



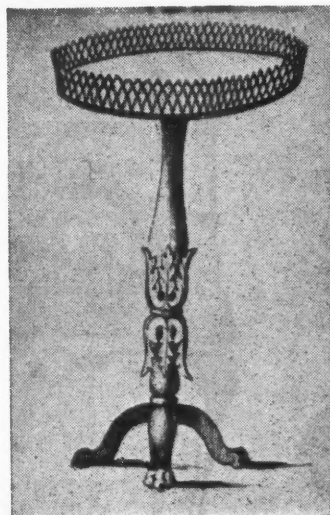
Barr and Sugden's House-top Conservatory of 1875 described as 'an elaborate adornment to the London roofscape in three sections.'



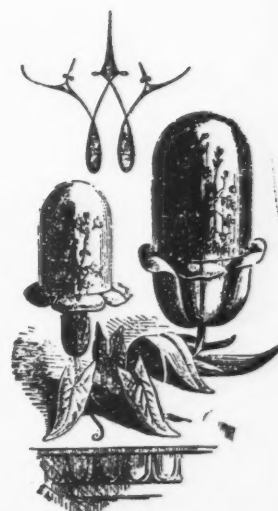
1852



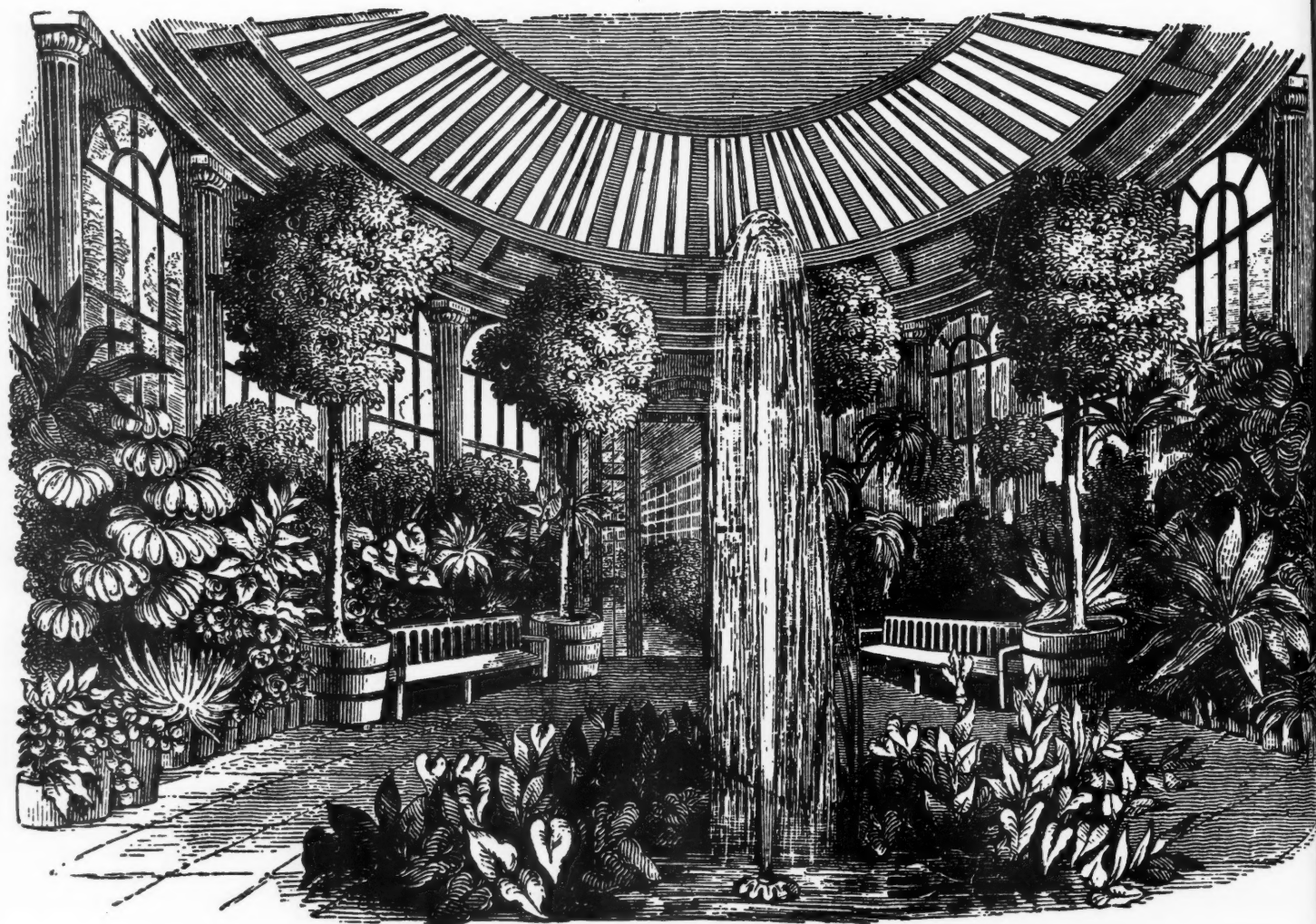
1853



1854



1875



Prince Liechtenstein's Winter Garden at Schönbrunn. From Loudon's Encyclopædia, 1871 edition.



1875



1877



1880



1881

The introduction of *Kentias*, or *Howeas*, from Lord Howe Island and particularly *Kentia Forsteriana*, which seem to thrive on tea dregs and survive the equivocal airs of hotel lounges and ballrooms, surely incited the creation of the hundreds of Victorian Palm Courts—an association which rather unfortunately still clings to other species of this group of useful foliage plants such as the Phoenix and Cocos palms.

No discussion of Victorian plants can be, in any way, complete without mention of the parlour palm, or the cast-iron plant, or, more familiarly, the *Aspidistra*. It has become the symbol of Victorian self-satisfaction and cushioned comfort and is closely associated with all that we thought to dislike about that age. And yet, though there may be two opinions about its beauty there are no two opinions about the reason for its popularity, or, for that matter, about the popularity of Ferns, Ivies, the India rubber plant and certain Palms, Begonias, and Pelargoniums. They were given house room because, in the days of gas lighting and the 'Iron-clad' and 'Veritas' patent incandescent mantles, these were almost the only plants that would, happily, inhale and flourish in coal gas fumes. The *Aspidistra* was not called the cast-iron plant for nothing.

It was, in fact, the introduction of domestic electric lighting and its general use that stimulated, if it did not initiate, the modern cut-flower industry. For few cut-flowers are able to survive gas, the best example being the sleepy behaviour of carnations in its presence. And perhaps it was the relative cheapness of the cut-flower compared with the

pot plant that brought this pleasant fashion to a close in this country.

With that this brief historical introduction must end. The taste for such things and what Hibberd described as 'the union of Nature and Art in happy ministration to human sympathies within doors' almost completely disappeared after the first decade of the twentieth century. All that remained of this union were the pot plants in cottage windows in country villages and towns and in parts of London's East End, the hotel Palm, the parlour *Aspidistra* and hundreds of derelict conservatories.

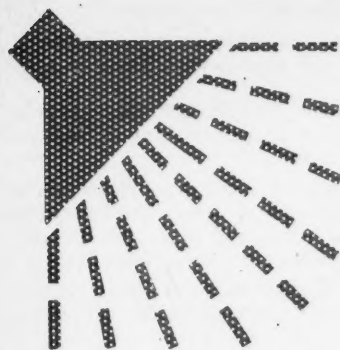
By the 'thirties of our century the variegated Laurel, the *Aspidistra* and the Begonia had become clichés in a vocabulary which began and ended with Cacti and the rubber plant. The rise of the Cactus and its allied families occurred at the same time as a taste for the naiveté of the paintings of Le Douannier, and African sculpture, a prepossession with pure form in architecture and a thorough-going distaste for the exuberances in interior decoration of the Victorians and Edwardians.

Now, in the 'fifties of this century, there are signs of a revival of the taste for room plants and for those exotics which can survive our living conditions. It coincides with a renewed interest in detail, surfaces and textures, colour relations and landscaping on the part of architects and interior designers who unsure of any wider concepts live, as do all artists now, from day to day being all too well aware of the transitory world which we all inhabit.*

* A short bibliography for reference appears in MARGINALIA on page 349.







WATERING



PROPAGATION



LIGHT

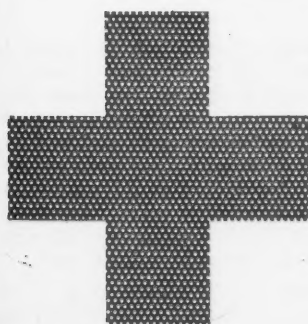


SOIL

CULTIVATION

Cultivation with Soil

All the plants described in this issue can adapt themselves to indoor cultivation, provided that their special needs in respect of light, temperature, moisture and soil are taken into account. In the section on plants, simple instructions are given under these headings, and it is only necessary here to draw attention to some practical points relating to the choice of plants and means of accommodating them, to list the causes of plant decline, suggest remedies, and to note general methods of propagation and the preparation of suitable potting composts.



DISEASES

Choice of Plants

There are two possible approaches to growing plants indoors. The first is to survey the room in which you intend to keep them, and see what kind of light and temperature conditions it has to offer. If, to take an extreme example, it has a north aspect and is intermittently heated by a gas fire, it is obviously unsuited to growing foliage plants naturally at home in semi-tropical forests, and you will be advised to start with the purchase of one of the many varieties of Ivy, Ficus, Cissus or Zebrina which can stand escaping gas, do without direct sunshine, resist changes of temperature and which are in fact hardy plants. (For list of these see page 298.) The second approach is to visit a plant nurseryman, select the plants which particularly appeal to you, and set about creating the conditions which they require. If your taste lies in the direction of exotic foliage and brilliant flowers which often characterize stove and warm-greenhouse plants, you may find this leads to the construction of an enclosed plant case with bottom heating, building a double window (see page 299), installing central heating, or simply providing a shelf over an existing radiator (see page 298). If you pursue either of these courses you should be spared the distressing sight of plants in decline.

Central Heating

The choice of plant is not such a problem in Scandinavian countries where central heating is the rule and the distinction between hardy and warm-greenhouse plants is of less importance. But, even if central heating is the starting point for growing the more exotic plants, it too has certain drawbacks.

The dry atmosphere and excessive evaporation associated with this kind of heating exhaust most plants, and particularly those with luxuriant foliage. This can be counteracted by standing pots in a zinc-lined plant box which is filled with moist peat. In this way the damaging effects of drought followed by deluge, which is the normal fate of isolated pots in central heated rooms, is avoided. Buried in moist peat there is much less evaporation, the plant can absorb additional moisture through the pot, and gets additional nourishment by sending out its roots into the peat through the bottom of the pot. The roots are kept warm in winter and cool in summer. A tray of wet pebbles on which pots are stood has much the same effect, and where there is heating below, by pipe, radiator or tubular heater, the evaporation of water from the pebble tray helps to provide a damper atmosphere which the foliage requires. Both these devices provide the required humidity.

Spraying the Foliage

Spraying the foliage should supplement these basic provisions for humidity, and should be done about once a week with a small syringe, and more often when the temperature is high. This also removes the dust which, if allowed to lie on the leaves, will clog the pores and prevent transpiration.

The necessity for foliage spraying presents a real problem for indoor cultivators. Although the plants have arrived indoors, the tiled floors and glass walls have been left behind in the forlorn conservatories and instead of them, distempered walls and the close carpeting of most living rooms obstruct the man with a syringe. The Danes solve this with their Winter Gardens, which are usually living-room extensions, with tiled and heated floors, built-in plant boxes with bottom heating, and special water-resistant wall treatments which provide a rough surface for plants to cling to. These are conservatories reformed; they are also expensive. While awaiting the appearance of the winter garden in this country here are a few suggestions:

A movable plant table or stand, which can be wheeled out into kitchen, yard, or bathroom for watering and spraying (see page 337).

A trellis can often be used to divide areas of a living-room, and when made to stand free of the wall, makes spraying much easier.

Where, for reasons of light or decoration, the trellis is placed against a wall, **water-resistant wall treatments** can be used as a background. Such materials as cork, perforated hardboard, tiles, thin slabs of travertine, and slate are practical and have exciting possibilities as plant backgrounds. Closely woven cane and rush matting can be used. Materials such as hardboard obviate the need for an independent trellis, as brass-headed pins can be stuck into it to form a pattern, up which tendrill plants such as *Rhoicissus*, *Cissus antarctica*, and the vines can be trained. Wall-containers can be easily attached to and removed from hardboard or resinated ply without indelibly marking the landlord's walls. Shelves made of stone or slate have sensible advantage over wood and look well with foliage. Tiles might be rescued from their present limbo and put to a new decorative and practical use. These brief remarks are intended to supplement the new designs for plant furniture photographed on pages 334 and 337.



Chief Causes of Plant Decline

Gas The majority of plants are injured by escaping gas, which causes their leaves to turn yellow and drop off. Instal plants which are known to withstand gas fumes, such as *Zebrina pendula*, *Zebrina fluminensis*, *Philodendron scandens*, *Scindapsus aureus*, *Tolmeia menziesii*, *Hoya carnosa*, *Hedera* varieties, *Ficus elastica*, *F. elastica decora*, *Sansevieria*, *Cissus antarctica*.

Draughts Most plants can't stand draughts. Avoid placing them between a window and a continually opening and closing door. (One of the reasons for plants growing so luxuriantly in cottage windows must be that the windows are never opened!)

Excessive Evaporation A dry hot atmosphere withers plants unless offset by provision of

peat-filled containers for pots, and syringing from time to time with tepid water.

Cold Water Especially in winter, douching the plants with cold tap water is fatal to many plants.

Where possible use rainwater which has been brought to room temperature by the addition of hot tap water.

Over Stimulating While many plants benefit by the application of a good fertilizer while in growth, it is unwise to use one at every watering during the resting period.

Scorching Plants often wither when they come into contact with a stream of hot air from a radiator.

When devising a shelf above a radiator, it is essential to leave a gap between the shelf and the wall up which the air can travel without encountering the foliage (see diagram). In summer many plants need to dry off after spraying in the shade. If they are standing in direct sunlight or sunlight behind glass their leaves may be scorched by over-rapid evaporation.

Soil Exhaustion Pot plants indoors quickly exhaust their soil. They will wither, become pot-bound, or the soil will become stale and sterile. Re-pot with fresh compost. It is not easy to know when to re-pot, but generally speaking house plants don't require larger pots more often than every one or two years. It is a good idea to renew the top inch of soil every nine months.

Diseases Keep a watch for diseases and pests, and take preventive action in the form of spraying and wiping the leaves every week or so, or if the plants are movable immerse the foliage in tepid water in the sink.

Fungus In a cold dry atmosphere the plants may be attacked by fungoid growth causing round brown spots on the leaves, yellowing, etc. This is due to an excess of moisture which the plant is unable to absorb.

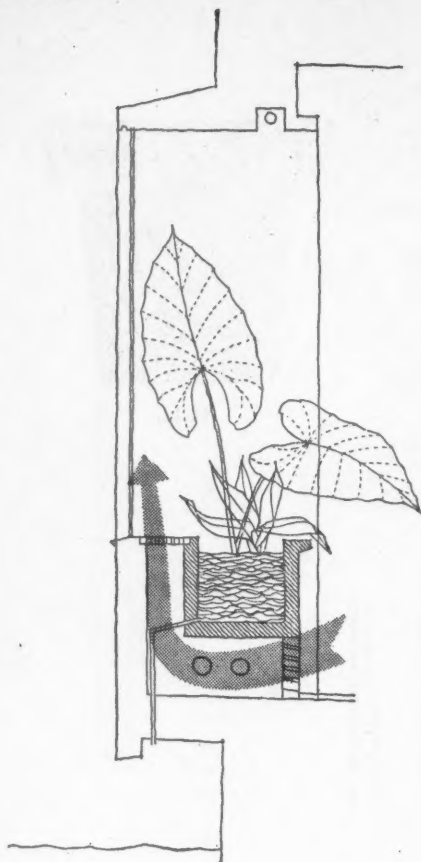
Pick off the affected leaves and burn, and water less.

Greenfly Small green flies settle on the growing tip and underneath the leaves. Control: spray with a proprietary insecticide two or three times. Keep a special watch for them from March to September.

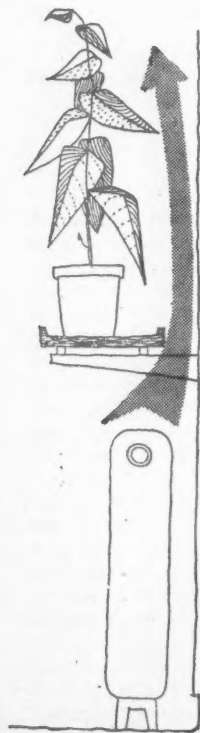
Red Spider Mites Appear on plants which are kept too dry. They are minute, scarcely visible in fact, and cause yellow or brown leaves and a dry papery effect. Control: if the leaves are large enough, wash with a sponge and soapy water, otherwise spray or rinse with an insecticide. Repeat for two or three days. A hot dry atmosphere will encourage the pests to breed, so keep the plants cooler and try to humidify the air by standing the plants in moist peat or on wet pebbles.

Scale Insects These attach themselves to the underside of the leaves causing discoloration and general droopiness. They look like flat light brown seeds and are not easily removed by spraying but are easily visible. Control: wash the leaves with soapy water and cotton-wool or diluted methylated spirit and cut off all badly infested leaves. Keep the plant well sprayed, and continue with treatment for a few days till scales have disappeared.

Mealybugs Attack almost every kind of plant, and lay a small white cottony sac of eggs on the underside of the leaves. The bugs



To grow the more exotic stove and warm greenhouse plants these should be planted in a glazed plant case with bottom heat (above) or by simply providing a shelf over an existing radiator (below). There should, however, be air space between the shelf and the wall to allow the warm air to bypass the foliage.



themselves are waxy in appearance and easily seen. Control: a weekly spraying with water will be enough to keep them away, but on plants with hairy leaves, which are injured by water, remove the egg sacs carefully, and touch each bug with a brush dipped in alcohol or diluted methylated spirit.

Insecticides Abol for greenfly; Nicotine spray for scale; Volck for fungoids or mildew or scale.

Pot Sizes

	top diameter inches		top diameter inches
Tom Thumb	2½	Twelves	11½
Sixties ..	3	Eights ..	12
Forty-eights ..	4	Sixes ..	13
Thirty-twos ..	6	Fours ..	15
Twenty-fours	8½	Twos ..	18
Sixteens ..	9½	Ones ..	20



Soil for Potting

In the following section on individual plants, soil mixtures are exactly specified, and usually consist of John Innes Compost No. 2 with certain additions.

This compost can be obtained from most nurserymen and sundriesmen. Its contents are:

- 7 parts medium loam.
- 3 parts horticultural peat.
- 2 parts coarse sand.

Add to each bushel of this mixture:

- 1½ oz. hoof and horn meal.
- ½ oz. sulphate of potash.
- 1½ oz. superphosphate of lime.
- 1 oz. ground limestone or chalk.

If you want to mix a compost yourself, the first one for rooted cuttings should consist of:

- 1 part sharp sand.
- 1 part loam (good top soil).
- 1 part leaf-mould.

When potting on the cuttings into their final pots, use a soil mixture consisting of:

- 1 part sharp sand.
- 2 parts loam.
- 1 part leaf-mould.
- 1 part soaked horticultural peat.
- 1 5 in. pot full of bonemeal to each bushel of mixture.

Cacti and Succulents require the following mixture:

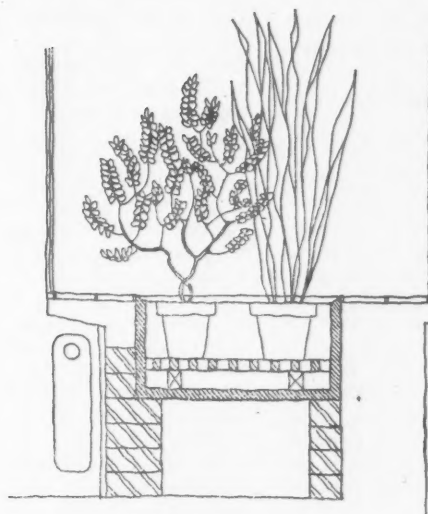
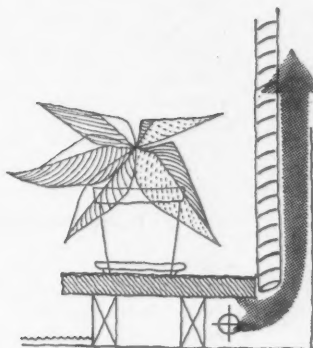
- 2 parts coarse sand.
- 2 parts loam.
- 1 part broken flower pots (small pieces).
- ½ leaf-mould.
- 1 5 in. flower pot of bonemeal to each bushel.
- 1 5 in. flower pot of ground limestone.



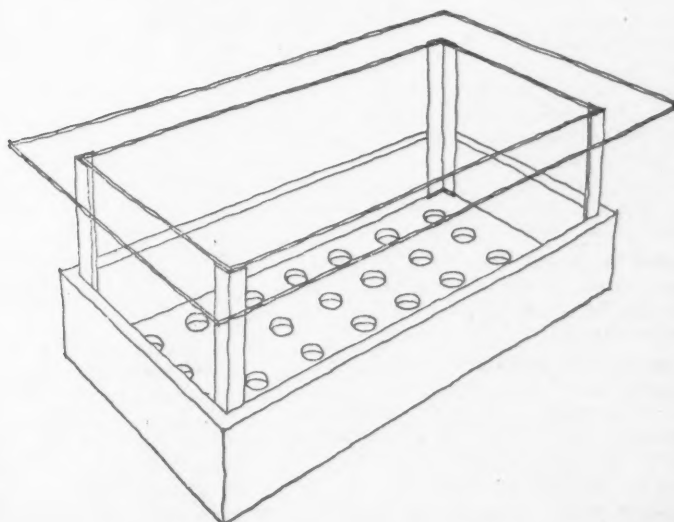
Propagation

Anyone who grows indoor plants for pleasure will sooner or later want to replace their old plants by new cuttings. This can be done fairly easily with most of the plants treated in this issue. Cuttings can be rooted in sand in a propagating case or rooted in water, and are taken from the growing tip (sometimes a section of stem with leaf attached is sufficient), and sometimes by removing offshoots from the parent plant. Plants can be increased in some cases by division of roots or rhizomes,

Pot plants can be placed on a stone slab over a heating element provided there is space for the warm air-stream to avoid scorching the foliage. From a design by John Lunn.



The heated double window above, seen often in Scandinavia, will provide ideal conditions for warm greenhouse foliage and flowering plants. The problem of rooting cuttings can be solved by using the home-made propagating case below constructed out of a wooden box, and glass fixed with adhesive tape.



in the same way as herbaceous plants are divided out of doors. The best months for these experiments are from March to September when the plant from which the cuttings are taken is in growth. Plants so raised will do better for being already acclimatized to indoor surroundings.

Propagating Case Fill a wooden box which has holes for drainage pierced in the bottom with sand. Stick four sheets of glass against the inner sides of the box to form a cube, secure the edges of the glass together with adhesive tape, and use a piece of glass slightly overlapping the four sides as a cover. If one or two cuttings only are taken, a porous saucer filled with wet sand and covered with an inverted jam-jar or tumbler can be used. Cuttings of most plants will be successful if the following few rules are carried out:

- 1 The rooting media in the case must be warm, stay warm, and be very moist.
- 2 When placing stem cuttings in the sand they must be planted firmly and cut from plants that have been well-watered. The cut must be clean and straight and made with a very sharp knife.
- 3 No sunshine or strong light should be allowed on them and the whole case should be covered with newspaper.
- 4 Rooting media should consist of coarse sand or 50/50 mixture of well-soaked horticultural peat and sand.

For the first few days the only thing to be done is to wipe quickly the inside of the glass covering, and allow five minutes slight ventilation by raising the glass lid with a pencil.

After about six days the cuttings begin to root, and show it by a more healthy look. More air can then be admitted to the case. If the cuttings start to wilt, this is a sign that they have too much air. After 12 days the newspaper can be removed, but still be careful of strong light. After about 18 days the glass lid can be removed. See that the sand does not get dry. If watering is necessary, hold the box for a few moments in the sink in tepid water. Only spray the cuttings from above when first put in the case, and if necessary after the fourteenth day.

The following plants are easily propagated by this method:

<i>Columnnea</i>	<i>Peperomia</i>
<i>Euphorbia splendens</i>	<i>Pilea Cadieriei</i>
<i>Beloperone Guttata</i>	<i>Plectranthus</i>
<i>Impatiens Sultani</i>	<i>Saintpaulia</i>
<i>Zebrina</i>	

After 21 days the plants can be removed and potted on. Cuttings should be growing tips in the majority of the plants mentioned, having at least two pairs of leaves.

Varieties of Begonia, Saintpaulia and Tolmeia menziesii will strike roots from the cutting of a single leaf.

Rooting in Water Plants such as Hederas (Ivy), Zebrina, Pandanus root in jars of water and can be potted up very carefully after about a month.

Propagation by Division Many plants can be propagated by dividing their roots or rhizomes and re-potting. (*Maranta leuconeura*, *Sansevieria*.) They should be protected from strong light and carefully watered until the roots are properly re-established.

Offshoots Aloes, Crotons, Cyperus, Billbergia,

Peperomia and *Sansevieria* produce offshoots which can be gently removed with a sharp knife from the parent stem, without disturbing the parent plant. When any one of these propagating methods has been followed and you have obtained a number of plants with new roots, it is time to pot on, as the newly rooted cuttings can get no plant food from the sand or peat. Cuttings should be planted in pots—size 60 preferably—until they attain a more substantial size. Exact soil requirements are given in the plant notes for individual plants.

Cultivation without Soil

Observant visitors to the Royal Festival Hall may have noticed the golden colour and fine texture of the soil in the plant containers in the building. The curious might also have wondered how these containers were drained, as many of the large concrete plant tubs stood on carpets. The answer is that they needed no drainage or weep holes, and that the finely grained substance in them is not soil but a metal known as vermiculite, derived from and allied to mica.

Though growing plants without soil has been practised for a considerable time this was the first public demonstration of the use of this method applied to indoor decorative planting. Until now the process has been confined to the commercial propagation of plants from cuttings and seedlings, and to food production.

Experiments in soilless growth have been going on for a hundred years. The object of these experiments has been to devise a system whereby scientific tests could be made of the effects of nutrients on plant growth without the variables which are present in ordinary soil. Plants were grown in nutrient solutions and their behaviour and reactions were observed. All sorts of methods have been devised to anchor the plants and to act as a carrier for the soluble salts. Wood-wool, sand, gravel and cinders have been tried as aggregates, but the most efficient that has been found up to the present is vermiculite which has been subjected to high temperatures and its cellular particles forced apart. The most familiar form of this silicate is nearly white in colour, is strongly alkaline and is used in quantity in the building industry. The other grade is brown and when processed gives an acid reaction (Ph. 6.5). The commercial and proprietary product of this process is known as EXFLOR.

The method now in use is to saturate the EXFLOR in water which has been mixed with proportions of nitrogen, phosphoric acid (soluble), magnesium and potash. Trace elements such as iron, boron and manganese are also added.

There are two ways of using this system for indoor plants. One is to use a plant box which has a special sub-irrigation channel in its base, into which the nutrient solution can be fed, and the other is to prepare the plant container by filling the base with a layer of clean crocks, gravel or other drainage material, to pack the surface of this with glass wool and fill the container with either EXFLOR or a mixture of 25 per cent clean sharp sand and 75 per cent EXFLOR. The nutrient powder for the solution with which the compost is then

saturated is composed of nitrogen—5.5 per cent, phosphoric acid (soluble)—5.3 per cent, potash—8.4 per cent. This powder and the trace elements in tablet form can be obtained from the makers of EXFLOR.

The second method is the one used at the Royal Festival Hall. Applied in this way the system has great possibilities. In the first place it would be possible to supply the plants with a compost which, though in itself sterile, is also free from pests and injurious salts. It is moisture retaining and always fully aerated. In this compost the plants can be fed with a scientifically assessed balance of nutrient salts throughout its life. Feeding, in fact, can be exactly controlled, and it would be possible probably to get extra foliage effects by supplying the plant with a slightly higher concentration of nitrogen, or to counter-balance a potash deficiency as soon as signs of this appear. So often an enthusiasm for house plants can be dulled by the depressing sight of favourites wilting rapidly and being apparently unresponsive to every effort to save them. And in no other hobby do sins, like the sin of forgetfulness about watering, bring so certain a punishment.

There are other advantages. Plants grown in this material can be transplanted at any time, even in full leaf and flower, and without the special atmospheric 'close' conditions which are required under ordinary circumstances. The method also simplifies the propagation of difficult subjects, many of which can be struck in EXFLOR and rainwater without the artificial heat or bottom heat of a propagating box. Volume for volume the price compares favourably with any other soil compost as its weight is considerably less, ten gallons of EXFLOR weighing only sixteen pounds as against a hundredweight of soil.

Plants do, however, react in a curious way. The *Cobaea scandens* which climbs so elegantly up the glass screen of the restaurant in the Royal Festival Hall is now very altered in appearance. This is due also partly, of course, to etiolation, or the effect of the poor quality of the light. I am told that *Ageratum* varieties are also curiously affected by growth in nutrient solution.

There is no doubt however that the wide use of this system of soilless growth will make the growing of indoor plants much easier for the amateur and therefore more popular. There will be those who will dislike the system because of its apparent artificiality, which is a prejudice, and those who are honestly doubtful of the quality of plants grown in a lifeless, non-organic compost which contains no bacteria either beneficial or harmful. I am not qualified to judge as I am neither botanist nor scientist. I have accepted the existence of EXFLOR and have passed on the information as the product of contemporary man's scientific knowledge and resource.

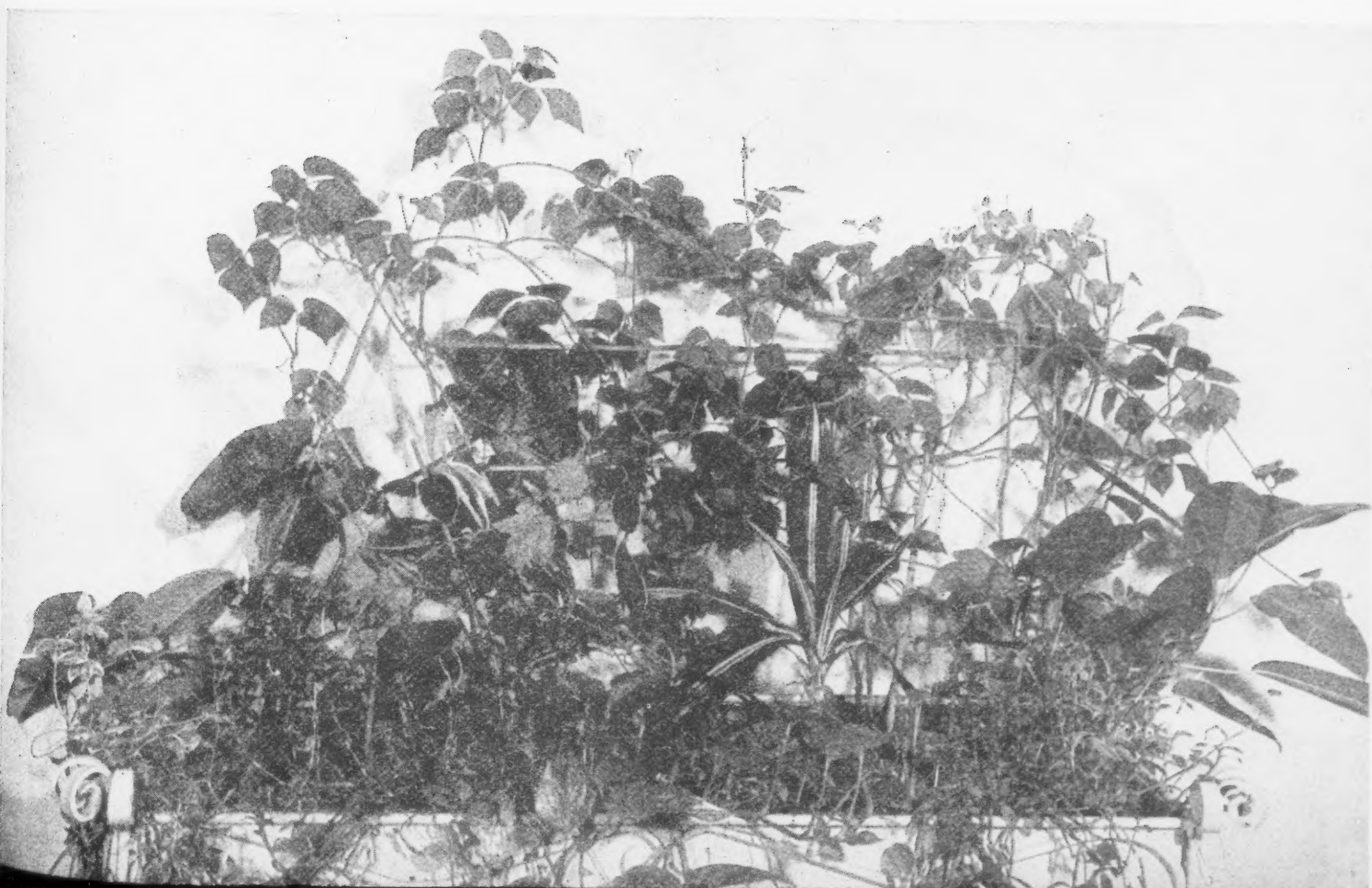
NOTE: Much of the experimentation and the pioneer work has been carried out by Mr S. R. Mullard of the Mullard Horticultural Engineering Co. of Egham (the Proprietors of EXFLOR), and it is due to him and to Mr H. Taylor of the London County Council Parks Department, who used this new system in the Royal Festival Hall, that I am able to give this general description of the methods employed and the principles of the soilless culture of plants. Reference has also been made to an article by Mr S. R. Mullard on this subject in Country Life January 12 1951.

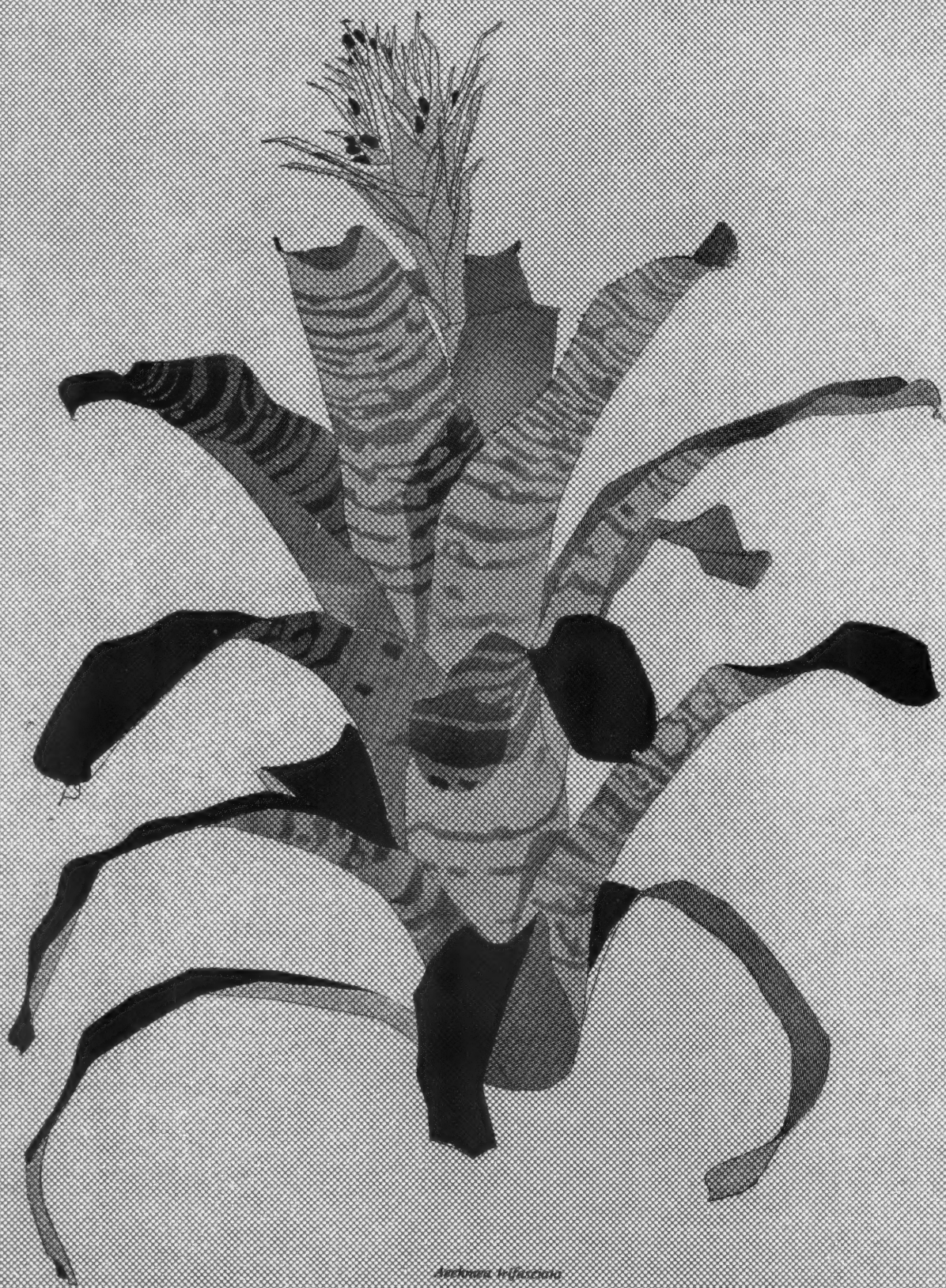
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Plants grown in EXFLOR and a solution of nutrient salts and trace elements. Left, *Ficus elastica* in the Royal Festival Hall. Below, a plant box designed by S. R. Mullard with a special sub-irrigation channel in its base and a luxuriant display of *Rhoicissus rhomboidea*, *Philodendron scandens*, *Zebrina pendula* and a variety of *Pandanus Veitchii*.





Aechmea trifasciata

Adiantum (see Ferns);
Aechmea trifasciata; *A. fulgens*; *A. marmorata*;
 African Violet (see *Saintpaulia*);
Aloe arborescens; *A. variegata*;
Ampelopsis Veitchii (see *Vitis*);
Anthurium Scherzerianum in variety;
Aporocactus flagelliformis (see *Cereus*);
Aralia elegantissima (see *Diezgothea*); *A. Sieboldii* (see *Fatsia*); *A. Veitchii* (see *Diezgothea*);
 Artillery Plant (see *Pilea*);
Aspidistra eliator; *A. lurida*; *A. lurida variegata*;
Asplenium bulbiferum (see Ferns);

Beloperone guttata;
Billbergia nutans; *B. zebrina*;

Cactus (see *Opuntia*, *Cereus*);
Cereus speciosus;
 Chestnut Vine (see *Tetrastigma*);
Chlorophytum elatum variegatum;
Cissus antarctica russikivii; *C. rhomboidea* (see *Rhoicissus rhomboidea*); *C. striata japonica*;
Clivia miniata; *C. miniata aurea*; *C. miniata striata*; *C. nobilis*;
Codiaeum;
Columnnea gloriosa superba;
Cordylina australis Veitchii; *C. australis atropurpurea*; *C. australis aurea striata*;
C. indivisa; *C. terminalis*;
Crassula (see *Roea*); *C. arborescens*; *C. argentea*; *C. portulaca*;
Crossandra infundibuliformis;
Croton (see *Codiaeum*); *C. Ostengee*;
 Crown of Thorns (see *Euphorbia*);
Cyperus alternifolius; *C. diffusus*;

Dicksonia antarctica (see Ferns);
Diezgothea Veitchii (*Aralia*); *D. elegantissima*;
Dracena fragrans (see *Cordylines*); *D. godseffiana*; *D. sanderiana*;

Echeveria retusa hybrids;
Eulalia sinensis zebrinus (see *Miscanthus*);
Euphorbia fulgens; *E. splendens*;

Fatsihedera;
Fatsia japonica;
 Ferns;
Ficus elastica; *F. elastica decora*; *F. elastica albavariata*; *F. Benjamin*; *F. cyathistipula*; *F. lyrata (pandurata)*; *F. pumila (stipulata)*; *F. radicans variegata*;
Fittonia argyreneura (syn *F. Verschaffeltii argyreneura*);
Fuchsia fulgens; *F. magellanica*;

SPECIALS

Gasteria verrucosa;
Geranium (see *Pelargonium*);

Hedera canariensis; *H. canariensis 'Golden leaf'*; *H. Helix 'Holly'*; *H. Helix 'Montgomery'*; *H. Helix 'Pittsburgh'*; *H. marmorea*; *H. marginata*; *H. marginata aurea*;
Heliocereus speciosus (see *Cereus*);
Hibiscus Rosa-sinensis;
Hoya carnosa;

Impatiens Sultani;
 Ivy (see *Hedera*);

Jade Plant (see *Cra: ula*);

Kaffir Lilies (see *Civia*);
Kalanchoe Blossfeldiana;
King's Vine (see *Cissus antarctica russikivii*);

Lophospermum atrosanguineum (see *Rhodochiton*);

Maranta leuconeura;
Miscanthus sinensis zebrinus; *M. sinensis variegatus*;

Monstera deliciosa;

Nephrolepis;
Nidularium fulgens; *N. ruticans*;

Opuntia Ficus indica; *O. floccosa*; *O. leptocaulis*; *O. microdasy*; *O. Tuna*;
O. ursina; *O. vestita*;
Osmondia regalis;

Panax paniculata;
Pandanus Veitchii; *P. Sanderii*;
Parthenocissus (see *Vitis*);

Pelargonium;
Peperomia arifolia; *P. glabella*; *P. hederifolia*; *P. magnoliifolia*; *P. pereskifolia*;
P. Sandersii;
Philodendron bipinnatifidum; *P. erubescens*; *P. Fenzlii*; *P. Lacianatum*; *P. Oxycardium*; *P. radiatum*; *P. scandens*;
P. speciosum;
Phrynium Lubbersii;
Pilea Cadieri; *P. muscosa*; *P. serphyllifolia*;
Platycerium alicornia;
Plectranthus fruticosus; *P. Oertendahlil*;
Plumbago alba; *P. capensis*; *P. rosea*; *P. sinensis*;
Polyscia paniculata (see *Panax*);
Pothos aureus (see *Scindapsus*);

Rhodochiton volubile;
Rhoicissus rhomboidea;
Ricinus communis;
Roea coccinea; *R. falcata*;

Saintpaulia ionantha in variety;
Sansevieria trifasciata Laurentii;
Scindapsus argyrea;
Selaginella (see Ferns);
Selenicereus grandiflorus (see *Cereus*);
Shrimp Plant (see *Beloperone*);
Sparmannia africana;
Syngonium podophyllum; *S. Vellozianum*;

Tetrastigma vionerianum; *T. obtectum*;
T. serrulatum;
Tradescantia (see *Zebrina*);

Veronica Andersonii; *V. 'Autumn Glory'*;
Vitis Henryana (*Parthenocissus Henryana*); *V. inconstans* (*Parthenocissus tricuspidata*); *V. Thunbergii*; *V. vinifera purpurea*; *V. vioneriana*;

Zebrina huminensis; *Z. latifolia*; *Z. pendula*; *Z. purpurea*;

Aechmea

BROMELIACEÆ

The Aechmeas are members of the pineapple family and of a group known as xerophytes, plants which are well adapted to withstand droughts. The Aechmeas originated in S. America and are closely related to the Billbergias and the Nidulariums. There are other varieties besides *A. trifasciata* which are useful and sometimes obtainable. These are *A. marmorata* which has pale pink bracts and blue petalled flowers and *A. fulgens* with blue flowers and red calyxes which remain decorative for long periods. The Aechmeas are plants with sculptural and well-defined form which can be used effectively as a contrast to light textured foliage or in association with plants with the form of Sansevierias. *A. trifasciata* has most striking foliage. The leaves are stiff, recurving and in a rosette. They are pale green and flaked like the stem of a silver birch with bands of grey.

 Stand away from strong sunlight and keep above 60° in winter.

 Water freely in centre of rosette and maintain a fairly moist atmosphere in summer.

 Grow in three parts light loam, one part fibrous peat and coarse sand.

 light  watering  soil  diseases  propagation

Aloe

LILIACEÆ

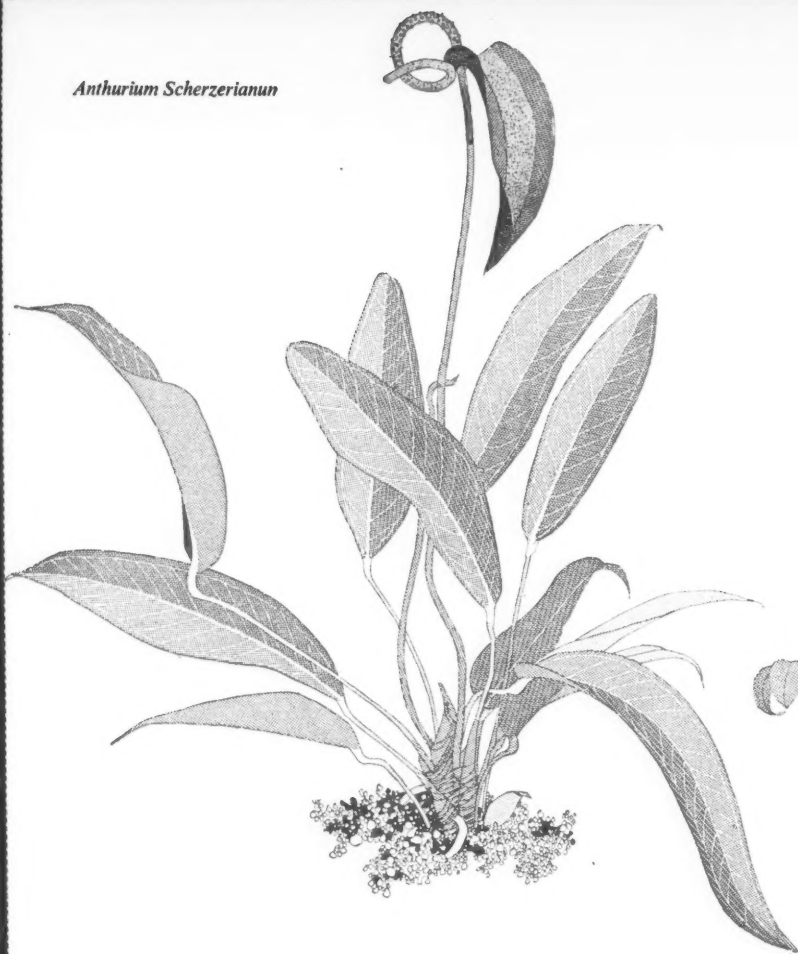
This is a large genus of evergreen succulents with leaves usually in rosettes. In their native Africa or in the West Indies certain species have tough woody stems such as *A. arborescens* which grows to an immense size. They were a favourite decorative plant in public parks in Victorian sub-tropical gardens. Their sap is the basis for the bitter aloes which is used medicinally as a purgative. Of the species suitable as house plants *A. ciliaris*, *A. Eru*, *A. striata*, *A. variegata* and *A. humilis* are the ones usually listed. The most common and the most attractive is *A. variegata*, popularly known as the Partridge-breasted Aloe. It is very like *Gasteria verrucosa*, the Hart's tongue. It has a stem of 6/9 inches, and green leaves ascending in three close oblique ranks, crossed by bands of white blotches. Its flowers are tubular and red. When well grown the Aloes are specimen plants and are better when displayed as 'objects' rather than in association with other plants. They are sometimes useful as accents, however, in a plant box.

 Stand in a west window. *A. variegata* is fairly tough and can stand low temperatures.

 Soak once a month or weekly during hot weather. No water during December/January.

 Plant in sandy loam, peat and manure.

Anthurium Scherzerianum



Beloperone guttata



Anthurium

ARACEÆ

Anthuriums are tropical herbs and climbing plants growing in Central and South America where about 600 varieties are found. They have been grown in England since Victorian times either for their showy spathes and spadices, or for their handsome velvety leaves. *A. Veitchii* and *A. Warocqueanum* are the two principal ornamental leaved species, and *A. Andreanum* and *A. Scherzerianum* provide a great number of brilliantly exotic flowered varieties. The plants when well established will throw up a succession of flowers, each lasting about two months, three or four at a time. Only a few varieties of *Anthurium Scherzerianum* can be mentioned here.

Those with a white spathe: *album*, *Williamsii* (Mr. Williams directed the Victoria and Paradise Nurseries at Holloway in the 1870's and introduced many new varieties of *Anthurium*, *Croton* and *Dracæna* in his day).

Parti-coloured spathe: *andegavense*, which has a scarlet back, white and scarlet spotted above; *mutabile*, white bordered; *Rothschildianum*, scarlet mottled white. Large spathe: *giganteum*, *maximum*, *Wardianum*. Dwarf spathe: *pygmæum*.

☀ *A. Scherzerianum* requires a warm and even temperature and if possible a moist atmosphere. A light position to bring out the brilliant colour of the flowers, but not direct sunlight. Temperature should not fall below 55°F. in winter.

☂ Keep moist at all times but never stand in water.

☒ The potting mixture should consist of six parts of osmunda fibre, one part charcoal. If the fibre is unobtainable, use equal parts sphagnum moss, peat, silver sand, and granulated charcoal. See that there is plenty of drainage material at the bottom of the pot.

✚ Overwatering may produce a fungus on the leaves, dead brown spots appear. Remove the marked leaves and spray with a Bordeaux mixture.

♂ Propagation is by division of the rhizomes.

Aspidistra

LILIACEÆ

The *Aspidistra* is one of the most familiar of all house plants and does not need description. Its popular names, the Parlour Palm and the Cast Iron Plant, give a clue to its history and character. It is one of the few plants that remain uninjured by the fumes of gas and it will survive dust, heat, cold and drought. The best known species is *A. lurida*. Its variegated form, now not often seen, *A. lurida variegata*, has leaves with alternate stripes of green and white. These variegations will disappear unless the plant is grown in poor soil. The flowers of the *Aspidistra*, which are purple, grow on the soil line and are undistinguished. Because of its toughness it is a useful foliage plant to use in exhibition display where toughness in plants is necessary.

☀ Shade from strong sunlight and keep above 50°.

☂ Water freely and regularly in summer but only moderately in winter. Sponge leaves when dusty.

☒ Pot into two parts loam and one part leaf-mould and sand. The variegated form should be potted

in sandy loam with no leaf-mould.
♂ Propagate by division in April.

Beloperone ACANTHACEÆ

There are thirty species of *Beloperone* growing in tropical America as evergreen shrubs, only a few of which are cultivated. *Beloperone guttata* or 'Shrimp Plant' is a small shrubby plant from Brazil which was first cultivated in this country in 1832. It needs to be well grown to produce the numerous white flowers with their prawn coloured bracts which make it an attractive indoor plant. It has small hairy leaves and grows about 18 inches high, producing flowers over a long period. It has a slight defect in a tendency for the leaves to droop and the lower ones to drop off. The plant should be cut right down in autumn, and when new growth appears and is established the tips should be nipped off once or twice.

☀ Needs sunshine and should be placed in a south window.

☕ The roots must be kept moist and the pot should stand in moist peat or on wet pebbles. If the room is sufficiently warm the flowering period is almost continuous. Care should be taken to avoid wetting the leaves and flowers, but the roots must be kept damp.

🪴 John Innes No. 2 with equal parts leaf-mould and sand and apply a good fertilizer once a week, when in bloom.

✚ The plant tends to lose its lower leaves which turn yellow before dropping. This may be due to over- or underwatering. Water without flooding the pot. If possible sink the pot in moist peat.

Billbergia BROMELIACEÆ

These spectacular flowering evergreens were first introduced into this country in 1868 and 1820 from Brazil. They are allied to the Aechmeas and are a member of the Bromeliads, *Bromelia zebrina* being a synonym for *Billbergia zebrina*. The Billbergias have long narrow grass-like foliage and not only highly coloured flowers but also vivid rose pink bracts.

B. nutans and *B. zebrina* are the best known species. The first has long narrow toothed leaves, and loose drooping spikes of 4/8 flowers with green petals edged with blue, yellow anthers and rose coloured bracts. The chief characteristics of *B. zebrina* are its zebra striped deep green and grey leaves. Its flowers are yellowish-green, the bracts salmon and rose. Billbergias have tough constitutions, are nearly hardy, and make excellent house plants. They are, because of their colouring, spectacular additions to any collection and conspicuous subjects for display.

☀ A sunny window for position and keep in a winter temperature of about 60°.

☕ Water freely and regularly.

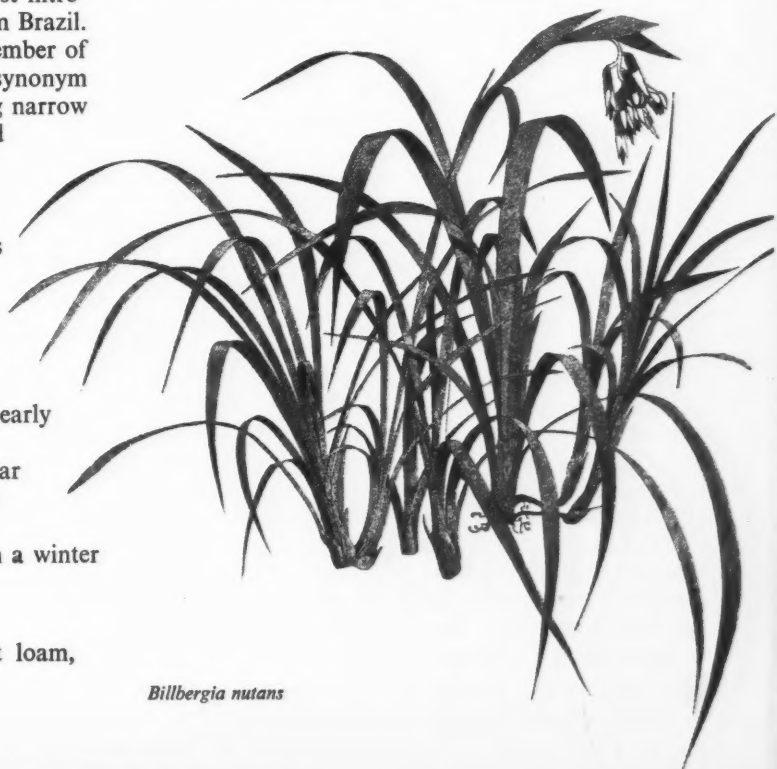
🪴 Pot into a mixture of three parts light loam, one part leaf-mould and coarse sand.

♂ Propagate from suckers.

Cereus CACTACEÆ

The *Cereus* family are one of the three tribes of Cactaceæ, the other two being *Opuntieæ* and *Pereskieæ*. They consist of species and of related genera, the names of which often end in -*cereus*, suitable for indoor cultivation. They vary greatly in size and in form and they are, as a genus, principally associated with the romantic legend of the night-flowering *Cereus*, now identified as *Selenicereus grandiflorus* and not a member of the genus at all. These cacti have interested growers in this country since the end of the seventeenth century, both for their strange forms and surprising flowers, which are in some instances larger than the parent plant. Those intending to be collectors of this genus cannot do better than consult specialist growers, for they are more difficult than one is usually led to believe. Not difficult to keep alive, they seem to be able to survive tenaciously the most careless treatment, but they require careful cultivation if they are to be expected to produce their astonishing blooms. They are subject to rot, caused by boring insects. Any small hole or signs of rot must be cut out to clear tissue. Contrary to popular belief they must be watered freely in summer.

There is a wide variety of forms in this genus but two species have the longest history of cultivation in this country and seem to be the most popular. These are *Cereus flagelliformis*, now known as *Aporocactus flagelliformis*—these changes of name always seem baffling to the layman—and *Cereus speciosissimus*, now *Heliocereus speciosus*. *Aporocactus flagelliformis* is better known as the Rat-tail Cactus. It is a native of Mexico, has a procumbent habit and flexible stems covered with hairs and, in April/May, crimson pink flowers. When grafted on to the tip of a cylindrical cactus it is a fascinating sight in full flower. *Heliocereus speciosus* is another native of Mexico, has freely



Billbergia nutans

branching stems, dark red to green in colour and green tubular flowers shading to a sleek carmine. These are specimen plants for single display.

☀ Both the above species require a shady position, warmth and air in summer and a winter temperature above 50°.

☂ They need watering regularly but moderately.

🪴 Pot into well-drained turfy loam. Other species require different treatment and references should be consulted as to their individual requirements.

Chlorophytum

LILIACEÆ

Chlorophytum elatum variegatum is a particularly decorative plant sometimes known as the 'grass Lily,' and comes from South Africa. It has the appearance of a tuft of grass, the thin long leaves are striped with white and pale green. Its white star-like flowers are borne on long lemon-coloured stalks and give place to small leaf rosettes which can be cut off and quickly rooted in moist sand. The plant grows in a north window, and it is also a good room plant as it needs no direct sunlight.

☀ Plenty of light, preferably east or north aspect. If the room temperature is too warm, the leaves quickly grow brittle and break.

☂ Don't overwater in winter, but water copiously in summer. If the leaves get brown markings and shrivel up, it is probably due to overwatering and low room temperature.

🪴 Light soil and plenty of drainage. Equal parts leaf-mould (beech preferably), peat and sand added to one part of John Innes Compost No. 2.

Cissus

VITACEÆ

There are as many as 200 species of *Cissus* growing in tropical regions but only *C. discolor*, *C. antarctica* and *C. striata* and a few others are cultivated as greenhouse foliage evergreens. The *Cissus* is closely related to the Vine family, and both *C. antarctica* and *C. striata japansk* (Japanese wild vine) have proved reliable as well as extremely decorative indoor climbers. They are much used in Scandinavian interiors for screening or framing. (For description of *C. rhomboidea* see *Rhoicissus rhomboidea*.) *C. antarctica russikivin* or 'King's Vine' has a vine-like habit, medium-sized rough-textured leaves growing alternately on a thick reddish stem, and curly tendrils which quickly twine on to cane or string support.

☀ This plant thrives in an east or west window and prefers a cool atmosphere. It will grow quite well without a great deal of light.

☂ Not much water is required in winter, it should be kept fairly dry between waterings. Water, say, once a fortnight. If placed in a centrally-heated room it should be stood in a container of moist peat or on wet pebbles. The leaves should be kept clean and free from dust. From March, when it will start into fresh growth, water more often and add a small amount of good fertilizer to the water. Use rainwater where possible.

🪴 John Innes Potting Compost No. 2 with the addition of equal parts of peat and leaf-mould.

✚ If the plant is grown in a very warm dry atmosphere the leaves should be sponged regularly to protect it from pests. If the leaves lose colour and droop it will probably be due to overheated surroundings, or insufficient root moisture. Overwatering will produce brown patches on the leaves.

♂ Propagation by cuttings.

C. striata japansk, introduced from Chile and first cultivated in 1878. It is like a miniature evergreen version of the virginia creeper. The leaves are five-fingered and serrated and each leaf cluster has fine clinging tendrils. The underside of leaves and the stem have a reddish tinge. This little climber can be used to produce a carpet-like effect as a foundation for a window-box, where it will rapidly send down new roots into the peat. But it is most effective trained on fine string against a light background.

☀ The plant grows profusely in spring and summer, and can be kept moist and sprayed. It likes a light airy situation, is fairly hardy and does not require much heat.

☂ During the winter months it makes little growth and sheds a few leaves. Keep just moist using lukewarm water.

🪴 John Innes Compost No. 2 with equal parts of loam, peat and beech mould added.

♂ The plant can be easily propagated by allowing the tendrils to grow into another pot. When rooted they can be cut off from the parent stem.



Cissus antarctica

Clivia

AMARYLLIDACEÆ

These very handsome evergreen flowering plants are known as Kaffir Lilies and are natives of Natal. They were in use in conservatories in England in 1838. Their long strap-like bright green leaves are attractive though they are of course grown principally for their erect spikes of spring flowers. Established plants can be grown on in the same pot for a number of years and for this and other reasons, such as their hardiness, they are satisfactory house plants. The two best known species are *C. miniata* and *C. nobilis*. *C. miniata* has from 16/20 leaves in a sword-shaped tuft 1½ feet long and 15/20 bright scarlet flowers with a yellow throat. Its varieties are *aurea* which has yellow flowers and *striata* which is freely variegated. *C. nobilis* has twelve strap-like leaves and 40/60 red and yellow flowers. There are numerous excellent hybrids of these species.

☀ In full sun and in south window. Rest in winter above 45°.

☀ Water freely in summer and keep fairly dry November/December. Apply fertilizers during flowering period.

☹ Plant in rich loam and leaf-mould.

Codiaeum syn. Croton

EUPHORBIACEÆ

The Codiaum or Crotons are nearly all stove evergreen shrubs originating in the East Indies. They were highly valued in Victorian times for their handsome variegated foliage and nurserymen invited their clients to inspect their new collections of these plants in the glasshouses of Pineapple Grove, Maida Vale, Hammersmith and Chiswick. The newly introduced varieties were listed and described in the *Gardener's Magazine* of the 1870's. Of all stove plants these are some of the most handsome. The colours of their leaves range through yellow, orange, pink, red and crimson. Some varieties grow to six feet. Although many of these plants require hothouse conditions, there are varieties which can be used for outdoor planting in summer, and a few require only medium temperatures and can be acclimatized indoors. *C. Ostegee* is very slow growing, taking about two years to grow a foot high. The leaves are very narrow with brilliant green colouring flecked with orange, growing from the stem alternately. It is advisable to buy a well-grown plant as the colours on the leaves are then more strongly marked.

☀ The plant requires plenty of light in a warm temperature. It should be kept moist in summer and if standing in a south window it must be placed on a water-tray or on wet pebbles. The moisture brings out the brilliant colour of the leaves.

☀ Water sparingly in winter, except in very warm dry conditions, when it should be kept sprayed and stood on wet pebbles. The plant benefits from the application of weak fertilizer from March to September.

☹ Two parts John Innes No. 2, one part peat, one part sand, one part beech mould.

✚ Red spider and thrip. For the former use soft sponge and soapy water; for the latter dip the heads in a nicotine solution.

Columnnea

GESNERIACEÆ

In tropical America about 100 species of *Columnnea* grow as shrubs and climbers. But only half a dozen evergreens are cultivated as warm-greenhouse plants for their red and orange flowers. The best known variety is *C. Schiedeana*, a Mexican plant with magnificent scarlet flowers. *C. gloriosa superba* is a showy plant for a winter garden or very warm situation. Its long shoots are covered with closely set oval leaves and the flowers appear at the leaf joints and are a fine flame colour. They are abundant in early spring and summer.

☀ The plant needs considerable warmth, not much direct sunlight, and should be hung or placed in an east or north window. The full life of the plant is about two years.

☀ Careful watering or the plant's roots will rot. Water must be of room temperature and used sparingly in winter. Water frequently in summer, and use a fertilizer when the plant is in flower.

☹ Provide good drainage at the bottom, and use a compost of one part fibrous peat, one part leaf-mould, one part coarse sand. Plant in a hanging basket or bowl lined with sphagnum moss.

♂ The tips root easily in summer if placed in damp peat under a tumbler, but care and warmth will be needed to raise further plants indoors.

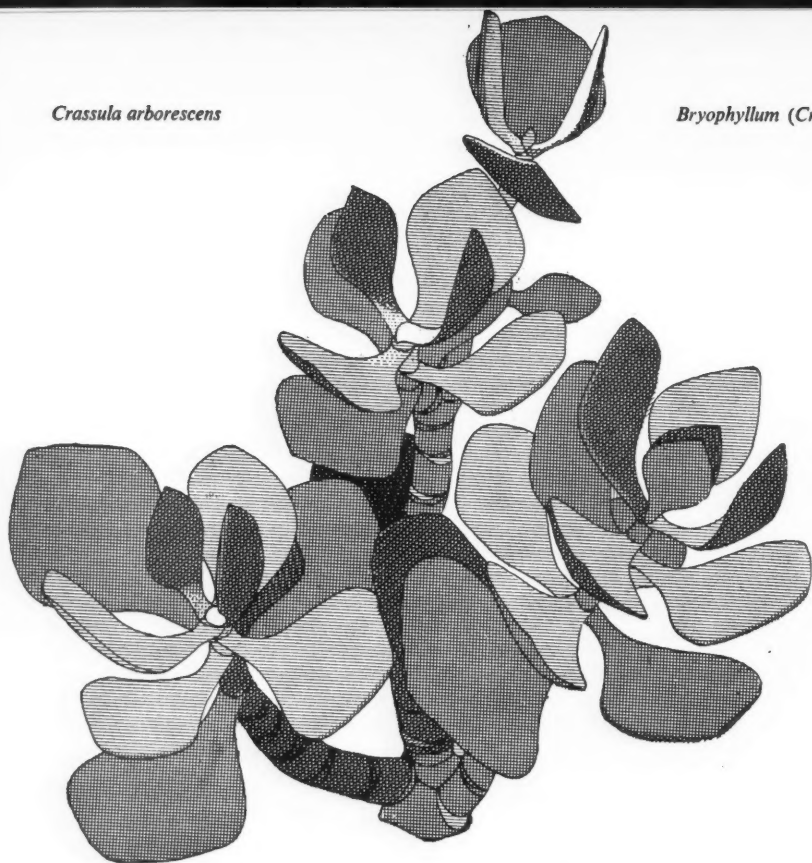
Cordyline

LILIACEÆ

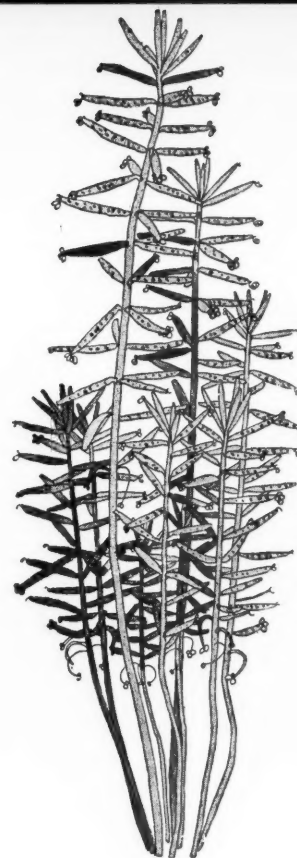
Cordylines and Dracenas are an allied family of ornamental plants. The species and named varieties of these two plants are now so inextricably intermixed that, though there are botanical differences, they are all usually sold by the trade as Dracenas. This is partly due to tradition as the first introduction in 1771 from China was named *Dracena Ferrea*. They have been cultivated assiduously by nurserymen ever since and have long been favourites for conservatories. These early introductions are now more properly known as Cordylines and what is sold by florists as *D. indivisa* is *Cordyline australis*. Of the Cordylines the most popular are *C. australis*, *C. indivisa*, *C. terminalis*. The most striking species of true Dracena is the Dragon tree of the Canaries, *D. Draco*, which is said to grow to 60 feet in height. Favourite greenhouse species are *D. fragrans*, *D. Godseffiana* and *D. Sanderiana*. They seem to be distinguishable from the Cordylines by wider, more arching leaves. The leaves of both these families are strikingly coloured and variegated. The most ardent champion of colour need not dismiss them as foliage plants only. They are useful for a vivid display of colour and with their predominantly carmine tones they provide an excellent foil to the Crotons which have chiefly gold variegations. Descriptions of the species are given under separate headings as follows:

C. australis. This is a favourite either as a bedding plant for gardens or as a cool greenhouse or room plant. Its leaves are 1½/3 feet long by 1½/2½ inches wide. Its most popular varieties are *aureostriata*, yellow striped; *atropurpurea*, purple; *lineata*, stained with purple; and *Veitchii*, bright crimson.

Crassula arborescens



Bryophyllum (Crassulaceæ)



C.indivisa has broad dark green leaves 2 feet long and 4/6 inches wide. In favourable conditions it grows to 20 feet in height. It is not to be confused with *D.indivisa* as named by florists which, as has been remarked before, is *C.australis*.

C.terminalis. Its oval green leaves are 1/2 feet long and 2/5 inches wide with narrow channelled stalks. There are about 50 varieties ranging through metallic shades of green, crimson, rose, purple, bronze.

D.fragrans. Leaves are about 3 feet long and from 2 1/4 inches wide and are lax and recurved or arching. A variety named *D.fragrans Linderii* has white bands down the centre of the leaves. A variety *Massangeana* has a broad yellow stripe.

☀ They grow well in a light, cool room with temperature between 50° and 60°. They can be placed outside in summer in a sheltered place.

☂ Water moderately in winter and freely in summer. The soil must not be waterlogged. Syringe leaves during hot weather.

🪴 Grow in two parts peat, one part sand mixed with John Innes Mixture No. 2.

Crassula

CRASSULACEÆ

The members of the stonecrop family best known as house plants are these two species, which have both been called either the Japanese rubber plant or the Jade plant. They are both native to South Africa. They have been grown in this country since 1739. *C.arborescens* is possibly the true Jade plant. It is a shrub with stout grey-green branches and succulent jade green leaves. It does grow to about 4 feet in favourable conditions. In appearance and habit it is rather like a dwarfed Japanese tree, and it certainly has the dignity of an Oriental. This species rarely flowers in the house,

but *C.argentea*, which is described in terms which seem very similar to *C.arborescens*, is said to have numerous pale pink flowers in March and April. Another popular member of this genus is the *Bryophyllum*, found in most florists' shops.

☀ Plenty of light but shade from full sun. They also will do well away from windows under artificial light. Keep in a winter temperature above 50°.

☂ Water moderately when soil has dried out.

🪴 Grow in two parts sandy loam and one part crushed brick and old mortar rubble.

Crossandra

ACANTHACEÆ

These are foliage plants originating in India, Ceylon and the East Indies. *Crossandra infundibuliformis* is comparatively rare. It was first introduced in England as an ornamental stove plant in 1800. It has deep olive green glossy oval leaves and orange flower spikes. It is not at all easy to grow, but because of its abundant and almost continuous flowers and elegant form, it is worth considerable trouble, and will reward the expert grower.

☀ Moderate light and sunshine, no draughts, and a temperature of 55/60°F. in winter and 75° in summer. A terrarium or double window with heating would be best. Do not allow the plant to carry too many flower heads, unless it is very robust.

☂ Keep moderately dry in winter, in warm dry atmosphere. When it comes into growth in spring water more freely, but any over-dampness will quickly bring on an attack of throat-recked fungi.

🪴 Equal parts John Innes No. 2, peat and sand.

♂ Propagation by seeds or cuttings.



Cyperus alternifolius

Cyperus
CYPERACEÆ

The Cyperus family consist of ornamental grass-like plants and are related to the Egyptian Papyrus. *Cyperus elegans* is found in greenhouse collections but *C.diffusus* and *C.alternifolius* and its variegated forms are better known for indoor planting. *C.alternifolius*, sometimes called the 'Umbrella Plant' or 'Nile Grass,' is a bushy shrub whose natural habitat is marshy ground. It was introduced here from Madagascar in 1781. It resembles a miniature palm and is an easily grown pot plant which flowers from June to October. The umbrella-like flowers should not be allowed to run to seed. Its free habit of growth, toughness and attractive shape and foliage make it ideal for mass effects, and it can be used as a background in planting schemes.

☀ Prefers shade, temperature between 50/60° and a moist atmosphere. But it is not easily killed and will endure a certain amount of neglect.

☂ Water freely and if practicable stand the pots in water. If allowed to become dry it may be attacked by insects.

■ A rich soil will allow the plant to increase rapidly, add one part beech mould to John Innes No. 2.

♂ Propagation by division.

Dizygotheca
ARALIACEÆ

These plants were, only a few years ago, known as Aralias and are still included under that name in many references. They are small shrubs or trees from New Caledonia and New Hebrides. They were used in Victorian sub-tropical gardens. The specific rank of

these plants is still unknown to botanists as they have not yet flowered, and they may be, according to botanists, juvenile forms of Aralias remaining in a juvenile condition. However, they are extremely elegant. They are suitable for a heated plant case or a conservatory where the temperature can be kept constant. They are not to be recommended for rooms unless there is central heating and care is taken of them. The leaflets of *D.Veitchii* are very slender, compound, green above and red beneath. *D.elegantissima* has slender compound leaflets with mottled white stalks.

☀ Partial shade, away from windows, a moist atmosphere and warmth.

☂ Plenty of water, regular spraying.

■ Grow in equal parts of sandy loam and leaf-mould.

Echeveria
CRASSULACEÆ

The Echeverias, from tropical America, belong to a group of succulent plants known as the Cotyledons. The leaves of Echeverias are borne in rosettes spirally arranged and are variously coloured. They are popularly known as 'Hen and Chickens' because of the smaller offsets which group themselves comfortably round the parent plant. Because of their range of pastel shaded leaves and their geometrical spiral form they were, and still are, a favourite edging plant for carpet bedding. No summer visitor to South of England coastal resorts will fail to see them taking their place in intricate floral patterns on promenade lawns. For this reason they are useful ground cover plants for decorative interior displays. There are a great many species and varieties to be found in the catalogues of nurseries that specialize in succulent plants. Perhaps the retusa hybrids, which have greyish-green rosettes and orange and yellow flowers, are still the most popular. They are suitable as room plants though they need care.

☀ They prefer full sun and plenty of air. Protect from winter frosts.

☂ Stand pots in a tray of water to a depth of ¼ inch for an hour and re-treat when the soil has dried out. It is inadvisable to water any succulent during December/January.

■ Use small pots and plant in sandy loam mixed with old mortar rubble. Take advice from specialists in this genus.

Euphorbia
EUPHORBIACEÆ

The genus Euphorbia includes a large number of nearly 900 species of great variation and habit. The dry atmosphere of rooms and exhibition halls suits many of them with, of course, some exceptions. Some species were already well known to English gardeners in the eighteenth century, and derived from Crete and Sicily. All the varieties produce a white milky fluid when the stem is cut. *E.splendens*, 'The Crown of Thorns,' is a spiny climbing plant which was first discovered in 1826 and came from Madagascar. It is extremely decorative with a woody

stem covered in long sharp spikes, bright apple green leaves and small brilliant orange flowers. It is difficult to repot and train on account of its thorns, but it makes an excellent contrast to other foliage plants.

☀ Requires strong light or direct sunlight, and needs warmth to keep the flowers appearing and the foliage bright.

☞ Must be kept on the dry side during November and December. Water freely when flowering in spring and summer. Do not ever use cold water on the leaves, or they will drop off. If overwatered in autumn it may shed its leaves altogether. But they will reappear in the spring.

■ John Innes Compost No. 2 with equal parts of peat and coarse sand, and the addition of old brick and lime mortar. The pots must have good drainage at the bottom.

E. fulgens. This plant, mentioned by Richard Bainbridge in his *Guide to the Conservatory* in 1842 as having been introduced from France in 1826 is of entirely different appearance and habit. It is a brilliant evergreen growing to about 3 feet and bearing vivid scarlet flowers from August onwards.

☀ Requires sunshine, and should be trained up a trellis of string.

☞ Moderate watering from September to January, then keep dry till May when new shoots are forming. Water freely during the summer.

■ John Innes Compost No. 2 with equal parts peat and coarse sand added.

Fatshedera

ARALIACEÆ

The Fatshedera is the result of a recent cross between *Fatsia Japonica* (*Aralia Sieboldii*) and *Hedera Helix*. *Fatshedera Lizei* is one of the most satisfactory house plants with a beautiful leaf form and capacity for acclimatizing to quite low temperatures. It grows rapidly from March to October, and if in a light position can reach a height of 8 or 9 feet. Although the leaves recall the smaller Ivy leaf in shape, they are even more starfish-like. If more than one single stem is required, the growing tip should be cut off in March and used for propagation, and the plant will throw up sideshoots. *Fatshedera Lizei variegatum* is an attractive variety of *F. Lizei* with a cream outline to the leaves. It has a more compact habit and does not grow to any great height as a pot plant. Most varieties are exceedingly useful for display planting.

☀ A light position near a window in a cool room. Does not need direct sunlight.

☞ Plenty of water in summer and at all times the leaves should be kept clean. If watering is continued too freely when the plant is beginning to rest in October the lower leaves will drop off. Too great changes of temperature and draughts may have the same effect.

■ Two parts John Innes Compost No. 2, one part beech mould, one part sand.

✚ Greenfly. Inspect frequently for these pests in spring and summer, particularly the growing tip. A thorough spray with a good insecticide about once a week will keep the plant clean and healthy.

♂ Propagation by cuttings.

Fatsia

ARALIACEÆ

The Fatsia was one of the favourite foliage plants of the Victorians as it was exotic in appearance and very similar to *Ricinus communis*, the castor-oil plant, a tender exotic from the tropics. Both of them were frequently used in sub-tropical gardens. (William Robinson remarked on the bold foliage of the castor-oil plant when he saw it growing in the Parc Monceau in 1860.) *F. japonica*, which has the advantage of being nearly hardy, became nearly as ubiquitous as the pampas, and is still commonly to be found in gardens of nineteenth century origin. It has dark shiny green leaves which are deeply lobed, like the Fig, and frequently 12/16 inches across. Its flowers appear in autumn and are white and on large panicles made of round heads 2/3 inches wide. When potted Fatsias make handsome room plants comparatively easy to cultivate.

☀ They prefer a cool shady position in a north or east window.

☞ They should be kept moderately dry in winter and must be watered freely in summer. The leaves should be sponged weekly.

■ They can be planted in a well-drained soil composed of two parts light loam, one part sand, one part leaf-mould, one part decayed manure.

Fern

PTERIDOPHYTES

Ferns constitute a division of plants composed of several families which range in size and form from hair-like creepers which can be blown away by a breath to tall forest trees. They are also one of the oldest forms of life. They have been grown as decorative hardy and greenhouse plants for 200 years and they were one of the few able to survive Victorian gaslight. The largest are, of course, the New Zealand tree Ferns, *Dicksonia antarctica*, which can be seen growing in the Royal Festival Hall. The species most commonly to be found in florists are the *Adiantum* varieties, the maiden-hair Ferns; the *Nephrolepis* vars.; the *Pteris* or Brake Fern varieties and the moss-like stags-headed *Selaginellas*, which, though not strictly ferns, are allied. These forms are so common that they have become clichés in decoration. Nevertheless they could with advantage be used with discretion or newer species selected from the rich and plentiful sources available. Of these the Royal Fern, *Osmunda regalis*, is the most handsome and the Mother Spleenwort, *Asplenium bulbiferum*, the most interesting of the Spleenworts for its habit of developing plantlets on its fronds.

☀ As a wide generalization ferns require shade, a moist atmosphere and, for the less hardy varieties, a winter temperature above 40°.

☞ Water copiously and spray.

■ Consult nurserymen on the soil requirements of each variety.

♂ Propagation either by means of spores or, in March/April, by root division.



Fatsia Lizei



Fatsia japonica



Ficus lyrata

Ficus

MORACEÆ

A number of varieties of the remarkable *Ficus* genus were cultivated in England as Stove Exotics in the eighteenth century including *F. religiosa*, the Sacred Indian Fig Tree, and *F. nymphaeifolia*, the Water Lily-leaved Indian Fig. Also the little *F. pumila* which is a favourite indoor plant today. This is an easily cultivated family of plants widely differing in their appearance and leaf structure, but all thriving in a light, rich soil. They have in common a thick white milky juice which bleeds profusely if the stems are injured. *F. elastica*, the 'India-rubber plant,' is already well known for its ability to withstand neglect and lack of light. *F. elastica decora*, which resembles it, has broad, splendid, polished leaves with dark red underside veining. The cap spike which grows to 4 inches before unfolding is a brilliant red, and so are the new young leaves.

F. elastica albavariegata is a new addition to the *Ficus* family which is a smaller variety of *F. elastica*, with narrower leaves marked with pale green and cream. The sheath is pink as is also the underside veining of the leaves. It is a much slower grower and takes from 6/9 months to make a decorative room plant.

F. lyrata, often known as *F. pandurata*, is also called the Fiddle-backed *Ficus* because its enormous waisted leaves remind one of a violin. It is a magnificent plant whose strongly veined leaves will sometimes grow to 18 inches in length and nearly a foot in width. The stalk does not seem thick enough to support the foliage, and as the plant gets larger it needs staking. It is difficult to

find the growing tip in this plant as it is concealed in a dead-looking small brown cap. The new leaves are a beautiful glossy fresh green.

F. cyathistipula is a strange plant which can be trained as a shrub or grown on a single stem. It is not unlike a rhododendron in habit, the narrow leaves growing from a scaly brown stem in groups of four or five. The growing tip is concealed by a dry brown sheath. It produces round oak-apples at the base of the leaves when the plant is mature. The leaves are glossy and must always be kept clean.

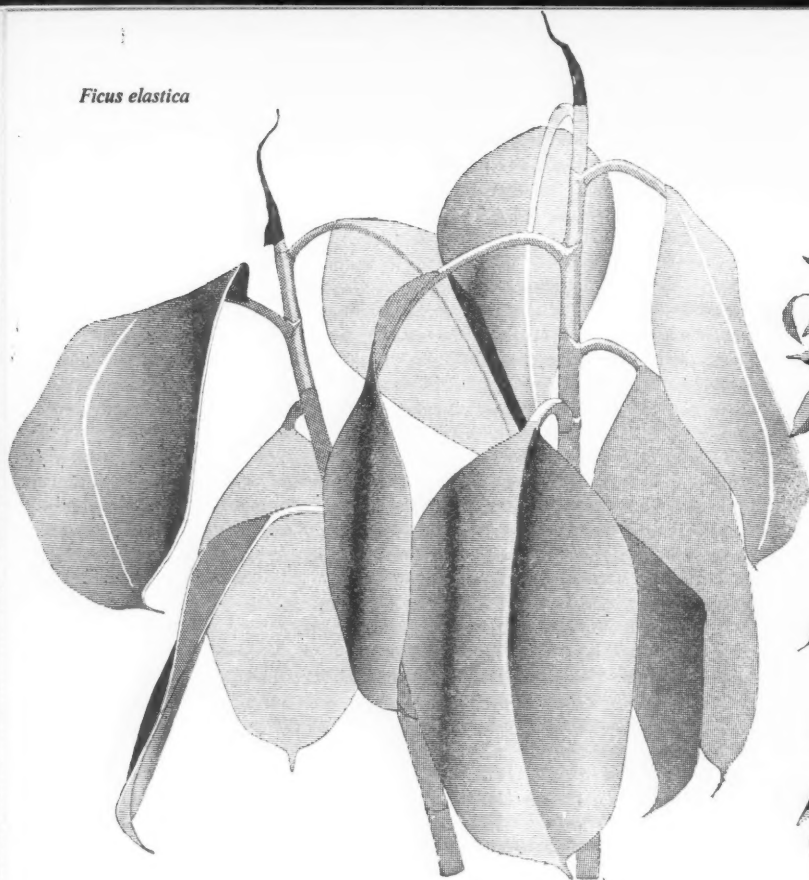
☀ They should be kept in a good light, not necessarily sunshine, and free from draught. They can be put outside in the ash-bed in the summer, sheltered from sun and wind. But they can exist in a dark corner, if given a few days now and then in stronger light. Cool temperature.

☂ Need frequent watering in the summer and occasional spraying. Keep fairly dry in winter. At all times the leaves should be kept clean with water or milk.

✚ Sometimes the leaves will show signs of scorching. Do not let leaves dry after spraying or sponging in strong sunlight. Cut off scorched leaves. Scales and mealybug will not appear if leaves are kept clean. If they do show mouldy spots and discoloration on the undersides of the leaves, wipe over with cotton-wool dipped in a solution of Volck.

F. Benjamina grows like a small tree with a narrow woody stem and graceful hanging branches which give the plant a Japanese effect. The ovate leaves grow alternately and if kept clean have a high polish, and the new shoot is a pale delicate apple green.

Ficus elastica



Ficus Benjaminia



☀ Avoid direct sunlight. Requires a warm temperature.

☂ Keep dry in winter and moist with occasional spraying in summer.

🪴 Three parts John Innes No. 2 with one part peat, beech mould and sand.

F. pumila (*F. repens*) was introduced from China in 1759 and is also known as the dwarf Chinese Fig. It is quite unlike the varieties already described and is a very attractive greenhouse or room climber. Very small heart-shaped leaves are borne on a wiry stem which carries small suckers with which it climbs. Given a slightly rough wall surface it will cover it with a thick mass of tiny leaves. The plant will grow equally well as a trailer. It is hardly ever known to fruit in this country, but when it does the fruit is borne on new shoots which grow erect and are perfectly different from the normal trailing foliage.

F. radicans variegata is a variegated kind of *F. pumila*. The leaves are green, streaked with silver, and this plant makes an excellent contrast to other plain green edging plants, and looks well in a hanging basket.

☀ Neither requires direct sunlight, but a fairly good light, particularly in December and January when the light intensity is feeble.

☂ They need watering freely when in growth and must not be allowed to become dry or papery, or they will be attacked by red spider. The foliage can be dipped in lukewarm water about once a week. If it is trained up a wall it should be sprayed from time to time.

🪴 Equal parts sand, peat, and John Innes Compost No. 2 and feed plentifully with fertilizer.

Fittonia

ACANTHACEÆ

Fittonia argyroneura (Syn. *F. Verschaffeltii argyroneura*) was first introduced in 1869 from Peru, and has been the joy and despair of many indoor gardeners. It is a warm greenhouse perennial trailing plant with ornamental foliage. The leaves are a rich green varying in shade and deepening as they develop, with silver channels following the veins of the leaf. If untrained the plant forms a low bush with leaves intertwined in a charming confusion. Carefully stopped it may be persuaded to form a broad-based pyramid. But it is not an easy subject. It is highly susceptible to the slightest draught and its leaves must not be allowed to touch the soil. It is not therefore wholly recommended as a room plant but would do well in a terrarium. A number of well-grown plants would make a wonderful exhibition display for a limited period.

☀ A moist warm position, sheltered from direct sunlight and free from draughts is essential.

☂ Water moderately in winter, but freely in summer, with light overhead spraying.

🪴 John Innes Compost No. 2 with the addition of equal parts of peat and sand.

Fuchsia

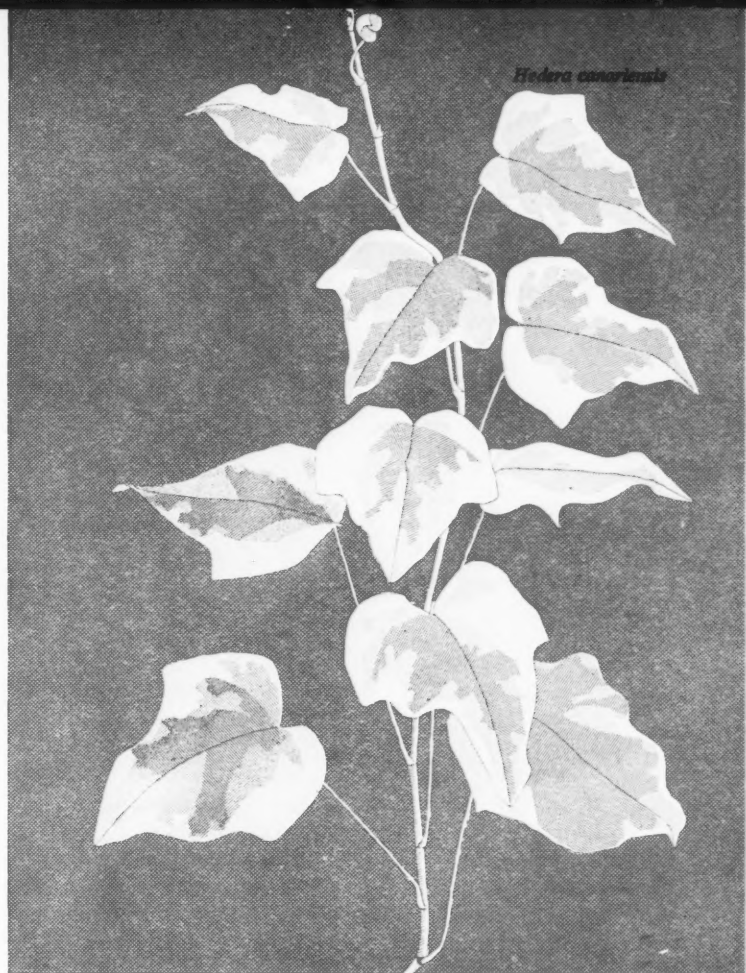
ONAGRACEÆ

There are few more popular plants than the Fuchsia and they have been cultivated in this country since their introduction from Chile in 1788. They are natives of S.

Hedera marmoret



Hedera canariensis



America and New Zealand. So assiduously have they been cultivated that there are said to be over 2,000 named varieties derived from hybrids of *F. fulgens* and *F. magellanica*. They are too well known to need description. Those who may wish to grow them indoors should consult catalogues and their local nurseries and choose the varieties they want. Their pendulous flowers make it obvious that they are most effective when hanging. Hence their popularity as a plant for wire baskets. They are of course an excellent house plant and do well indoors if growing instructions are adhered to and if they are kept out of draughts. They are also one of the few flowering plants that will bloom in shade.

☀ Shade from strong sunlight until July. Keep in a cool dry place, minimum temperature 40°, between October and February.

☀ Water moderately from February to May and freely throughout summer and autumn. Syringe daily from February to May. Feed during flower with soot water or weak manure water.

🪴 Pot into turfy loam and leaf-mould in equal proportions with an addition of old mortar rubble.

Hedera
ARALIACEÆ

There are at least sixty varieties of Ivy and a number of these are ideal for growing indoors. Quite apart from the merits of their variegated foliage and climbing habit, they are genuine die-hards, tolerate gas-fires, withstand draughts, and endure periods of neglect. Any one who is convinced that indoor plants are doomed to

wither in his care should start again with an Ivy. The plants given here are varieties of the Common Ivy, *H. Helix* and *H. Canariensis*. They can be trained to frame a window, interlace a trellis, or planted in association with smaller leaved vines, such as *Cissus striata* and *Tetrastigma*. Among the variegated Ivies are *H. marmoret*, large leaved, and blotched and mottled a yellowish white, *H. marginata*, with a silver margined leaf, and *H. marginata aurea* with yellow margins. *H. Helix Pittsburgh* though as green as the Common Ivy is especially recommended for prolific growth and abundant leafy sprays, and *H. Helix Holly* for its frilled and fluted leaf. All the Ivies can be propagated by rooting a growing tip in water. *H. Canariensis* is one of the most effective indoor Ivies. It is a native of the Canary Islands and is better adapted to a hot dry atmosphere than most Ivies. The stalk is dark red and the leaves appear at irregular intervals, rather depending on the amount of light in which it is placed. The leaves are only slightly indented and are outlined with a creamy yellow. It is decorative but slow growing. *H. Canariensis* 'Golden leaf' has the shape and habit of the outdoor Ivy without its aerial roots. The stem is light red and the leaf stalks are between 6 inches and 12 inches long. The leaves are three-pointed and of a transparent green, the centre of the leaves and the veining, golden. The whole effect of this Ivy is fresh and graceful. It will grow to a great size and should be repotted every year.

☀ Both should be kept in a fairly strong light to ensure an even spacing of the leaves. If they are kept in too cold an atmosphere or in too dark a

Hedera Helix 'Holly'



Hoya carnosa

position the leaves will fail to come out regularly.

☂ Water moderately October to March, and frequently afterwards. If the leaves turn yellow and fall off more moisture should be introduced, e.g. by spraying, or stand in moist peat which will reduce the effects of too much evaporation from central heating or over-warm room.

🪴 Two parts John Innes Compost No. 2, one part beech mould and sand.

✚ Greenfly. Treat with a good insecticide.

H. Helix Pittsburgh or American Ivy is a compact Ivy with a very small maple pointed leaf. It has a shrubby habit and can be trained to advantage on a cane frame or string trellis.

☀ Cool position in north window.

☂ Regular spraying. Keep roots moist.

🪴 Two parts John Innes Compost No. 2, one part beech mould, one part sand.

✚ Look out for greenfly and red spider on growing tips. Spray with insecticide to remove them.

♀ Propagation by cuttings. A growing tip placed in water will form roots in a few weeks, when it can be potted up in soil as given above.

H. Helix 'Holly' is a recent variety originating in the Scandinavian countries and is quite unique in its leaf structure. It grows up a single stem with leaf joints about every inch, the leaf growing upright close to the stem. The leaves are about $\frac{3}{4}$ inch across and dark green, the edges being curly and fluted. The growing tip is a light spinach green and the young leaves growing in the leaf juncture are the same colour, thus providing a contrast up the whole stem. At the back of the stalk are aerial roots which grip any suitable surface.

☀ This Ivy requires a strong light but not direct sunshine, and grows in cool conditions (45/50°F.) in the winter. It should be moved to a better light

position during December and January when the light intensity is at a minimum.

☂ Keep moist and spray regularly or immerse in water during the summer.

🪴 Two parts John Innes Compost No. 2, one part beech mould and one part sand.

✚ If kept in a hot room the plant is apt to be infested with spider mites and greenfly. Spraying will counteract this.

H. Helix Montgomery. This is a quick growing indoor Ivy and if given plenty of root room will grow in one season to a height of twenty feet or more. The plant has an attractive red stem, with slightly indented large dark green leaves on long curving stalks.

☀ This Ivy requires plenty of light and a cool situation.

☂ Keep almost dry in winter. Needs spraying and plenty of moisture in summer.

🪴 Light open soil. John Innes Compost No. 2 with the addition of equal parts beech mould and peat.

Hibiscus

MALVACEÆ

Hibiscus Rosa-sinensis was introduced into England in 1731 and three types are mentioned in John Abercrombie's *Gardener's Pocket Dictionary* in the 1786 edition: single, double and dark red. In its natural surroundings *H. Rosa-sinensis* grows as a large shrub covered with brilliant trumpet-shaped flowers. Grown as a pot plant in a winter garden it is very decorative, and can be trained against a wall or trellis. As a house plant it is rather tender, and it is necessary to rest it in a cool temperature in the winter, keeping it fairly dry. It needs pruning in March, when it can be again well watered and placed in a warm room to bring it into growth. The leaves are oval and coarsely toothed, bright green, the



Impatiens Sultani

large trumpet flowers appear at the leaf joints, and grow on slender stalks: bright red or pink with deeper shading at the throat. They do not last long.

☀ The plant can be kept in a cool airy room in the summer. It will benefit by being placed out of doors in a protected position in summer.

☂ Keep moist and well sprayed in summer. Watch for greenfly.

🪴 John Innes Compost No. 2 with a little granulated charcoal. Good drainage is essential.

Hoya

ASCLEPIADACEÆ

There are several species of *Hoya*, all having flowers of waxy texture, of which *H. carnosa* is the most popular. It was first introduced in 1802. Loudon, in his *Greenhouse Companion* (1824), recommends this plant in a list of Twiners and Climbers for the Greenhouse. (Others mentioned are *Cobæa scandens*, *Convolvulus canariensis*, *Jasminum grandiflorum* and *Passiflora caruleo-racemosa*.) *H. carnosa* is quick growing and should be trained on a trellis or up a pillar. Its leaves are thick, fleshy and oval, about 3 inches long and 1½ inches wide. The flowers are of a drooping habit growing in rich clusters which are best seen when trained overhead.

☀ The plant should be placed in a light airy position, and should be kept moist and sprayed in summer. During winter it should be rested, keeping the soil almost dry in a cool temperature of 50°F.

☂ Frequent watering and spraying in summer. Keep dry in winter.

🪴 Repot in fresh soil in late winter: equal parts John Innes Compost No. 2, peat, sand, and a little charcoal.

✚ The plant has to be watched for mealybugs which are white, waxy insects capable of movement but

usually found in colonies in the axils of leaf and stem joints. Egg-sacs and insects can be washed off with cotton-wool wrapped round a match dipped in water or Volck. Keep cool to avoid these insects.

Impatiens

GERANIACEÆ

Impatiens Sultani, 'Touch-me-not' or Sultan's Balsam was already well known to gardeners in the eighteenth century. It is an easily grown pot plant and is often seen in flourishing condition in cottage windows. The leaves are deep green with a velvety sheen, and the flowers a glowing scarlet, borne on delicate stems. It will flower steadily from Spring until past Christmas. The stem is fleshy and branches freely to form with judicious trimming a bushy plant 18 inches high and 2/2½ feet across. It flowers most freely when slightly pot-bound. Keep it away from gas, and do not spray the leaves.

☀ It likes a sunny position in winter, but should be kept out of hot sunlight in summer. Keep fairly cool during rest period, January to March.

☂ Water freely while it is flowering. Keep fairly dry during rest period.

🪴 Equal part John Innes Compost No. 2, peat, leaf-mould and sand.

♂ Cuttings will root in water and can be potted up in the soil mixture given above. It continues to flower while forming roots.

Kalanchoe

CRASSULACEÆ

The *Kalanchoe* is a popular florists' pot plant which is always on display during the plant's flowering period between February/March and May/June. It is a small half-hardy shrubby succulent of the *Crassula* family which originated in tropical Asia, Africa and America. It is extremely useful for display purposes in buildings where showy colour is required and in positions where other flowering plants would not survive. It grows to about 18 inches in height, has erect stiff branches and clusters of flowers ranging from scarlet through orange to yellow and white. *K. Blossfeldiana* has bright red flowers in early spring. Unless conditions are ideal it is difficult to winter with hope of an equal show of flower the following spring. The price of these plants is reasonable enough to justify replenishment each season.

☀ Stand in either a sunny or a shaded window during the flowering period, afterwards keep in shade.

☂ Water regularly and well.

🪴 Grow in sandy loam, well sieved leaf-mould and brick rubble.

♂ Propagation by seed or cuttings.

Maranta

MARANTACEÆ

The genus *Maranta* consists of hothouse perennials, foliage plants originating in S. America and the East and West Indies. It was named after a Venetian Physician

Maranta leuconeura



and Botanist, B. Maranti, who died in 1754. The Indian Arrowroot was known already in England in the eighteenth century, and used for the medicinal properties contained in its roots. A number of new varieties of *Maranta* were introduced in the second decade of the nineteenth century, and in the fifties and sixties exotic nurserymen were recommending new types: *M. fasciata*, *M. micans*, *M. pardina*, *M. regalis*, etc., for their beautifully variegated leaves. *Maranta leuconeura* has a bushy form, with elliptical leaves about 6 inches long. The leaves have a velvety sheen and dark purple markings. It is commonly known as the 'husband and wife' plant as the leaves curl up together at night. It bears white flowers rather similar to a small orchid, but these are usually removed by growers.

☀ Requires shade to keep the leaves fresh and bright, and a warm temperature.

☂ Water and spray freely in summer. Do not expose to sunlight which will scorch and bleach the leaves. Rest without watering from December to March.

🪴 One part John Innes Compost No. 2, two parts peat, one part sand.

⛶ Red spider. If kept sufficiently moist it should be free from attack.

♂ Easily propagated by severing the offshoots with a sharp knife in March and placing under a tumbler or bellglass in wet warm peat. The rhizomes can be divided in late Spring to obtain new plants.

Miscanthus

GRAMINEÆ

The *Miscanthus*, or the Zebra-striped grass, has for long been the favourite ornamental grass among gardeners fond of park bedding. It is known to them as *Eulalia*, a melodious name as inaccurate as the bedding *Geranium* and as likely to stick in spite of the Botanists. It is a perennial ribbon-like grass with leaves 3/4 feet long,



Monstera deliciosa

used as much in the greenhouse as the garden border. The most popular variety is *M. sinensis zebrinus* which has transverse yellow markings. There are other varieties, such as the white and green striped *M. sinensis variegatus*, which are equally striking. They are a decorative and useful addition to the range of foliage plants used in display.

☀ Stand in a cool, shady position in a north or east window. Keep in a minimum winter temperature of 50°.

☂ Keep well watered between May and October.

🪴 Pot into a 6/8 inch pot with a compost of two parts loam and one part leaf-mould and sand.

♂ Propagate by seed and division in March.

Monstera

ARACEÆ

These plants are related to the *Philodendron*, and *Scindapsus*. *Monstera deliciosa*, the 'Aspidistra' of tomorrow, when growing in tropical forests reaches a height of 20 feet or more. When grown indoors it seldom achieves more than five or six feet. It presents large deeply serrated glossy leaves cut up to the centre vein and its grotesque appearance is increased by thick aerial shoots which grow downwards into the pot and carry additional moisture and food back into the leaves. The leaves emerge from a long delicate sheath, are densely spaced, and when washed or oiled have a highly polished appearance. If planted in a winter garden in the ground with plenty of root space, the plant will grow much larger and may even flower and fruit. In the tropics it produces delicious pineapple flavoured fruits.

☀ Should be kept in a good light, but not direct sunlight. If placed in a dark hall the plant should be given brief spells in a lighter situation, to give colour and



Nidularium fulgens

buoyancy to the leaves. The foliage should be kept wiped and dust-free.

☀ Keep on the dry side in winter when the plant is nearly dormant. Water freely in summer, keeping the leaves moist by spraying.

🪴 Rich and light, composed of equal parts peat, leaf-mould, John Innes Compost No. 2, and a little sand.

♂ Propagation by leaf and stem cutting.

Nidularium

BROMELIACEÆ

The Nidulariums are a genus of epiphytic herbs from Brazil. The first species was introduced into this country in 1849. They grow in the form of a large rosette of strap-shaped shiny leaves and are remarkable for their brilliantly coloured inner leaves or bracts. *N. fulgens* has leaves in a dense rosette each one foot long and two inches wide. They are mottled and sharply toothed. Its 6/10 scarlet bracts are grouped round a flower with red, violet and white colouring. *N. rutilans* has vermilion red flowers among red bracts and a rosette of leaves which are a mottled green. These Nidulariums will grow in dry air and with very little light, and are the most exotic appearing house plants on the market. They make superb specimens and can be used in displays as dramatic accents in a plant box if care is taken to keep their foliage free from dust and frequently sprayed.

☀ Nidulariums do not require strong sunlight but like warmth and air. Keep winter temperature above 50°.

🪴 Water from above by filling the water-holding bases of the leaves.

🪴 Pot into three parts light loam, one part well-decayed leaf soil and clean coarse sand.

♂ Propagate from suckers.

Opuntia

CACTACEÆ

The Opuntias are a tribe of Cacti of about 300 species growing all over the Americas from Utah to Patagonia. The majority of them are far too large for raising in small pots. Only about eighteen are considered by authorities to be suitable as room plants either in scale or for other reasons. Many of them are so covered with sharp spines as to make them difficult to handle. They are, however, important economically. The most widely distributed are *O. Ficus indica* and *O. Tuna* which, known as the Indian Fig and Prickly Pear, are cultivated for their fruit. For centuries they have been used as a food by poor Mexicans who, after stripping off skin and spikes, cook them as vegetables or use as salad. The Prickly Pear is now grown commercially in the Scilly Isles. The many jointed, fleshy, flat stems of this Opuntia, covered with sharp spines, also make it a useful and forbidding hedging plant in semi-arid regions.

As a race the Opuntias have an engaging tendency towards the grotesque in appearance and the following are interesting as house plants for this reason. *O. ursina* is known as The Grizzly Bear. It has flat stems covered with long drooping hair. It grows to about two feet in height and has stemless reddish yellow flowers. *O. microdasys*, or Rabbit Ears, grows to about three feet high, has erect and much branched flattish leaves covered with diagonal rows of prominent bristles. Its flowers are yellow. *O. vestita* is a strange cactus from Bolivia with a hairy stem covered with warty horned leaves, from which will break dark red flowers. One cylindrical species recommended is *O. floccosa*, which has spines like rabbit fur. Other known species used as room plants are *O. Bergeriana* and *O. leptocaulis*, both cylindrical in form and *O. basilaris*, which is slab-shaped and branching. Its flowers occur in May/June and are a purple pink.

☀ *O. vestita* should be shaded from full sun. The others can be placed in a south facing window in full sun. They also require plenty of air.

🪴 Water regularly but sparingly once a week in summer and every two weeks in autumn. Water only rarely in winter. No rules can be formulated for Cacti culture. So much depends on the species, its place of origin and its new environment and conditions.

🪴 Plant in sandy soil mixed with powdered brick to ensure free drainage.

Panax

ARALIACEÆ

The Panax genus is formed of seven or eight species of hardy perennials of which *P. quinquefolium* and *P. trifolium* are the best known. These are the famous Ginseng from the roots of which the Chinese manufacture a drug as indispensable to them as the aspirin is to us. *Panax paniculata* is more properly a Nothopanax or Polyscia rather than a true member of the genus.

The Polyscias are large shrubs or trees of the same family as the greenhouse Aralias or Dizygothecas.

There are about twelve known species. *P. (Polyscia) paniculata* is a shrub with smooth shiny, rather leathery, leaves 7/9 inches long, oblong in shape and blunt at the tip. This species is a useful as well as a decorative house plant as it appears to be tough and able to stand up to conditions unfavourable to it, such as indifferent light and a dry atmosphere. There is a large specimen in the Royal Festival Hall by the Tea Bar.

☀ Partial shade, warmth and a constant temperature during the winter.

☕ Water freely in summer and moderately in winter. Syringe the leaves regularly.

🪴 Grow in equal parts of sandy loam and leaf-mould.

Pandanus

PANDANACEÆ

E. J. Lowe, the Victorian Botanist who published *Beautiful Leaved Plants* in 1861, describes the Pandanus as a 'stately fine-looking genus' and mentions among the most conspicuous: *P. amaryllifolius*, *P. odoratissimus*, *P. spiralis*, and *P. utilis*, all of which reach a height of 20 feet, and *P. javanicus variegatus* (beautiful leaved variety). We only mention two varieties, *P. Sanderii* from Malaya, and *P. Veitchii*, found in Polynesia in 1866 and introduced as suitable for indoor cultivation. *P. Veitchii* is a handsome stove evergreen with pointed strap-shaped leaves, which are long and narrow, dark green banded with white and edged with short spines. The plant should be grown in as small a pot as will contain its roots, will grow to about two feet high, and the same across. Its flowers are insignificant and should be removed to allow its strength to run to foliage.

☀ Too much sunshine will tend to spoil the colour of the leaves, especially in summer. Fairly hardy while making growth, but needs rather careful nursing during winter resting time. Take care that stagnant water is not allowed to remain in the axils of the leaves, where it will cause rot, especially in winter. Thrives best in poor soil and moderate temperature.

☕ Keep very moist in summer. Moderately dry in winter.

🪴 Two parts John Innes Compost No. 2 with one part leaf-mould, charcoal and sand.

♂ Fairly easy to propagate by cutting offsets when they appear from parent plant with a sharp knife.

Pelargonium

GERANIACEÆ

This is a genus of about 250 species of herbs popularly known as Geraniums. Most of the so-called garden geraniums cultivated today are Pelargoniums and are of hybrid origin. They originated in the Cape and are not hardy, whereas the three or four species of geraniums are hardy and are natives of Europe. These are the Crane's Bills. There are also botanical differences. The heyday of the Pelargonium was the nineteenth century when a far greater number of hybrids were available, though the first species arrived in this country as early as 1685 and Ivy-leaved and Scented-leaved kinds were known in the eighteenth century.

The simplest classification is to divide Pelargoniums

into four sections: the Zonals, the Ivy-leaved, the Show or Regal, and the Scented-leaved. The Zonals provide plants for greenhouses, for bedding out and for pot plants and window-box decoration. The Show or Regal Pelargoniums are more tender, are very floriferous and decorative. The Ivy-leaved hybrids provide excellent plants for hanging baskets and for use as trailers, while the Scented-leaved are to be seen in cottage windows, in parlours and are the home plant.

There is no space for a wide selection from all these sections. A personal choice should be made from the catalogues of those nurserymen who specialize in this genus. A choice has been made here of the scented-leaved varieties. They have, as the name implies, fragrant leaves. Their flowers are not very distinguished if compared with those of other sections but they have a charm of their own. Their leaves as well as being scented are frequently finely cut. They make fine pot plants of any desired size. *P. odoratissimum* is a many stemmed shrubby Pelargonium with fragrant heart-shaped leaves 1½ inches wide. The flowers are white. Introduced in 1724. *P. fragrans* is a cross between *P. odoratissimum* and *P. exstipulatum*. It is shrubby, has heart-shaped leaves and white flowers veined with red. Its scent is of nutmeg. *P. tomentosum* is large leaved and grows to about three feet high. Its leaves are peppermint scented. The flowers are white and red. It was introduced in 1790. *P. crispum* is a slender shrub, 2/3 feet high with fan-shaped leaves, coarsely toothed and lobed, strongly lemon scented and with pink or rose flowers. First known in 1774. There are also a scented-leaved group of hybrids named *P. Clorinda*, *Fair Helen*, *Pretty Polly*, *Scarlet Pet*. Who could resist those names?

☀ Detailed notes on their care and cultivation are of course impossible in the space available. In general, they require full sun, plenty of air and a warm atmosphere.

☕ They require moderate watering and very careful spraying and those with hairy leaves, such as many of the scented-leaved varieties, should not be sprayed too frequently.

🪴 Pot into good garden loam and keep pot-bound. Weekly applications of soot water are excellent when buds are forming. It should be emphasized that each section of Pelargonium requires special treatment and propagation and the care of old plants is a subject about which authorities should be consulted.

Peperomia

PIPERACEÆ

Peperomia belongs to the very large genus of Peppers which grow in the West Indies and tropical America, of which there are at least 500 species. The Danish Plant Dictionary recently published by Emil Wiens Forlag, Copenhagen (1950) shows photographs of *P. arifolia* which has a heart-shaped leaf form, *P. magnoliifolia* introduced from the US and *P. Sandersii* which has beautiful striped leaf markings. *P. pereskiiifolia* and *P. hederifolia* are also grown in Denmark. *P. glabella* is the best known variety in this country. It has dark green fleshy leaves growing together on a pink fleshy stem and is used as a hanging-basket plant or for planting in window boxes. *P. Sandersii* has a similar creeping or trailing habit, and when well grown



covers the top of the pot with its closely spaced leaves. The leaves, heavily marked with dark green and white stripes, make a decorative and unusual plant.

☀ Both plants should be kept in warm conditions and out of strong sunlight. They should be sunk in moist peat if possible. Gas will undo them.

💧 Water moderately in winter, frequently in summer. Cold watering will make the leaves drop. Use tepid water. If it is not possible to sink the pots in peat they should be stood on wet pebbles.

✚ Exposure to too much light and a dry atmosphere will make the leaves lose their lustre. If the plant is too cold and overwatered, the leaves will drop off. This is not an easy plant to grow successfully. The fleshy leaves may also be disfigured by ring spot. The affected leaves should be removed and burnt.

♂ Both plants throw out feelers with small leaves, which if cut will quickly root in moist peat.

Philodendron

ARACEÆ

The Viennese botanist Schott discovered the Philodendron genus in the 1830's and since then 220 species have been identified. These plants grow in the tropical forests of Central and South America, and some of them can be seen growing with something like tropical luxuriance at Kew. The best known varieties are *P. speciosum* (Brazil 1832) and *P. scandens* (Porto Rico 1887) which have been grown indoors in Scandinavia for several decades; *P. lacianatum* and *P. radiatum*, wonderful large leaved varieties which may soon outdo the *Monstera deliciosa* as indoor plants, both can be seen growing side



Philodendron squamiferum

by side with it at Kew; *P. Leichtlini* which has extraordinarily large perforated leaves; and *P. Fenzlii*, one of the most elegant smaller varieties. With the exception of *P. bipinnatifidum*, and its variations *P. selloum* and *pinnatifidum*, the Philodendrons at present in cultivation are all climbers having aerial shoots which in their natural conditions cling to the bark of other trees providing both support and additional nourishment for the plant.

Where there is no provision for the aerial roots in the form of a damp tree stump, a run of peat along a plant box, or a decayed tree fern, the Philodendrons amend their habits and show a much slower growth. The aerial roots tend to shrivel when not provided with suitable nourishment and the plant depends on its roots alone. *P. scandens* has heart-shaped leaves growing alternately on a single stem, the leaves are grey-green in colour, and when new have a delicate sheen. It can be used to trail over a window box or up a cane support. *P. Fenzlii* is on the same small scale as *P. scandens*, but it has leaves in the shape of a drawn out arrow-head on long stems. It should be planted in combination with *P. scandens* and a small leaved Ivy such as *Hedera Helix* Pittsburgh. *P. erubescens* has long oval shiny leaves edged with rose. The sheath cap and aerial roots are dark red. It has the same climbing habit as *P. scandens* and will grow to a considerable height. *P. Oxycardium* when mature has a splendid appearance. Its ovate leaves narrowing to a curved tip are often 9/12 inches long and 6 inches broad, the stem is thick and knotted, and throws out twisted aerial roots. *P. bipinnatifidum* is a distinct variety in that it grows from a central stem, its large indented leaves on their long stems branching out

Philodendron elegans

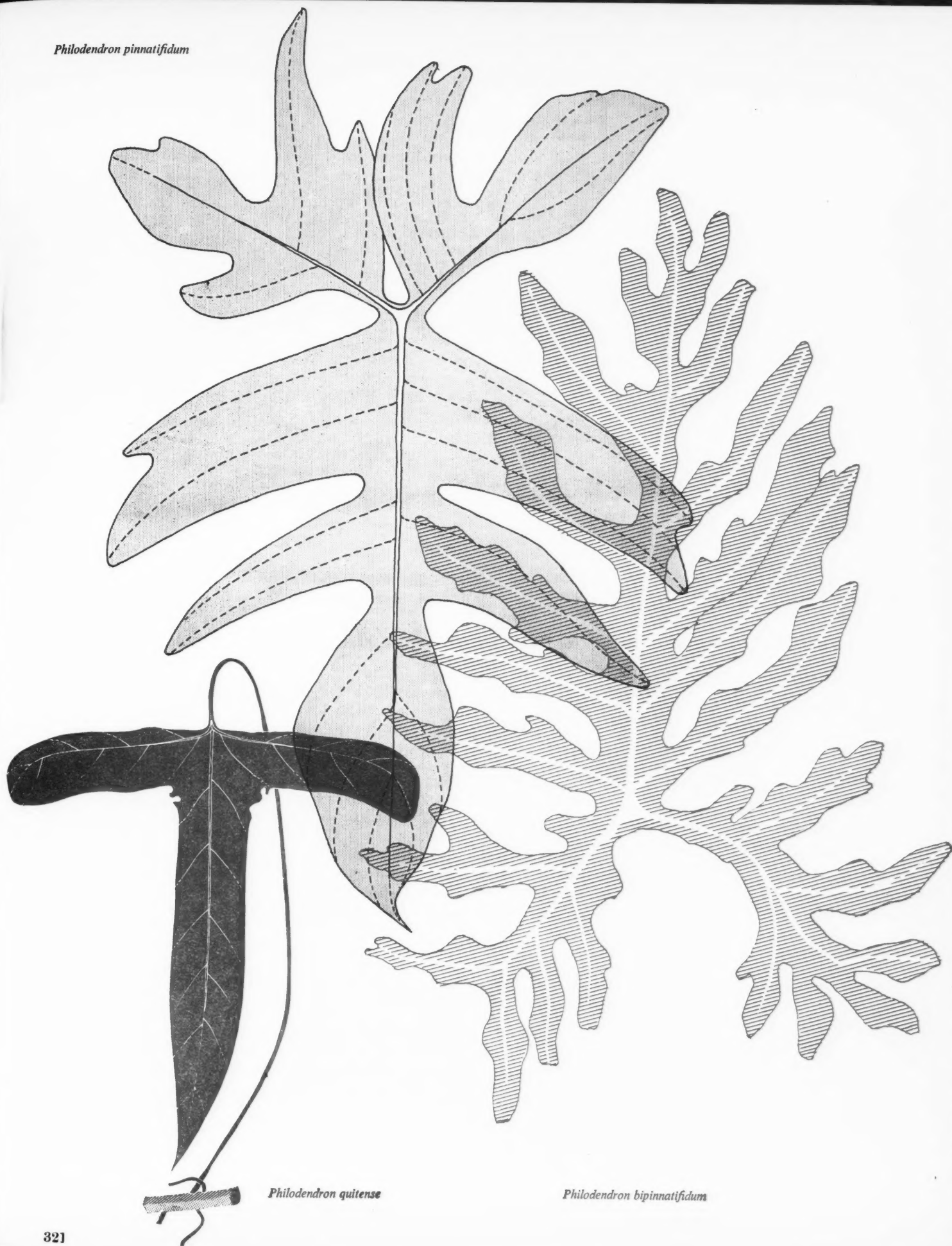
Philodendron oxycardium



Philodendron Leichtlini

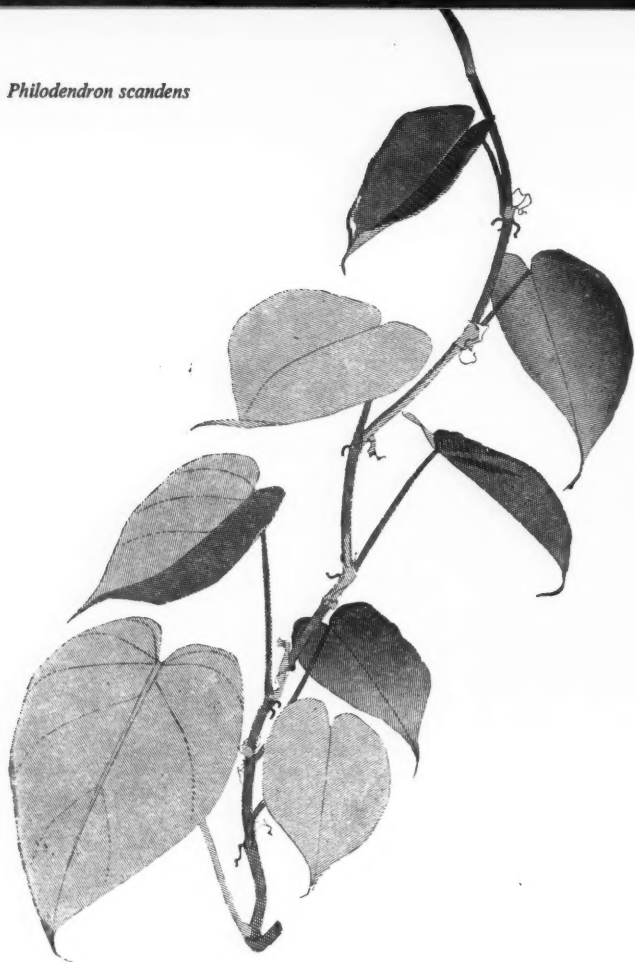
Philodendron panduriforma

Philodendron pinnatifidum



Philodendron quitense

Philodendron bipinnatifidum



rather like a palm. The complicated indentations reach almost to the central rib, and are so close together that the heart-shaped form of the leaf is lost in the general effect of leaf erosion. *P. selloum* resembles it except in its flower form, and *P. pinnatifidum* has a similar habit, but simpler indentations. All three plants require a situation where the light is evenly distributed, and should be placed on a pedestal so that the leaves can develop all round. *P. lacianatum*, found in Brazil in 1878, has the most splendid leaves of all. They are ribbed, cut and indented. *P. Leichtlini* is the most grotesque plant of the species in cultivation. The leaves are large and oval and perforated with lozenge-shaped holes. It will climb if provided with support, but if left without it will creep along a peat filled plant box putting out suckers and roots. *P. radiatum* growing at Kew in the same conditions as *Monstera* and other tropical climbers may before long appear as an indoor plant.

☀ Philodendrons thrive in a north window, need a temperate atmosphere. Where possible they should be placed in a room without gas heating. Gas fumes turn the leaves yellow.

☂ These plants require plenty of moisture, but their pots need to be well drained so that they don't become waterlogged. The foliage should be sprayed, particularly in summer, every day with a fine spray. If this is impracticable wipe over with cotton-wool soaked in tepid water or milk.

▣ They require a rich and light soil. John Innes Compost No. 2 may be used with the addition of extra peat, leaf-mould, and coarse sand.

♂ Propagation by cuttings.



Phrynium

MARANTACEÆ

The *Phrynium* is allied to the genus *Maranta* (which are New World plants) and the *Calatheas*. There are several species in cultivation as stove-plants, notably *P. variegata*, which is of dwarf habit and has white striped and banded leaves, and *P. Micholitzii* which comes from New Guinea. *P. Lubbersii*, found in Brazil in 1881, has shiny dark green oval leaves flecked with light green markings, growing in pairs, and a flat, hard, edged stalk. It is worth growing for its foliage alone, the small white flowers which appear in summer do not improve the plant. Suitable for a mixed plant box.

☀ Does not require much light, needs a shaded warm moist position in summer.

☂ The plant should be kept very dry in the winter, spray and water freely in summer. Add a good fertilizer to the water from March to September.

▣ Two parts peat to one part sand, leaf-mould and John Innes No. 2.

♂ During the summer cut the side branches off with a sharp knife, near the root, with a slanting cut. Place the cutting in wet sand under a tumbler or bell-glass until it has rooted, when it can be potted up in the compost given above. The rhizomes can be divided in the late spring to obtain more plants.

Pilea

URTICACEÆ

This is a genus of small plants growing in the West Indies and tropical America whose peculiar feature is



Plectranthus Oertendahli

the forcible discharge of pollen from the flowers producing an effect of small scale bombardment. *P. muscosa* and *P. serphyllifolia* are cultivated for their fanlike sprays and red flowers and are useful for equalizing moisture conditions in greenhouses. *P. Cadieriei* is a very recently introduced plant found by a French missionary just after the first world war in Indo-China, who brought it to Paris. From there it reached Denmark in 1938, and it is now being imported into England and propagated here. *P. Cadieriei* is a neat bushy plant growing about nine inches high, with an almost four-sided stem and ovate leaves 3/4 inches long. The leaves, following the veins, are silver striped, and towards the margins silver spotted. They are larger than in most *Pilea* varieties and have toothed margins towards the tip. When watered the whole plant has an aluminium gleam. It provides a good contrast to other darker leaved foliage plants. Described scientifically for the first time in 1949 and does not appear in the ordinary reference books.

☀ Requires a warm room and does not need strong light. If in suitable position it will grow very fast in summer.

💧 Plenty of water and spraying in summer. Stand in moist peat or on wet pebbles.

🪴 A mixture of equal parts John Innes Compost No. 2, leaf-mould and sand.

⛶ If the growing tips shrivel up and the leaves take a backward droop, this may be due to a too cold atmosphere or insufficient moisture. Move the plant to a warmer situation. Escaping gas will turn the leaves yellow and make them drop off.

♂ Cuttings can be taken of the tips and planted in moist sand.

Platycerium POLYPODIACEÆ

The *Platyceriums* are a strange group of epiphytic plants known as Stag-horn Ferns. Because of their grey-green antlered form they are most distinctive. They have fronds of two kinds, those that are deeply lobed and horn shaped and others that are flat round platforms which grow round the branches and stems of trees and collect falling leaves and debris. This debris decays and forms the soil on which they live. In their native forests this accumulates into enormous nest-like structures. There are many tropical species but the most suitable for indoor use is *P. alcicorne* or the Elk's Horn Fern, which, as it is a native of the temperate zone of Australia, survives lower temperatures and a drier atmosphere than its fellows in tropical forests. It is strong growing with thicker fronds. It grows to a radius of 2/3 feet.

☀ Grow on a north facing wall. Temperature should never be below 40°.

💧 Keep moist and thoroughly sprayed except in winter.

🪴 Grow in baskets or on bark. Roots should be inserted into peat round which sphagnum moss can be packed. Bone meal and charcoal are advisable additions.

Plectranthus LABIATÆ

Loudon listed eight *Plectranthus* varieties in his *Dictionary of Plants*, originating in South America, Abyssinia and the East Indies. Among them *P. fruticosus*

was introduced to this country in 1774. It has reappeared as a Danish import fairly recently, and is a very pretty room plant which will trail elegantly over the edge of a plant table or stand. Very suitable for a hanging basket, it has a fresh green aspect, aromatic smell, and small serrated leaves. Delicate small pale blue flowers grow at the end of its trailers in autumn and winter. The stems are fleshy and therefore rather brittle; it needs careful handling.

P. Oertandahli is the most frequently grown variety, its small leaves are covered with a fine down, and the undersides are a dark purple. Small pale blue flowers appear at the end of the trailers in autumn.

☀ Both varieties need a good light and a cool airy situation. They must not be placed near a radiator. They will do well out of doors in summer, provided they are kept moist and shaded from direct sunlight.

☂ Requires plenty of moisture. Total immersion in the sink in tepid water about once a fortnight keeps the plants in good condition.

🪴 John Innes No. 2 with additional peat and sand.

✂ Tips can be cut off and potted up in summer.

Plumbago

PLUMBAGINACEÆ

The Plumbago or the Leadwort is a genus of about ten species of plants inhabiting warm countries in Europe, Asia and Africa. It is allied to the *Ceratostigma*. Its two best known species are *P. capensis*, which originated in the Cape and which has been a favourite in conservatories since early Victorian days, and *P. rosea*, a stove plant, from the East Indies. They are quick growing, semi-climbing deciduous plants which are excellent as trailers or for hanging. They have small oval leaves and the greenhouse species *P. capensis* is notable for its blue phlox-like flowers borne in August and September. There is a variety, *P. capensis alba*, which is white flowered.

☀ Stand pots facing south or west windows but shade from strong sunlight. Keep above 45° in winter. Cut back shoots after flowering.

☂ Water freely in spring and summer. Syringe once a day.

🪴 Grow in two parts loam and one part leaf-mould and sand.

Rhodochiton

SCROPHULARIACEÆ

The Rhodochiton is a graceful free flowering vine originating from Mexico. It has the habit of a *Maurandia* to which it is closely allied, climbing by twisting its leaves and flower stalks round its support. Its pendulous purple or dark red flowers are its most distinctive feature. Rhodochitons should be treated as annuals, bloom being obtained in their first season from seed. They are most useful pot plants providing bright flowers and graceful foliage without difficulty. Sometimes they are also erroneously called *Lothospermums*. *R. volubile* (or *Lothospermum atrosanguineum*) is the most suitable variety for indoor use. It is not used as often as it might be in this country. A good specimen would be

most effective in association with the blue *Convolvulus*, *Ipomæa cærulea*.

☀ Stand in a south or west window but shade from full midsummer sun.

☂ Water freely in flowering period.

🪴 Grow in a compost of two parts loam, one part leaf-mould and sand.

Rhoicissus

VITACEÆ

Rhoicissus rhomboidea, 'Grape Ivy,' is a native of South Africa and belongs to the Vine family. It is very tough and will survive for years if given the right conditions. It has only been in cultivation since 1947. The leaves grow in groups of three, glossy, toothed and pointed from a downy reddish stem. The new leaf shoots are silvery pink. The plant grows rapidly and should be allowed to twine its tendrils on a string or cane trellis.

☀ It requires a good light and a room temperature of 55/65°F. in winter. Warm airy conditions in summer.

☂ Spray regularly in summer with a hand spray and keep the leaves free from dust always. In the winter avoid watering except when very dry. Stand out in the rain in summer, but let the leaves dry in shade. Very cold tap water should not be used for watering or spraying. If kept over-moist the leaves will discolour and drop off.

✚ Watch should be kept for greenfly in summer.

Rochea

CRASSULACEÆ

This is an old florists' plant, known in the trade as the *Crassula* and sold for its showy summer flowers. It was much admired in Victorian greenhouses. It is a native of South Africa and allied to the 'House Leek.' Rocheas are low shrubs 1/2 feet high with numerous stems covered with oval succulent leaves and crowned with star-shaped flowers in umbels or flat clusters. The two best known species are *R. coccinea* and *R. falcata*. The one has red flowers and the other white. Each of them has some fine hybrids of which you can take your choice in the nurseries. Their uses in display are much the same as the *Kalanchoe*.

☀ Place in full sun and allow plenty of air. Keep free from frosts in winter.

☂ Water regularly and well.

🪴 Pot into sandy peaty soil. When rooted pinch back and repot into two parts fibrous loam, one part sand, one part broken charcoal.

✂ Propagation from cuttings during March.

Saintpaulia

GESNERIACEÆ

Baron St. Paul Hilaire introduced this plant into Europe at the end of the last century, but it has only achieved popularity in the last 20 years. The main species are *S. ionantha*, *S. diplotricha*, *S. tongwensis* and there are

many hybrids. The 'African Violet' has achieved a tremendous popularity as a house plant in America where new varieties are constantly produced, and societies formed to promote its cultivation. This is perhaps a confirmation of widespread and satisfactory American heating arrangements, as the plant is not supposed to prosper in a temperature of less than 60°F. The species *Saintpaulia ionantha* has violet coloured flowers, a bushy form, and soft woolly leaves. It flowers for nine or ten months of the year.

☀ Needs plenty of light, but should be protected from hot sunshine through glass. Prefers an east or west window. Temperature not less than 60°F. if it is to flower properly.

☕ The roots need to be kept moist. Stand the pot in water rather than water it overhead. Keep fairly dry in summer if it is to flower properly later. While flowering, apply weak liquid manure occasionally.

🪴 Plant in a light soil consisting of John Innes Compost No. 2, beech mould, peat and sand.

The roots should not be pressed down.

♂ Plant improved by dividing in spring. Leaf cuttings will root easily in damp peat.

Sansevieria

LILIACEÆ

There are about 54 species of *Sansevieria* growing in tropical and South America, but only a few are cultivated. They are *S. thyrsiflora*, *S. zeylanica* and *S. trifasciata Laurentii*, commonly known as the 'Snake plant,' and more commonly still as 'Mother-in-law's Tongue.' It is a most extraordinary plant growing straight out of the soil, in form resembling twisted sword blades. It seems to have no stem or centre and forms new leaves from suckers rising directly from the roots. The leaves are thick, tough, variegated with irregular horizontal stripes in two shades of green, edged with yellow. It is a slow grower, a real die-hard and may well outlive its owner.

☀ Withstands every hardship except overwatering. Doesn't mind dark corners, varying temperatures, a certain amount of gas. Grows best slightly pot-bound and sometimes cracks its own pot.

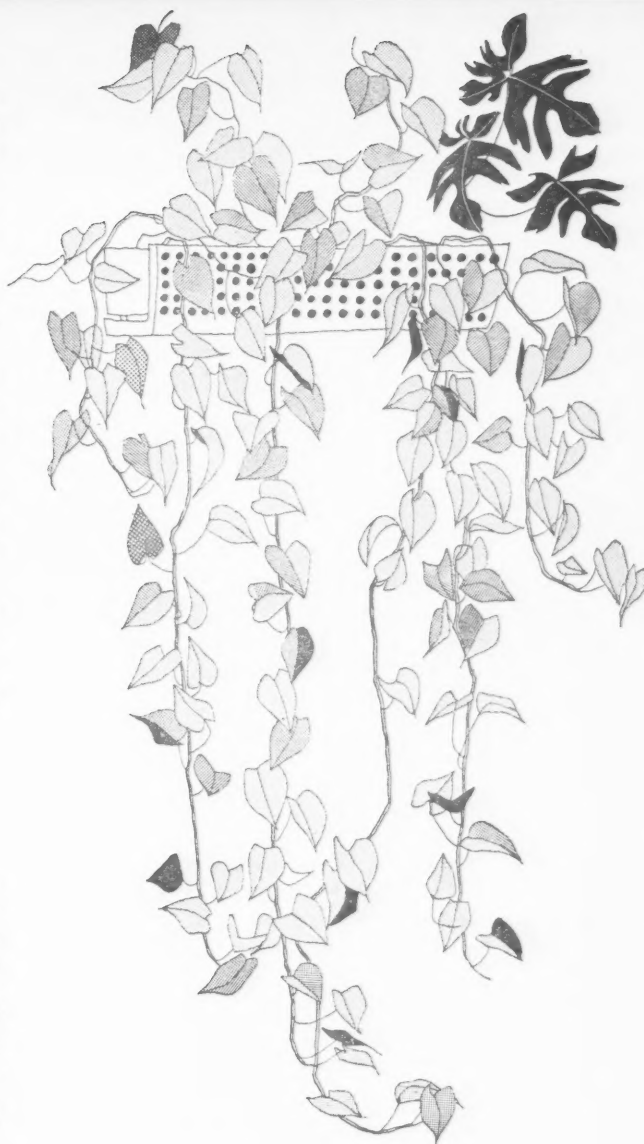
☕ Water moderately in summer. Keep dry in winter. Sponge its blades occasionally to remove dust. If a single leaf should become diseased, remove it, and stop watering.

🪴 Equal parts John Innes Compost No. 2, beech mould and sand.

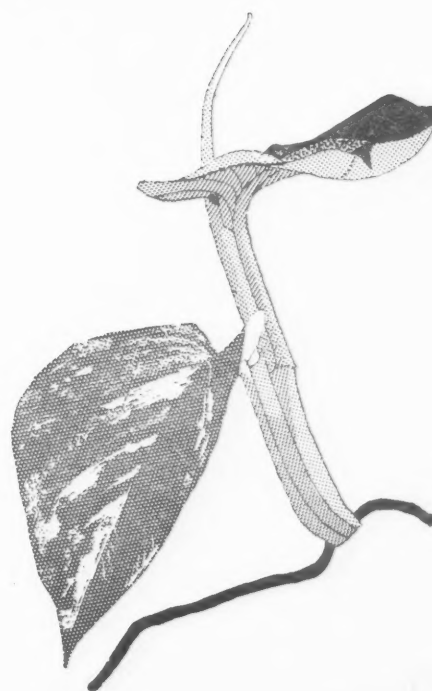
Scindapsus

ARACEÆ

The genus *Scindapsus* belongs to the same plant family as *Monstera* and *Philodendron* and originates in the tropical forests of S. America. The plants in their natural surroundings grow by twining up trees and using the pairs of aerial roots both for support and for absorbing nourishment from the bark they cling to. In the hot humid enclosed atmosphere of the jungle these plants reach great heights and produce enormous leaves. While submitting to the cool and rather dry atmosphere



Scindapsus argyreaus





Sparrmania africana



of ordinary indoor conditions, their habit of growth is much amended. *S. argyreaus* is cultivated and, more commonly, *S. aureus* (*Pothos aureus*), which appears here as a climber reaching a few feet in height, and presents heart-shaped leaves growing alternately on a pale lemon stalk. The leaves are variegated green with lemon and the plant has a rather exotic appearance.

☀ Does not require direct sunshine, but a bright light for short periods helps to keep the colour in the leaves. A moderately warm room with no gas fire will suit it, where it can trail over a mantelpiece or climb a trellis. If some accommodation can be devised for its aerial roots, in the form of a damp tree stump, or dead tree fern, it will grow at a greater pace.

☂ Keep on the dry side in winter. In summer keep it moist, and spray the leaves. If placed near a heating device it should be stood on wet gravel or surrounded with damp peat so as to counteract the dry atmosphere. Don't use ice cold tap water for watering. Tepid water is best.

✚ If kept too cold and overwatered a brown spot will appear on the leaves, small at first, but quickly spreading. There is no cure for this except to alter the conditions and remove the leaf.

Sparrmania TILIACEÆ

Sparrmania is a genus of four species of shrubs or trees which are natives of tropical and South Africa. It was named in honour of Dr. Sparrman (1748-1820) who accompanied Captain Cook on his second voyage and

discovered this genus. The species *S. africana* is popularly known as the Zimmerlinde or African Hemp. The first is more accurately descriptive as it is, in effect, an evergreen Lime which, in favourable circumstances, will grow into a small tree of 10/20 feet high. It has large pale green, rather hairy, lime-like leaves about six inches long and large white flowers. It is an excellent cool greenhouse or house plant. It is fairly hardy. The Zimmerlinde's large leaves and its tree form make it particularly decorative. It associates well with the darker foliage of the *Ficus* family.

☀ Stand away from full midday sun but allow it plenty of fresh air. Winter temperature should be kept above 45°.

☂ Water regularly but not too copiously and an occasional feed of mixed fertilizer is necessary.

🪴 Pot into two parts sandy loam and peat, and one part well rotted manure.

♂ Propagation by cuttings in March/April.

Syngonium ARACEÆ

There are about fourteen species of *Syngonium* which grow as climbing shrubs in Central and South America in tropical forest regions. They adapt themselves to indoor conditions which retard their climbing propensities. At Kew, where provision is made in the form of cement pillars or rotten tree stumps for their aerial roots, they assume jungle forms of growth. *S. podophyllum* can be treated as a climber or trailer and if grown in a long plant box will creep along it, returning

Tetrastigma vionierianum



its aerial roots into the soil. When young the plant has spatular leaves without indentations. As they grow older, the leaves become fingered. *S. Vellozianum* has leathery three-fingered leaves, dark green, with definite ribbing. The aerial shoots are slender, numerous and turn brown when withered. The plant climbs quickly and needs support.

☀ Requires a warm moist atmosphere, well shaded in summer. The plants have to be shielded from draughts and sudden changes of temperature.

☂ Stand in wet peat or moist pebbles in a warm atmosphere. Always see that the water is the same as the room temperature.

🪴 Equal parts John Innes No. 2 with peat, beech mould, added to a little coarse sand.

✚ To avoid yellowing leaves, avoid changes in room temperature. Don't bruise the aerial shoots. Don't use cold tap water.

Tetrastigma

VITACEÆ

Tetrastigma, a climbing evergreen, grows in a number of species in parts of South East Asia. *T. serrulatum* and *T. obiectum* are cultivated here, and *T. vionierianum* was first introduced in 1929. *T. vionierianum*, 'Chestnut Vine,' is a large and rampant climber whose leaves resemble the horse chestnut's in form. They have five serrated lobes, a bright glossy green, edged with silver down. The underside is rust-coloured. The young leaves, buds and tendrils are downy silver and have a drooping appearance. It is a difficult plant to handle as the leaves

and stem are delicate, and overwatering will cause the buds and leaves to drop. It is one of the quickest climbers and in one season will cover a six-foot screen. It has strong wiry tendrils and should be supported by a trellis.

☀ Requires a cool temperature, and is not seriously affected by changes in temperature. In summer it will do well out of doors in a sheltered position, but it does not like hot sunlight through glass.

☂ Very little watering is required except on very hot summer days. The cause of bud and leaf dropping is definitely due to overwatering.

🪴 Equal parts John Innes Compost No. 2, peat, beech mould and sand.

♂ Very difficult to propagate owing to its dislike of moisture. Cuttings can be attempted.

Veronica

SCROPHULARIACEÆ

Veronicas, or speedwells, are a genus of about 250 species of small trees, shrubs and perennials. They have a wide distribution and many of them originate from New Zealand. These species are known in New Zealand and in the United States under the generic name of *Hebe*. The *Hebe* varieties are mostly evergreen shrubs and are useful as window-box plants and pot plants for the house. The most popular of these varieties is *V. Andersonii*, which is a hybrid of *V. speciosa* and *V. salicifolia*. It is an evergreen shrub with small narrow oval succulent leaves and violet blue flowers in spikes 3/5 inches long from July to September. Other good hybrids are *V. 'Autumn Glory'* with deep violet flowers from September to October and *V. Hulkeana* with lavender flowers between May and June.

☀ Stand in full sun and prune severely in March.

☂ Water freely during summer and keep roots moist in winter.

🪴 Pot into two parts loam and one part leaf-mould.

Vitis

VITACEÆ

This genera included, not so long ago, climbers which are now separated by botanists into six families—*Ampelopsis*, *Cissus*, *Columella*, *Parthenocissus*, *Tetrastigma* and *Vitis*. Two of the above species are now included in the genus *Parthenocissus* and will be described as such. The genus *Vitis* now includes between 60 and 70 species of deciduous and evergreen climbing shrubs. Most of them are hardy and since many of them can be grown in pots they can be used admirably as house plants. Being hardy they do not require high winter temperatures. They are notable for their beauty of leaf and their brilliant autumn colouring. The following is a personal selection of favourites. *Parthenocissus Henryana* (*V. Henryana*) was first introduced into this country about 1900 from China. It is a vigorous deciduous climber, self-clinging, with a leaf like a Virginia Creeper but a dark velvet green strongly marked with silver veining and with a dark purple underside. Place in a north facing window for best effect. *V. Thunbergii* is an introduction from Japan. It is

deciduous and has large 6-inch wide leaves, toothed and three lobed. They are dark green in colour with a rusty brown underside. Place in south or west facing window. *Parthenocissus trifoliata* (*V. inconstans*) is better known to gardeners as *Ampelopsis Veitchii* or, to some, as Virginia Creeper, though *V. quinquefolia* also shares that name. It is admired for its brilliant autumn colouring. It is self-clinging. North aspect. *V. vionieriana* has thick stemmed oblong leaves 5 inches wide. They are a glossy green with prominent veining and a hairy underside. It is the only greenhouse vine in this selection and is evergreen. Aspect west. *V. vinifera purpurea* is a hardy fruiting deciduous vine with claret coloured leaves 3/6 inches wide. The colour of its leaves makes it a specimen worth cultivating though it needs care in its treatment. It requires full sun. All these climbers need a position in the house where they can be allowed to climb freely. Except for the last species they are also hardy enough to be used for display purposes in exhibitions providing they are sprayed frequently. *Parthenocissus Henryana* can be particularly recommended for this purpose.

- ☀ Water frequently in summer and sufficiently in winter to prevent the drying out of the roots.
- 🪴 Pot into rich loam and well-decayed manure.

Zebrina

COMMELINACEÆ

Most of the plants referred to as *Tradescantia* by nurserymen are really *Zebrina* and are treated here as such. There are at least a hundred varieties, but the four given here are most popular in this country

as house plants. They are grown as creepers and trailers and are extremely pretty in hanging baskets or window boxes. *Z. pendula* has decorative oval leaves with a metallic sheen. They are striped with green and silver grey, narrowly edged with mauve. The undersides of the leaves have a downy appearance and are mauve. *Z. purpusii* has very rich dark brown purplish leaves, a branching habit and rather untidy appearance. *Z. latifolia* has a very thick hairy stem with large green leaves alternately placed, the undersides being deep purple with silver hairs. It has rather a stiff appearance. The stalk will grow to about 6/9 inches and it produces pretty orchid-like flowers. *Z. fluminensis* is a charming variety with a transparent look and small oval green and white leaves. It sometimes develops a pink tinge at the base of the leaves if kept in a sunny position.

- ☀ Needs a good strong light, avoiding direct sunshine. The light brings out the transparent quality of the leaves, deepening the colour. Medium temperature. If kept cool in winter the plant will rest for a few months. If a plant shows a tendency to lose its colour, keep in a stronger light, and pinch off any shoots that revert to plain green.

☀ It requires copious watering in the summer and should be totally immersed in the sink once every ten days and left to drain out of draughts. The plant grows enormously in spring and summer.

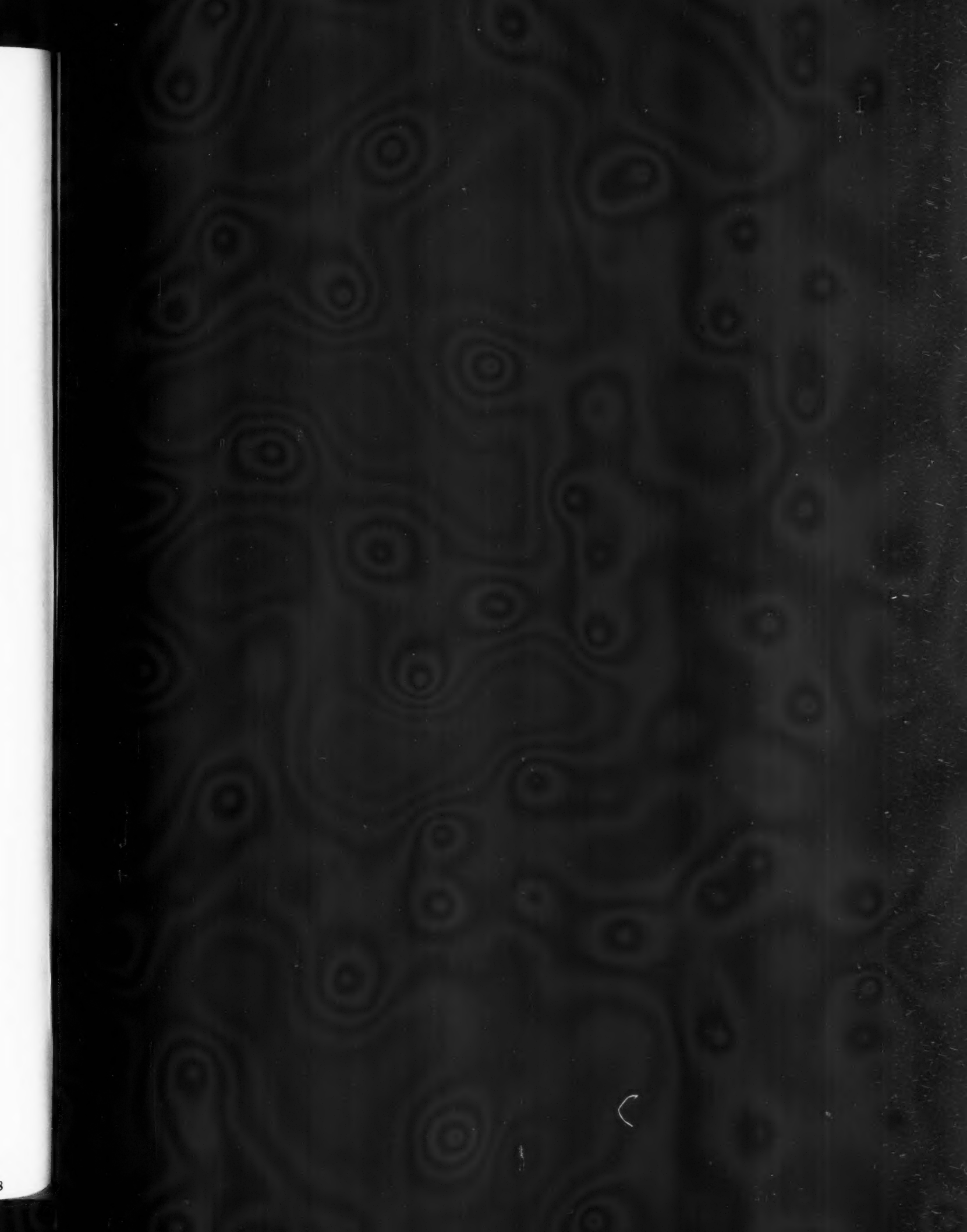
🪴 John Innes Compost No. 2 added to equal parts peat.

♂ Very easy to propagate by cuttings in summer, the tips of the shoots may be cut off in summer and dug in to root.*

* Suppliers of indoor plants are listed on page 349.



Zebrina fluminensis



USE

These pages are addressed principally to designers and architects who are now increasingly inclined to use indoor plants for displays and for interiors.

There are no rules for the placing and arrangement of plants that are not derived from both the needs of the plants themselves and from the basic laws of composition which concern, after all, all design from that of posters to easel paintings and the design of light fittings to the design of cathedrals. As regards the first there is need for the reminder that a plant is a living organism and not a cold material to be used where most effective, but is something which being alive must be given every chance to sustain life. As a living organism it is decorative; dead it is, as a rule, so much rubbish.

In separate sections of this issue the plants are illustrated, their requirements and their soil given and if these are considered then half the problem has been solved. There is also a section on plant furniture, showing suggested designs for plant tables, boxes, plant holders and so on. The grouping of plants, their choice and arrangement, is entirely a personal thing and one about which it would be unwise to be didactic.

Any green living plant is pleasant to look at. Climbers such as Ives, Cissus, Hoya, and the Philodendrons seem to appear at their best in relation to contemporary furnishings; but whether the room in which the plants are growing has been designed by a contemporary architect or not is irrelevant to the plants, though not, of course, to the room. After all *Ficus elastica* was as much of an adornment in the days of Mr. Hibberd as it is in the days of Mr. Gibberd, though the interiors of the rooms they commend is vastly different.

Skill in arranging plants is not a matter of rules but of feelings. These feelings are concerned partly with a respect for plants as a material, and partly with the emotions aroused by a recognition of their visual qualities, their formal structure. It is the business of the designer so to display or arrange his material that these visual qualities have the greatest impact. That plants have structural qualities—qualities nearly as impelling as anything devised by a sculptor or a painter—is every now and again rediscovered. One of those periods occurred in the 'thirties when the Cactus family became fashionable. Some of the work in 1936 by Henry Moore in African wonderstone and by Barbara Hepworth was very derivative, in the best sense, of the shapes assumed by *Lithops karasmontana*, the stone

and pebble plants of the African Karoo. The rubber plant has about it a geometrical precision, a lack of frills, that endeared it to architects of the Bauhaus period. In the 'fifties it is thought by some to be a little too slick and *Ficus lyrata* is preferred for the textural qualities of its huge leaf. The publication some years ago of *Kunstformen in der Natur* was probably the origin of the most recent discovery of sculptural qualities in plants. In this volume the micro-camera eye selected and dramatized the structural beauty of stems, leaf-buds, axils and seeds. But before this some of the nineteenth century botanical draughtsmen had done much the same and the art and poetry which can be found in Thornton's *The Temple of Flora* is a joy which no designer, who wishes to use plants, can afford to miss.

If to the eye that has discovered the formal qualities of plants is added the felt knowledge that they are alive and in movement then much has been learned. For it is for their living qualities that many plants have really their greatest value.

There are, of course, other motives than the æsthetic for using plants in rooms and planting indoor plant boxes. Those of botanists or horticulturists are perhaps more vocational and of collectors more acquisitive. And even the æsthetic is a motive which has many sources. Those who only value a plant because of its flower, and they are in the majority, obtain no pleasure from form or foliage alone. To flower enthusiasts most of the plants listed in this number are of little value, as their flowers are either infrequent or almost indistinguishable. But for those who like colour there should be compensations in the fact that many indoor plants have colourful foliage, glaucous blues, a vast range of green, silver and gold variegations and some, like the *Nidulariums*, brilliantly coloured bracts.

So the successful use of plants indoors and in display depends not so much on rules but on an attitude of mind. No handbook can teach the insensitive to use his material sensitively. The range of plants given in these pages is a personal choice and can be taken only as a guide or an introduction for those who may acquire an interest in their possibilities. Finally, there should be a reminder that æsthetic skill in these matters should be anchored to utility and the practical. In any display a high maintenance cost for plants is, in many instances, a sign of failure to choose those which will survive any given set of conditions.

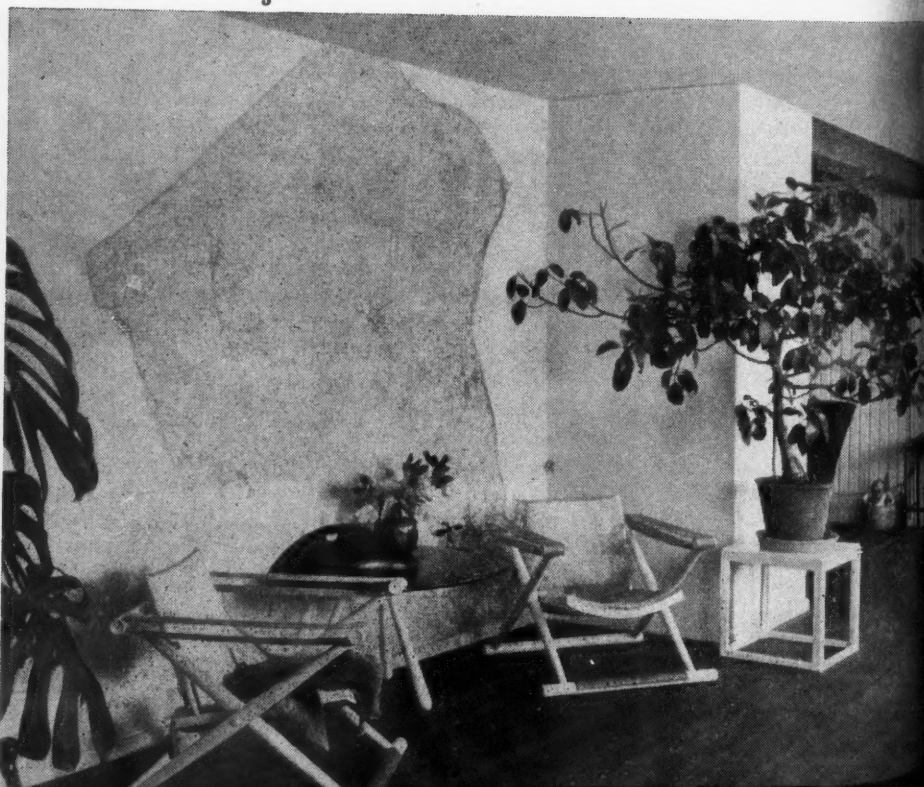


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IN HOUSES

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Though aware of the decorative possibilities of using plants indoors, few architects have actually brought the tropical hothouse into the living-room. In 1) and 4) Backström and Reinius brilliantly combine hothouse conditions with ordinary living requirements in their Winter House at Västberga, Sweden — 2) a house in Denmark, and 7) house at Berkeley, California, by Dinwiddie and Hill; both show the structural use of metal and bamboo trellises as plant support. The remaining illustrations show plants chosen and placed for their independent decorative effect — 3) living-room designed by Hans Wilhardt for landscape architect Troels Erstad at Gentofte, Copenhagen — 5) Flat in Kensington by Tayler and Green with Zimmerlinde, Ivy and Zebrina — 6) Cacti of the mammillaria or pin-cushion variety in Arne Jacobsen's own house at Klampenborg, Denmark — 8) living-room of the house at Berkeley with *Monstera deliciosa*.



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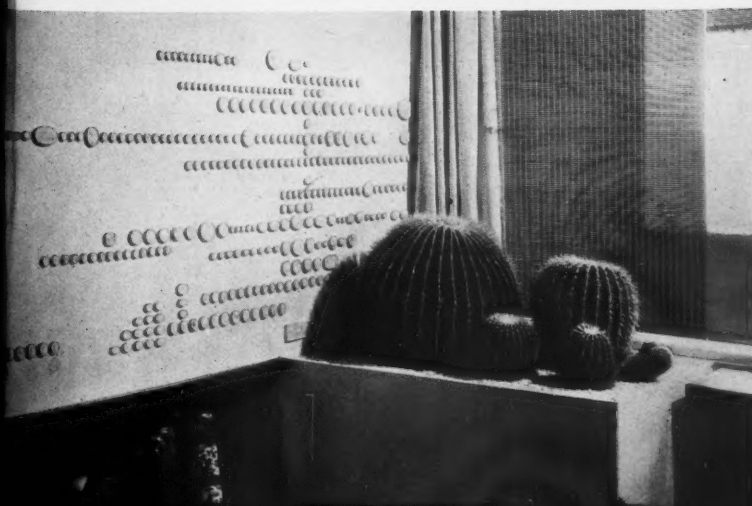
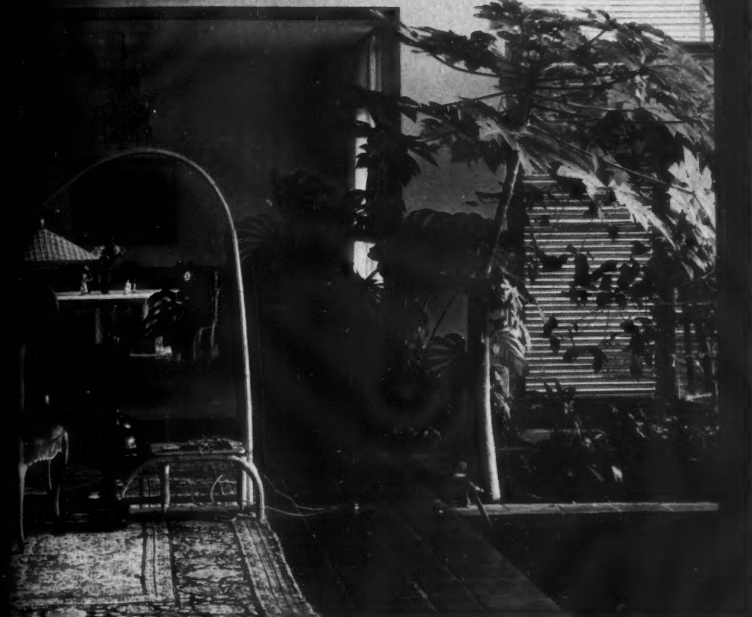
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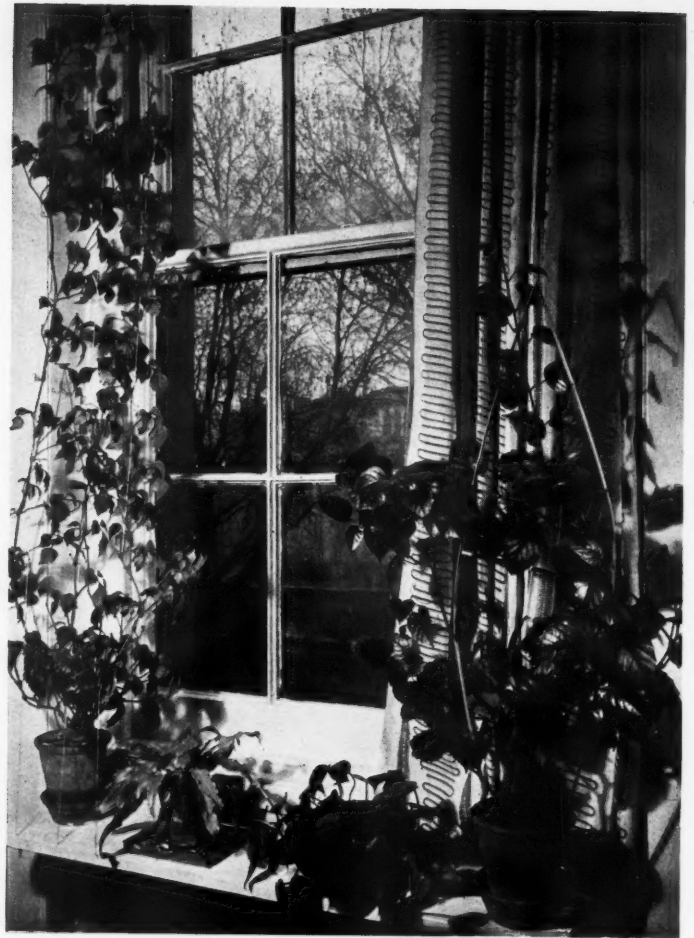
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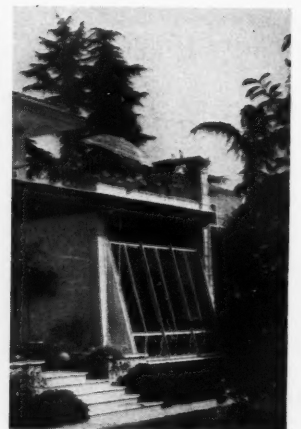
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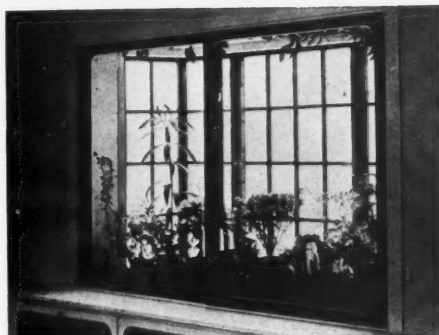
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15

THE WINDOW FRAMED — 9) Nino Zoncado's own house in Milan; light planting, Chlorophytum and Ivy — 10) Peter Shephard's house on the Paddington Canal; Rhoicissus, Cissus antarctica, Fern and Philodendron — 14) Danish attic window; Cactus and Scented-leaved geranium — 16) Viennese apartment designed by Jacques Groag — 17) A Danish window with rather too much foliage in it — 18) a window laced with Ivy in Sven Markelius' house near Stockholm. Windows by the Danish architects Jean Fehmerling (19) and K. M. and M. Black-Petersen (21). *THE DOMESTIC GLASSHOUSE* — 11) Enclosed glasshouse with access from living-room by K. M. and M. Black-Petersen — 12), 13) Casa Olmo, Milan; Italian version of the inclined window designed by Franco Buzzi, with planting by Pietro Porcinai of Florence. Top panes open for ventilation and showers of rain — 15) Double window in a house at Gentofte, Denmark, designed by Arne Jacobsen — 20) Entrance hall to a Swiss publishing office, Basel, by B. L. Dürig; trellised plant box over radiators with dead tree support.

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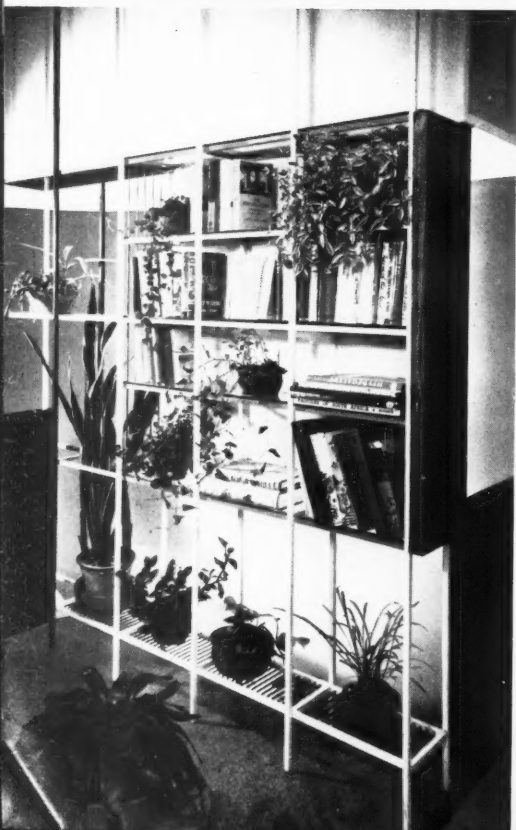
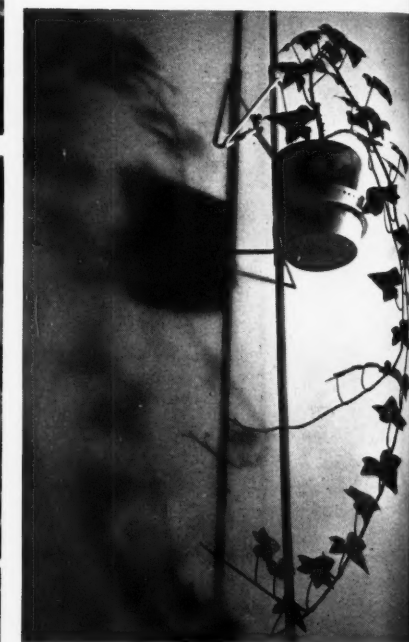
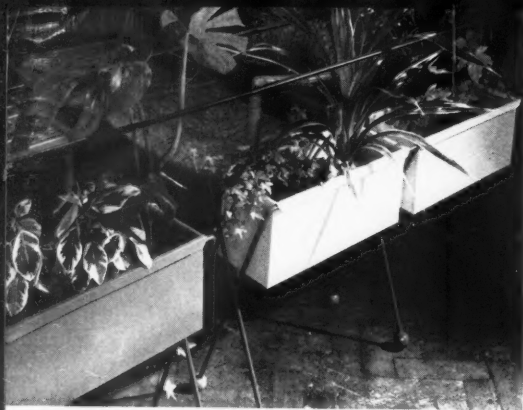


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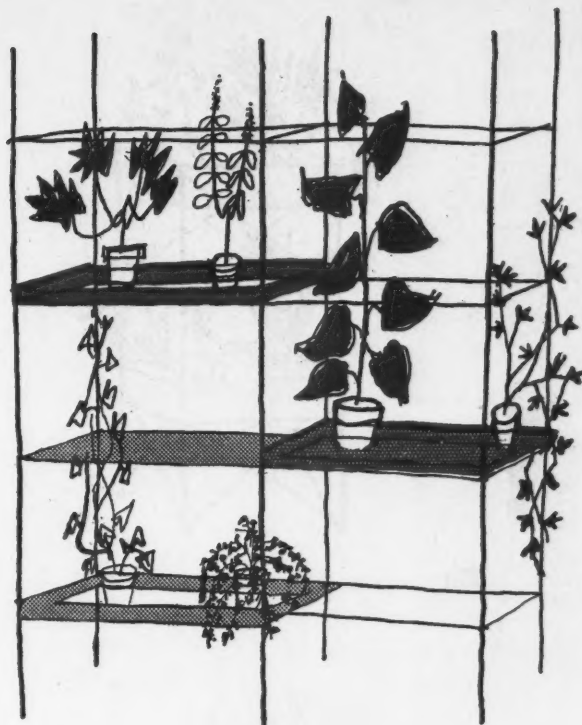
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On these four pages some examples of existing plant furniture are shown, together with designs and prototypes by Terence Conran and others devised specially for this issue by students at the Royal College of Art [their names are given in square brackets] — 22) plant stands designed for the Ridgeway Hotel at Lusaka, Northern Rhodesia, by Dennis Lennon — 23) three-pot stand by Terence Conran for the Architectural Press — 24) expanded metal wall-fitting with movable shelves and drip-saucers, manufactured by S. Wolff.

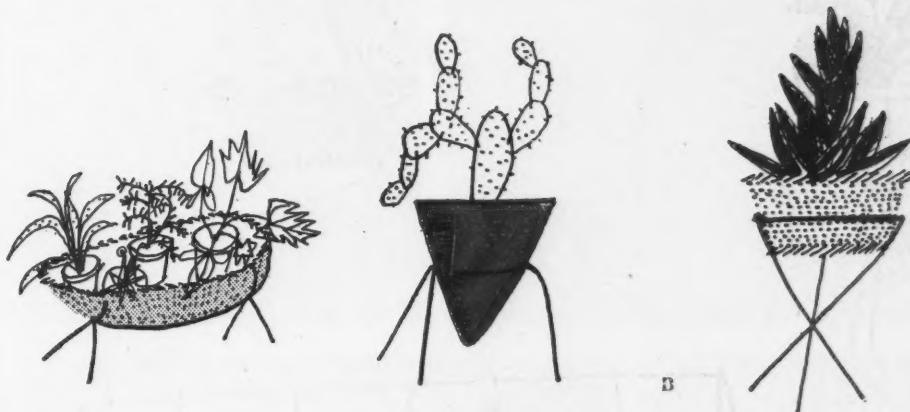
A) A plant unit standing out beside the window so that plants get maximum light.



A

— 25) zinc-lined wicker basket on metal support by Terence Conran — 26) plant table with trough holding four pots — 27) prototype of metal wall-fitting holding all sizes of pot up to 5 inches diameter. Reversible dowel supports climbing or trailing plants and can be removed for flowers. Manufactured by Metalform [Philip Guilment].

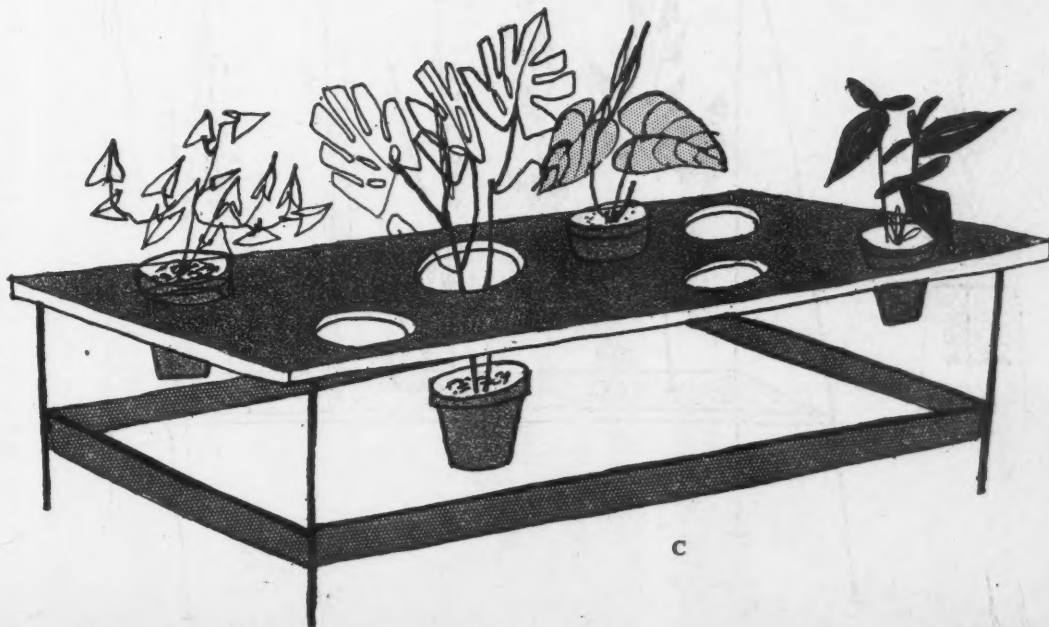
B) Plant receptacles for larger plants for halls, porches or patios.



B

— 28) an elegant plant stand and bookcase in the Travel Centre, Piccadilly, by James Cubitt and Partners — 29) fibrous plaster bowls by Terence Conran for the display of gourds, fruit, etc. — 30) prototype of a basket table lamp with plant container. Shade can be removed and basket holding pots can be lifted over the lamp for easy watering or spraying; 2 feet high [B. A. Adcock].

C) Slate-topped table with various sized holes and metal drip tray beneath on which plants can also stand.



C

Facing this page are prototypes of plant furniture designed by Royal College of Art students, under the direction of Professor R. D. Russell and Sir Hugh Casson, in the Departments of Wood, Metals and Plastics, and Interior Design, and executed (with the exception of the canework*) in the College workshops† — 31) 2-foot diameter ceiling light fitting, with detachable spun aluminium plant tray suspended below [Alan Irvine] — 32) split cane and bamboo pot-holders in two sizes. They can be obtained at Primavera, Knightsbridge [Charles Gage] — 33) model of cane floorstand (height 4 feet 6 inches) with light above, for large plants, and cane lobster pot [P. Bambury].

* Canework by J. Collins and Son, 65 Kingsland Road, London, E.2.

† Any manufacturer wishing to take up the designs should address enquiries to the Bursar, Royal College of Art, South Kensington, S.W.7.

D) Jardinière with trays glazed at the bottom to allow candle-lights in shades clamped to framework to shine through: for dark corners.

34 35 36

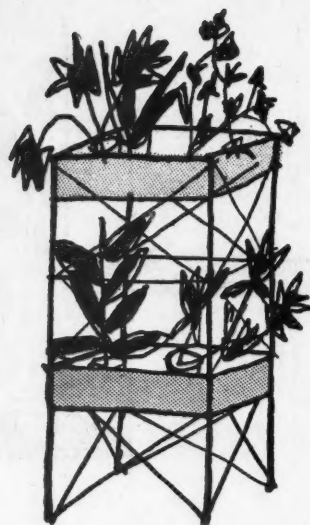
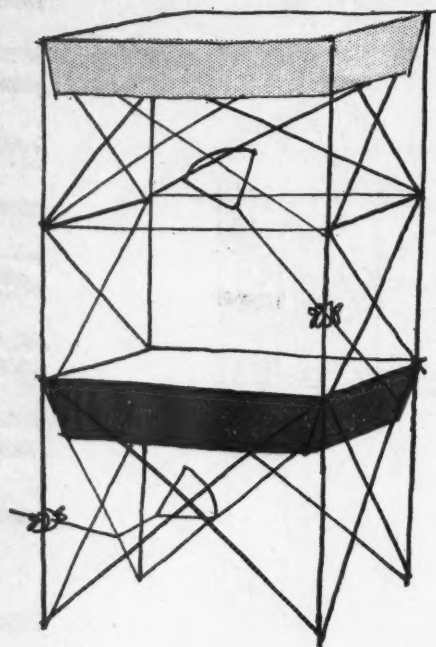
34) 37) leaning unit plant stand in beech with zinc tray for sand, peat or soil. Units may be placed together (37) to form a free-standing unit: 3 feet long, 1 foot 3 inches wide, 3 feet high [Brian Dunne] — 35) canework table stand with light above and ceramic tray for pots [Margaret Harvey] — 36) free-standing window box made of steel sheet, mounted on tubular legs: 3 feet 6 inches long, 1 foot 9 inches wide, 2 feet 6 inches high [J. Green].

E) Cane baskets with metal containers slung in metal tripods.

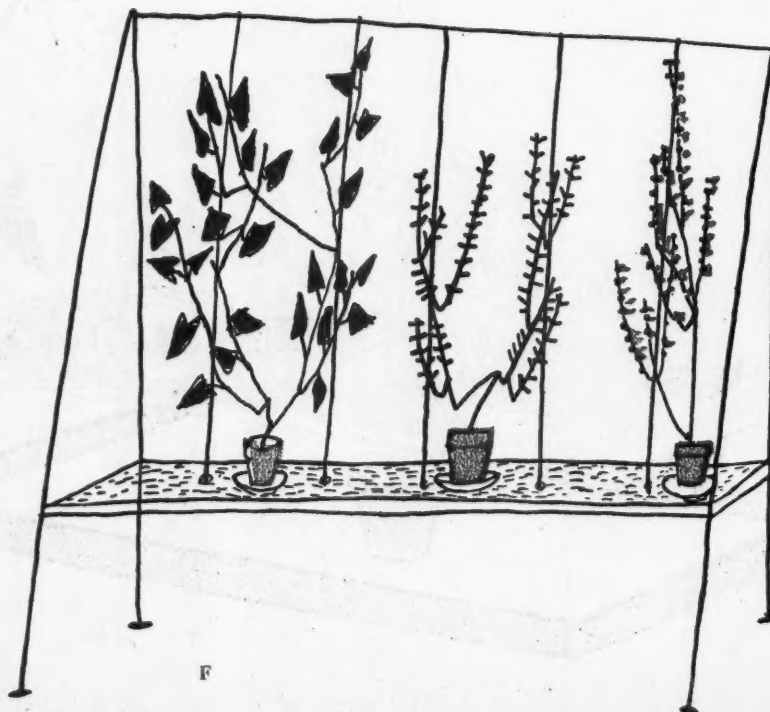
37 39 40
38 41

38) oak-framed plant table with removable zinc tray detachable from tubular steel underframe and perforated aluminium lighting shade above plants [M. L. C. Goulding] — 39) beech plant table on wheels, with zinc tray. Pots are held in gravel: 3 feet 6 inches long, 1 foot 6 inches high, 1 foot 8 inches wide, capacity 12 pots [Mrs. D. M. Bambury] — 40) a unit plant stand consisting of wooden frame on which is placed a bent ply form containing circular and rectangular zinc trays for plant pots. Dimensions are 1 foot 6 inches by 10 inches, and this stand can be 1 foot 7 inches and 2 feet 2 inches in height [J. Simpson] — 41) a slatted wooden plant table by Dennis Lennon, manufactured by Mining Chemical Products.

F) A light movable screen for climbing plants with wire strung from top bar.



E



F

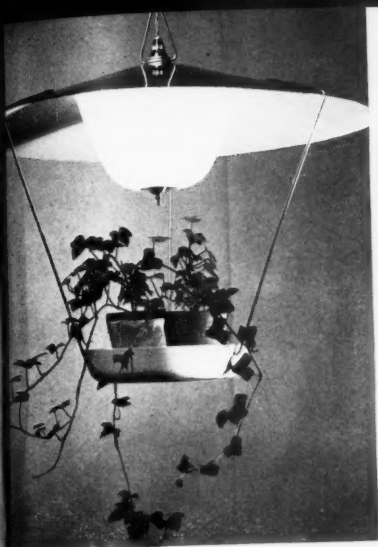
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SPECIAL FURNITURE



42) unglazed abstract form with Ferns and dwarf succulents



43) birds with Ferns, Chlorophytum and Zebrina



44) fox-head with dwarf succulents and Philodendron scandens

The Flower Pot Transformed
Pottery by Stephen Sykes
 who is at present holding an exhibition of his work at the
 Apollinaire Gallery, London, ending on the 17th May.



45) abstract bird form with Ivy, Cocos and Zebrina



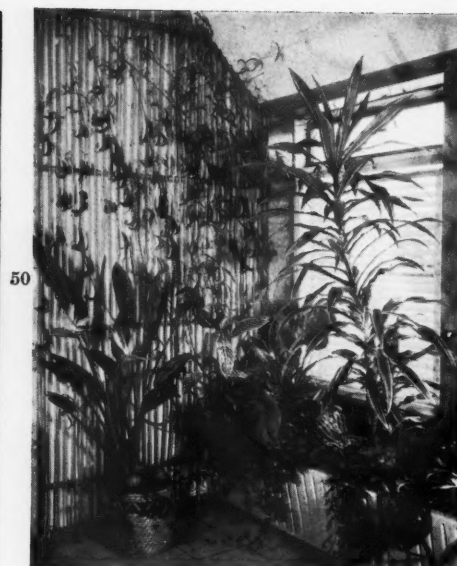
46) unglazed owl and purple-black glazed jar with ferns



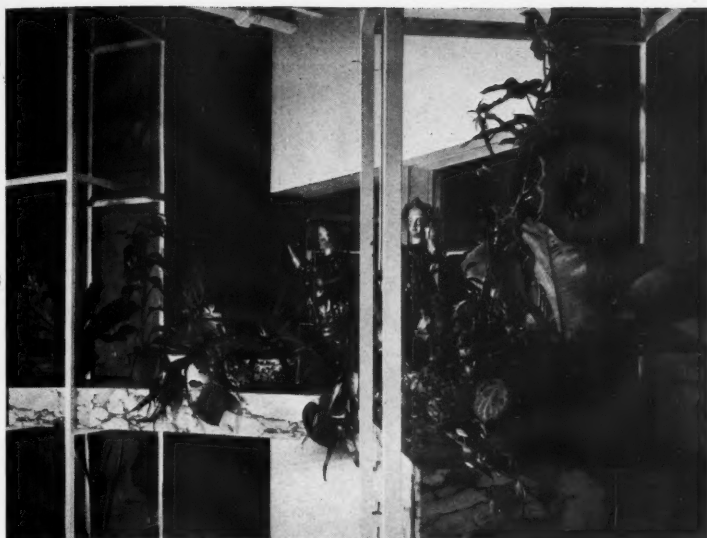
47) Edwardian figure with Zebrina



48) pigeon jars with Cocos and Rhoicissus



58



59

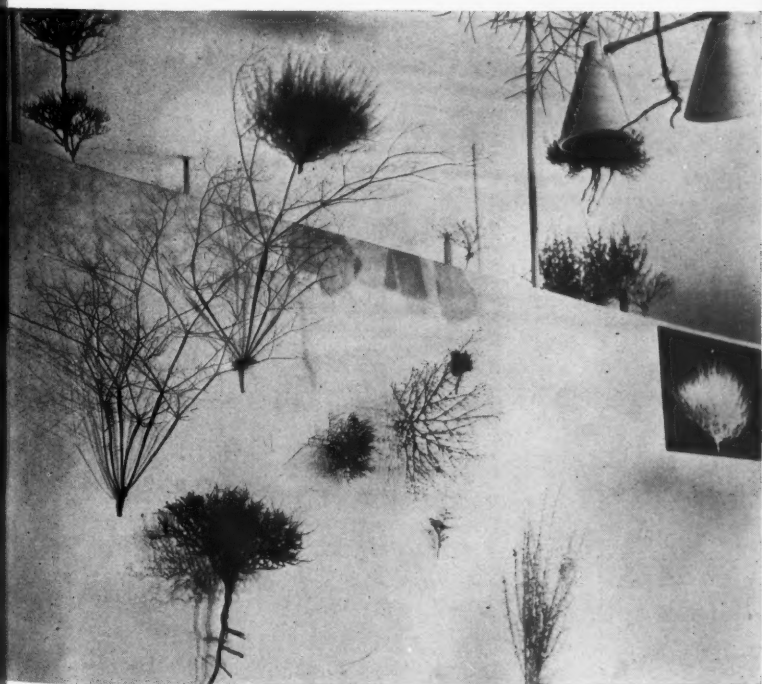


Plant arrangements are a matter of individual taste. Effects can be obtained by a sensitive selection of those plants which grow well together, by the suitable choice of containers and surrounding objects, and by using different wall treatments, against which the plants are set — 49) *Cissus* and *Anthurium* grouped against a canework screen — 50) *Strelitzia*, *Dracæna* and *Allemanda* with a bamboo trellis — 51) *Monstera*, *Ficus lyrata* and *Dracæna* with a background of channelled cement — 52) *Raffia* containers for small pots and 53) expanded metal ones by S. Wolff — 54) Ivy confined under a Victorian bell — 55) Iron hoops in a brick wall. These are more suitable for outdoors, as they provide no means of supporting a drip saucer — 56) A small strawberry jar used for succulents — 57) Ali Baba jar used in the South Bank Exhibition planted with ferns and *Zebrina*. Designed by Marie Shephard, manufactured by Doulton's — 58), 59), 62) show special plant arrangements by F. Funke. He combines *Sansevieria*, *Crassula* and *Nidularium*, and *Fatsia*, *Fern* and *Zebrina* — 61) dried desert plant on a show-room wall, and 62) the juxtaposition of enormous perforated *Philodendron* leaves with Mexican pots and pebbles; both arrangements by Charles Eames.

60

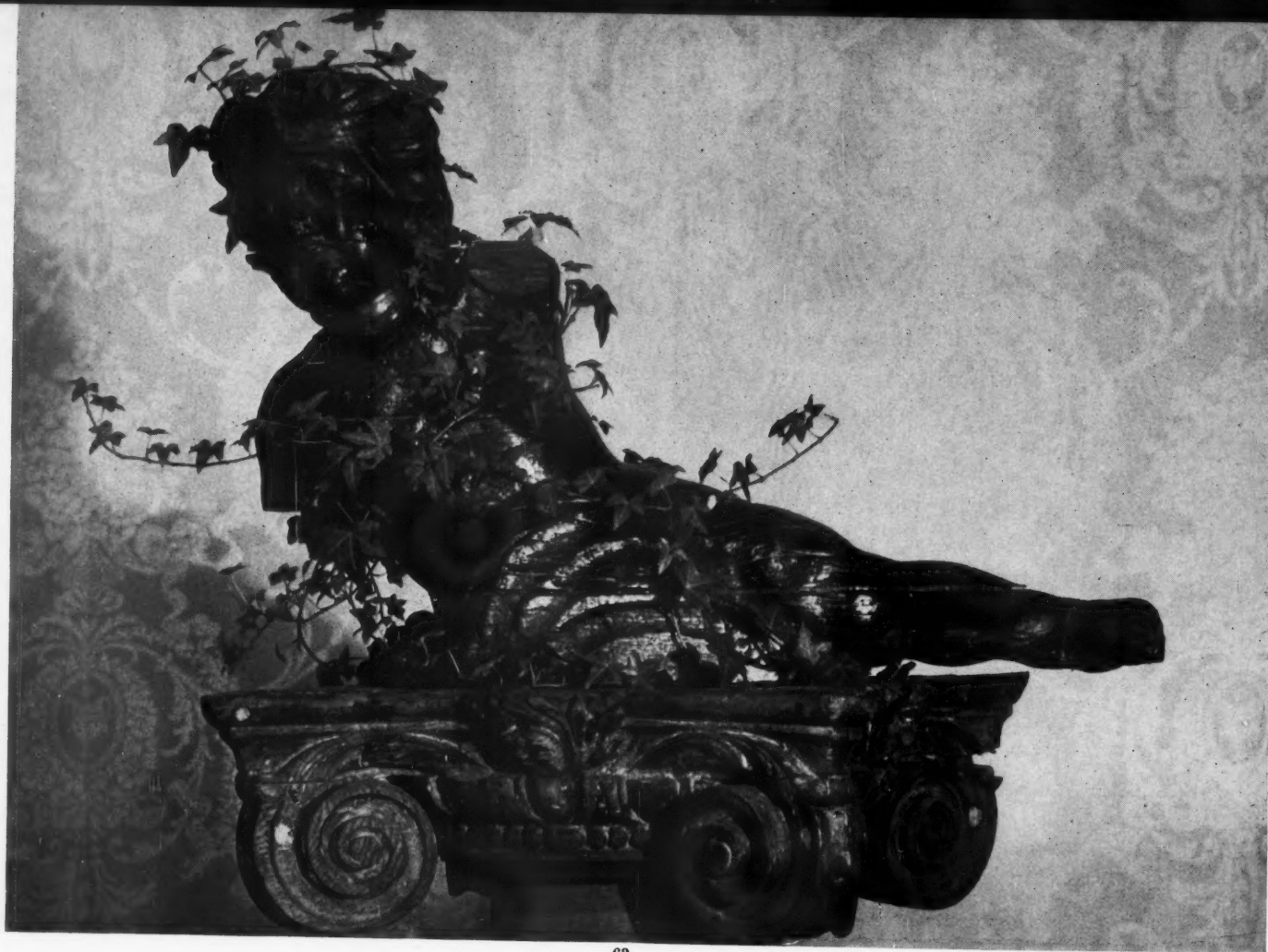


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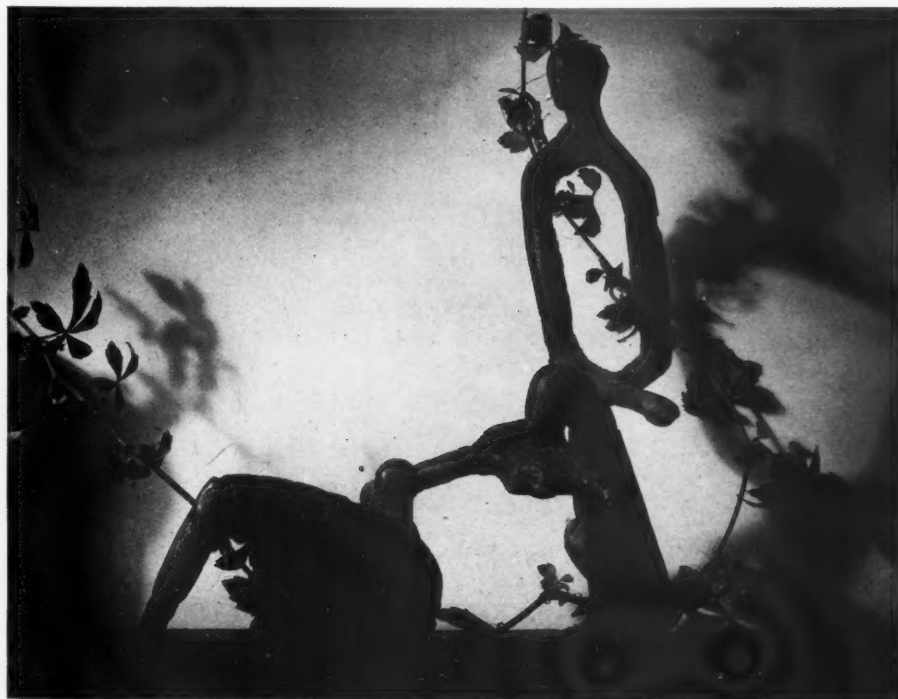


68

WITH SCULPTURE

The association of plants with sculpture is a dangerous undertaking as sculpture is usually a unity in itself. For this reason no rules have been laid down. Possibly these two pages may provoke some. Plants can reflect the qualities of line, form or texture in a piece of sculpture, or can be used to contrast with them, as in 67) where Daphne Hardy's emaciated human forms stride dramatically above a mass of foliage — 68) the strange effect of the classical bust placed above a small bowl of Philodendron, staghorn fern and Nidularium — 69) McWilliam's hollow figures intertwined with Cissus — 70) Ursula Warre's cane figure with Ivy.

69



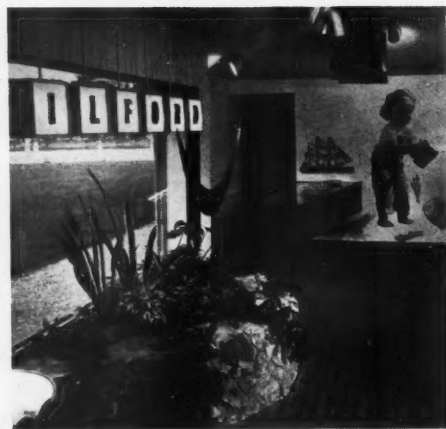
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70



71



72



73



74

Exhibition Designers can afford to disregard maintenance and replacement problems for short-term displays. In spite of this, they seldom use plants architecturally with the conviction shown in this exit corridor trellised with vines and wistaria (76) at the Enterprise Scotland exhibition, 1948, by James Gardner. Plants are used a great deal on small exhibition stands but not often as a structural part of the design. The Farmers Weekly stand (71) by Alexander Gibson at Olympia, 1948, is a rare exception — 72 is a shop at Battersea Pleasure Gardens by Gordon Andrews, Design Research Unit, which was intended to last some months where well-known die-hards with a reasonable chance of survival such as Sansevieria, Ivy, Rhoicissus and Zebrina were planted. But for 73) a stand at Olympia, 1951, by Robert Gutman, DRU, a short-lived but elegant planting of Dracænas, with Ferns, Fatshedera and Cissus could be afforded (Plant Consultant: F. Funke). Shop Displays often take their cue from Exhibitions, and here the importance of maintenance cannot be overstressed. The new Dolcis Shop in Bond Street by E. Somake (74 and 77) has a ceiling trellis and plant box both in a poor light. The Cacti and Succulents in the window of the Travel Office in Piccadilly by James Cubitt and Partners (75) are better situated.



75

NOT ITTIBIT IN EXHIBITION



76



77



Plants in public buildings in this country were used effectively for the first time on the South Bank. In Scandinavia they have been a feature in schools, concert halls and restaurants for years, and maintenance is regularly carried out under contract by plant specialists. Here the fashion for plants is often taken up without providing for skilled maintenance and it is high time that architects interested themselves in the continuance of their indoor planting schemes. The hanging gardens with internal lights, 78, 79, were designed by Alexander Gibson and Misha Black for their Regatta Restaurant, South Bank. The containers are made in copper, and the fitting can be lowered for watering and replacement — 80) the hall of the Marielyst School, Gladsaxe Hall, Denmark, by Vilhelm Lauritzen. The huge plants and their containers of varying shape and size allow for effective grouping. (Containers in the Royal Festival Hall are all the same size and shape.) — 81) the glass screen dividing the staircase from the restaurant in the Royal Festival Hall traced with the foliage of the quick-growing *Cobaea scandens* — 82) the corner of the Festival Hall foyer. Embedded rocks provide frame and slope for indoor sub-tropical planting including Tree fern, Banana, *Dracenas* and *Cordylines* — 83) windows in the Handelsbanken, Copenhagen, by K. and M. Black-Petersen. They are more elaborately planted than any in this country, each window showing a different treatment. The taste and imagination shown in the use of plants on these two pages are lacking in 84, Bromma High School, Stockholm, by Paul Hedquist, where they appear to have been used as a stop-gap.



IN PUBLIC BUILDINGS



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84) Chapel at Abo, Finland, by Erik Bryggman

In view of the permanent interest in the uses and management of indoor plants
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by the ARCHITECTURAL PRESS in book form later in the year



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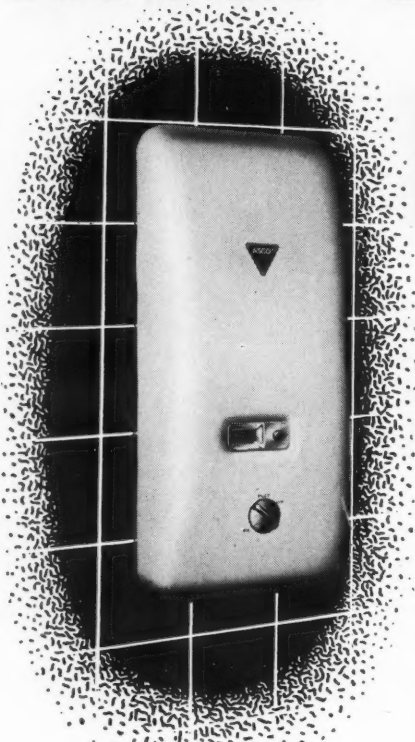
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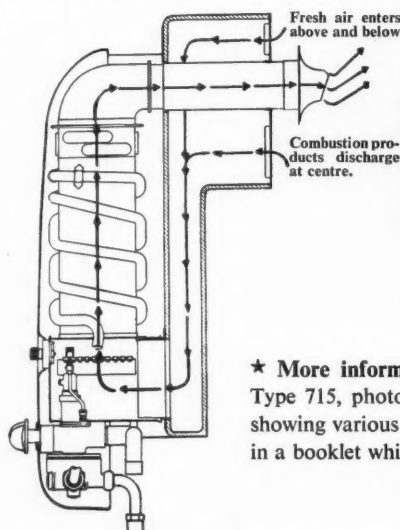


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bibliography Sir Hugh Platt *THE GARDEN OF EDEN 1653 and reprint 1675*; Robert Furber *A SHORT INTRODUCTION TO GARDENING OR A GUIDE TO GENTLEMEN AND LADIES IN FURNISHING THEIR GARDENS 1733*; John Abercrombie *COMPLETE FORCING GARDENER 1781*; John Abercrombie *GARDENER'S POCKET DICTIONARY 1786*; George Tod *GREENHOUSE, HOTHOUSE AND STOVE 1807*; Henrietta Maria Moriarty *FIFTY PLATES OF GREENHOUSE PLANTS 1807*; J. C. Loudon *ENCYCLOPÆDIA OF GARDENING First published 1819 and reprinted many times till 1860*; Charles McIntosh *GREENHOUSE, HOTHOUSE AND STOVE 1824*; J. C. Loudon *THE GREENHOUSE COMPANION AND PROPER TREATMENT OF FLOWERS IN ROOMS 1824*; J. C. Loudon *ENCYCLOPÆDIA OF PLANTS 1827 and many reprints*; Robert Sweet *GERANIACEÆ In 5 vols. with 500 Plates 1820-30*; James Mangles *THE FLORAL CALENDAR 1839*; Sir Joseph Paxton and John Lindley *POCKET BOTANICAL DICTIONARY 1840*; Richard Bainbridge *GUIDE TO THE CONSERVATORY 1842*; Mrs. Loudon *THE FLOWER GARDEN 1842*; Nathaniel Ward *PLANTS IN CLOSELY GLAZED CASES 1842*; Shirley Hibberd *RUSTIC ADORNMENTS FOR HOMES OF TASTE 1856*; E. J. Lowe *BEAUTIFUL LEAVED PLANTS 1861*; B. J. Williams *STOVE AND GREENHOUSE ORNAMENTAL LEAVED PLANTS 1869*; Shirley Hibberd *NEW AND RARE BEAUTIFUL LEAVED PLANTS 1870*; Ernst Haeckel *KUNSTFORMEN DER NATUR 1899*; L. H. Bailey *STANDARD CICLOPEDIA OF HORTICULTURE 1914-17 (subsequent reprints)*; L. H. Bailey *HORTUS New York (Macmillan) 1930*; N. L. Britton *THE CACTUS BOOK New York (Macmillan) 1931*; Jason Hill *THE CURIOUS GARDENER Illustrated John Nash (Faber & Faber) 1932*; W. P. Wright *AN ENCYCLOPÆDIA OF GARDENING (Everyman) 1932*; H. Jacobsen *SUCCULENT PLANTS Trans. by Vera Higgins, London (Williams and Norgate) 1935*; A. M. Danvig *DEN STORE STUEPLANTEBOG Copenhagen (Clausens Forlag) 1947*; Paludan and Bacher *BLOMSTERDYRKNING UNDER GLAS Copenhagen (Emil Wienes Forlag) 1950*; Montague Free *ALL ABOUT HOUSE PLANTS The World's Work (Windmill Press) 1950*; F. G. Preston *THE GREENHOUSE (Ward Lock) 1951*; Bitten Jordan *GRONNE GLAEDER Copenhagen (Emil Wienes Forlag) 1951*; Royal Horticultural Society *DICTIONARY OF GARDENING Oxford (Clarendon Press) 1951*.

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ANTHOLOGY

INDOOR GARDENING: 1675

I hold it for a most delicate and pleasing thing to have a fair Gallery, great Chamber or other lodging, that openeth fully upon the East or West Sun, to be inwardly garnished with sweet Hearbs and Flowers, yea and Fruit if it were possible. For the performance whereof, I have thought of these courses following. First, you may have fair sweet Marjerom, Basil, Carnation, or Rosemary-pots, etc. To stand loosely upon fair shelves, which pots you may let down at your pleasure in apt frames with a pulley from your Chamber window into your Garden, or you may place them upon shelves made without the Room, there to receive the warm Sun, or temperate Rain at your pleasure, now and then when you see cause. In every window you may make square frames either of Lead or of Boards, well pitched within: fill them with some rich earth, and plant such Flowers or Hearbs therein as you like best; if Hearbs, you may keep them in the shape of green borders, or other form. And if you plant them with Rosemary, you may maintain the same running up the Transumes and movels of your windows. And in the shady places of the Room, you may prove if such plants as do grow abroad out of the Sun, will not also grow there: as sweet Bryars, Bays, Germander, etc. But you must often set open your Casements, especially in the day time, which would be also many in number; because Flowers delight and prosper best in the open Air. You may also hang in the Roof, and about the sides of this Room, small Pompions or Cowcubmers, pricked full of Barley (*quare* what other seeds or flowers will grow in them) and these will be overgrown with green spires, so as the Pompion or Cowcumber will not appear. And these are *Italian* fancies hung up in their Rooms to keep the Flies from their Pictures: in Summer time your Chimney may be trimmed with a fine bank of Moss, which may be wrought in works being placed in earth, or with Orpin, or the white Flower called *Everlasting*. And at either end, and in the midst place one of your Flower or Rosemary pots, which you may once a week, or once every fortnight, expose now and then to the Sun and Rain, if they will not grow by watering them with Rain-water; or else, from plat-forms of Lead over your windows, Rain may descend by small Pipes, and so be conveyed to the roots of your Hearbs or Flowers that grow in your windows. These Pipes would have holes in the sides, for so much of them as is within the earth, and also holes in the bottom, to let out the water when you please in great showers. And if you back the borders growing in your windows with loose frames to take off and on, within the inside of your windows, the Sun will reflect very strongly from them upon your Flowers and Hearbs. You may also plant Vines without the walls which being let in at some quarrels, may run about the sides of your windows, and all over the sealing of your Rooms. So may you do with Apricot Trees, or other Plum Trees, spreading them against the sides of your windows. I would have all the pots wherein any Hearbs or Flowers are planted, to have large loose squares in the sides; and the bottoms so made, as they might be taken out at ones pleasure, and fastened by little holes with wiers into their pots, thereby to give fresh earth when need is to the roots, and to remove the old and spent earth.

SIR HUGH PLATT (*The Garden of Eden*) Edition of 1675.

MARGINALIA

In Anthology

Sir Hugh Platt (1552-1611?), third son of a wealthy London brewer, was educated as a Pensioner of St. John's College, Cambridge, where he graduated in 1571, afterwards becoming

a member of Lincoln's Inn. He was an experimenter and inventor of mechanical devices, and according to Charles Bellingham, who later republished some of his work 'A great searcher after all sorts of Knowledge and as great a lover of it in all others.' He carried out experiments at his gardens in Bethnal Green in viniculture and pomology, in the use of manures, in distilling, grafting, etc. His first published work was called 'The Jewell House of

Art and Nature,' and contained the results of his experiments in husbandry together with observations on the moulding and casting of metals. In 1602 he published a small still-room book called 'Delightes for Ladies to adorne their Persons, Tables, Closets and Distillatories, with Beauties, Banquets, Perfumes and Waters. Reade, practise, and censure.' *Floraes Paradise* (called *The Garden of Eden* in editions 1653 and 1675), an extract from which appears on page 349, was first published in 1608, and contained all kinds of proposals for horticultural improvements, and information from the many gardeners with whom he corresponded. In this he anticipates, among other things, the greenhouse, by suggesting the use of workshop furnace heat conducted through pipes to warm a room set aside for plants in winter. A brief account of his life will be found in *Portraits of English Authors on Gardening* by S. Felton, 2nd edition, 1830.

In this Issue



Patience GRAY, works at the Royal College of Art, has recently formed a research team (willing to tackle anything). Born 1917 in Sussex. Studied history of art at Bonn and sociology at London School of Economics. Has travelled Europe, speaks German, French, Italian. During the war worked for the ill-fated Art and Entertainment Council (CEMA was based on it) and Hurlingham Home Guard School. Afterwards made a living buying and selling antiques (kept the nice pieces); decorating and furnishing homes and guiding foreigners round 'unknown' London for the British Council. Biggest recent job, researching for the SB Country Pavilion. Lives in a converted billiard room of a Victorian mansion on Hampstead Heath (spiritual home is the Sorrentine Peninsula, south of Naples). Has two children, Nicholas, 11 (wants to be a lion tamer), Miranda, 9 (writes and illustrates books). Likes Mozart, garlic.



Margaret Elizabeth JONES, runs a nursery garden in Surrey. Bought a 12-acre plot of land in 1944 and apart from outdoor crops grows many indoor plants mainly for retail trade. Got know-how and stock when visiting Denmark in 1946 and 1947 and had Danish nurserymen visit her for expert advice. Husband and eldest son Jeremy (21) in paper trade, son Timothy (19) is going into horticulture, sons Michael (17) and Benjamin (15) at Westminster. Interests include embroidery and social work. Until recently was chairman of nursery school at a settlement in Camberwell run by Union of Girls' Schools. Ambition is to see everyone with an indoor plant.



Herbert Francis CLARK, landscape architect, lectures at Reading and Liverpool Universities; also consultant in private practice (to Stevenage since 1948). Born 1902 in Manila (Philippines). Went to Marlborough and Cambridge. Spent next ten years working his way round the world, including Far East, California, N. Alaskan salmon rivers. In private practice until, in Civil Defence during the war, and with the LCC Parks Department for two years after. Lives in Hampstead, married to children's book illustrator Marjorie Coleman, two children

Chloë and Jessica. Enthusiasm for history of eighteenth and nineteenth century garden taste, theorizing on future of English landscape, drawing trees and plants, collecting objets trouvés and looking at buildings.

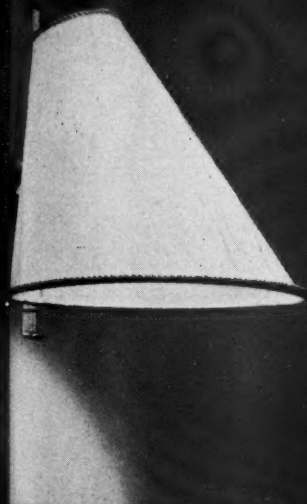


Thomas Gordon CULLEN is house artist for the Architectural Press and an assistant editor of THE ARCHITECTURAL REVIEW. Born at Calverly, near Bradford, 1914, son of the Manse. Scholarship education at Otley Grammar School in the West Riding. Did the three-year architectural course at the Regent Street Poly. under year master Thornton White. Worked for Raymond McGrath, 1934-36 (Fischer's Restaurant), Samuel and Harding, Tecton (Finsbury Health Centre, Dudley Zoo). Illustrator 1937-39 (work for Misha Black, Heal's, Times Furnishing). Until 1944 planned factories for ICI. Then spent two years in Barbados, designing prototype housing and schools in the Town Planning and Housing Department (under Robert Gardner-Medwin) of Colonial Development and Welfare. Did his first drawing for the AP in 1936; joined the staff in 1946. Bachelor. Lives in Pimlico. Plays darts, likes Jimmy Durante, runs a sky-blue 1934 open Austin. Would like to make a steamer tour of American ports, New Orleans, Rio, etc.



F. H. K. HENRION. Born 1914. Trained in Paris with Paul Colin (poster and textile design and theatrical decor). Until 1939 had studios in Paris and London. During the war worked for Exhibitions Division of MOI, was consulting designer to the US Office of War Information

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FV.118/R PENDANT. Eight-light ring with large metal reflectors. Finishes: reflectors and supports, off-white; remainder, satin brass. Flexible cords, white. Lamps: up to 8 x 100 watts.



FV.51/R BRACKET. Adjustable metal reflector. Finish: all off-white. Lamp: up to 150 watts.



Art and Nature,' and contained the results of his experiments in husbandry together with observations on the moulding and casting of metals. In 1602 he published a small still-room book called 'Delights for Ladies to adorn their Persons, Tables, Closets and Distillatories, with Beauties, Banquets, Perfumes and Waters. Reade, practise, and censure.' *Floraes Paradise* (called *The Garden of Eden* in editions 1653 and 1675), an extract from which appears on page 340, was first published in 1608, and contained all kinds of proposals for horticultural improvements, and information from the many gardeners with whom he corresponded. In this he anticipates, among other things, the greenhouse, by suggesting the use of workshop furnace heat conducted through pipes to warm a room set aside for plants in winter. A brief account of his life will be found in *Portraits of English Authors on Gardening* by S. Felton, 2nd edition, 1830.

In this Issue



Patience GRAY, works at the Royal College of Art, has recently formed a research team (willing to tackle anything). Born 1917 in Sussex. Studied history of art at Bonn and sociology at London School of Economics. Has travelled Europe, speaks German, French, Italian. During the war worked for the ill-fated Art and Entertainment Council (CEMA was based on it) and Hurlingham Home Guard School. Afterwards made a living buying and selling antiques (kept the nice pieces); decorating and furnishing homes and guiding foreigners round 'unknown' London for the British Council. Biggest recent job, researching for the SB Country Pavilion. Lives in a converted billiard room of a Victorian mansion on Hampstead Heath (spiritual home is the Sorrentine Peninsula, south of Naples). Has two children, Nicholas, 11 (wants to be a lion tamer), Miranda, 9 (writes and illustrates books). Likes Mozart, garlic.



Margaret Elizabeth JONES, runs a nursery garden in Surrey. Bought a 12-acre plot of land in 1944 and apart from outdoor crops grows many indoor plants mainly for retail trade. Got know-how and stock when visiting Denmark in 1946 and 1947 and had Danish nurserymen visit her for expert advice. Husband and eldest son Jeremy (21) in paper trade, son Timothy (19) is going into horticulture, sons Michael (17) and Benjamin (15) at Westminster. Interests include embroidery and social work. Until recently was chairman of nursery school at a settlement in Camberwell run by Union of Girls' Schools. Ambition is to see everyone with an indoor plant.



Herbert Francis CLARK, landscape architect, lectures at Reading and Liverpool Universities; also consultant in private practice (to Stevenage since 1948). Born 1902 in Manila (Philippines). Went to Marlborough and Cambridge. Spent next ten years working his way round the world, including Far East, California, N. Alaskan salmon rivers. In private practice until, in Civil Defence during the war, and with the LCC Parks Department for two years after. Lives in Hampstead, married to children's book illustrator Marjorie Coleman, two children

Chloë and Jessica. Enthusiasm for history of eighteenth and nineteenth century garden taste, theorizing on future of English landscape, drawing trees and plants, collecting objets trouvés and looking at buildings.

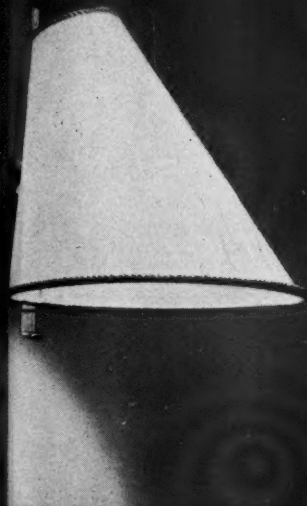


Thomas Gordon CULLEN is house artist for the Architectural Press and an assistant editor of THE ARCHITECTURAL REVIEW. Born at Calverly, near Bradford, 1914, son of the Manse. Scholarship education at Otley Grammar School in the West Riding. Did the three-year architectural course at the Regent Street Poly. under year master Thornton White. Worked for Raymond McGrath, 1934-36 (Fischer's Restaurant), Samuel and Harding, Tecton (Finsbury Health Centre, Dudley Zoo). Illustrator 1937-39 (work for Misha Black, Heal's, Times Furnishing). Until 1944 planned factories for ICI. Then spent two years in Barbados, designing prototype housing and schools in the Town Planning and Housing Department (under Robert Gardner-Medwin) of Colonial Development and Welfare. Did his first drawing for the AP in 1936; joined the staff in 1946. Bachelor. Lives in Pimlico. Plays darts, likes Jimmy Durante, runs a sky-blue 1934 open Austin. Would like to make a steamer tour of American ports, New Orleans, Rio, etc.



F. H. K. HENRION. Born 1914. Trained in Paris with Paul Colin (poster and textile design and theatrical decor). Until 1939 had studios in Paris and London. During the war worked for Exhibitions Division of MOI, was consulting designer to the US Office of War Information

ANY
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FV.3/S BRACKET. Fixed. Shade with turning arm. Finishes: all satin brass or satin chromium. Shade: ivory or peach plastic. Lamp: up to 75 watts.



FV.116/R PENDANT. Six-light ring with large metal reflectors. Finishes: reflectors and supports, off-white; remainder, satin brass; flexible cords, white. Lamps: up to 6 x 100 watts.



FV.3/R BRACKET. Fixed. Small metal reflector. Finishes: reflector, off-white; backplate, satin brass or satin chromium. Lamp: up to 60 watts.

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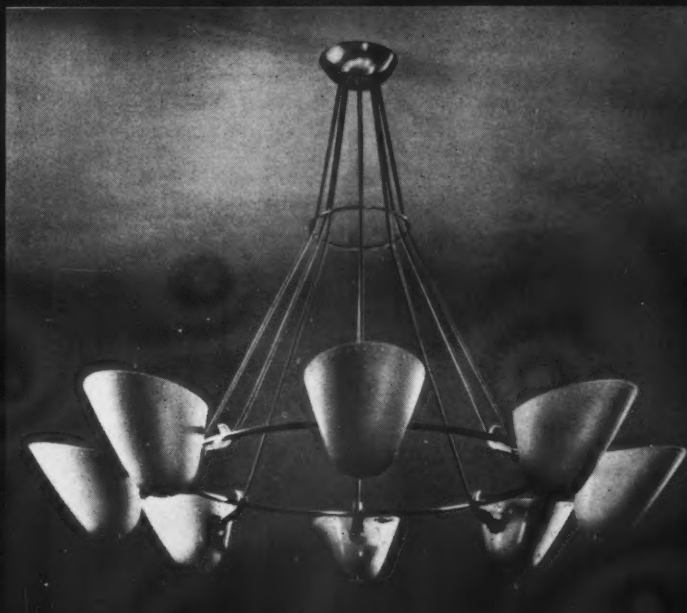
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FV.118/R PENDANT. Eight-light ring with large metal reflectors. Finishes: reflectors and supports, off-white; remainder, satin brass. Flexible cords, white. Lamps: up to 8 x 100 watts.



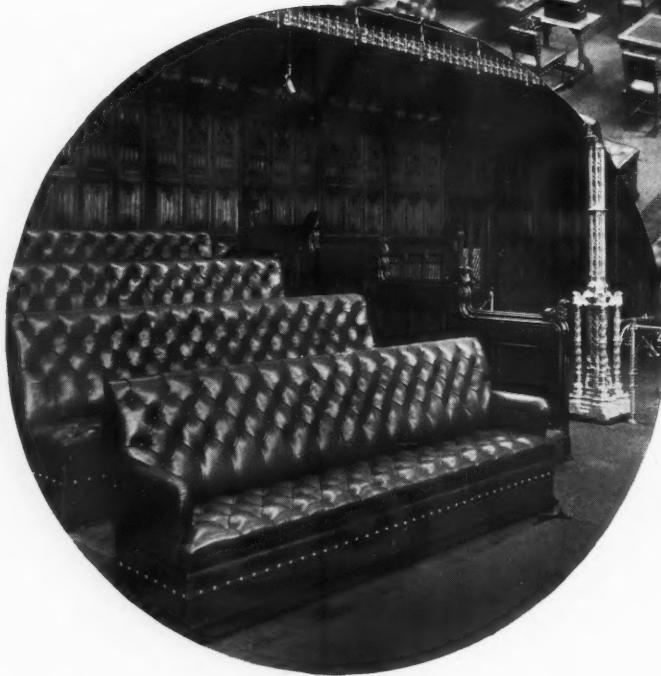
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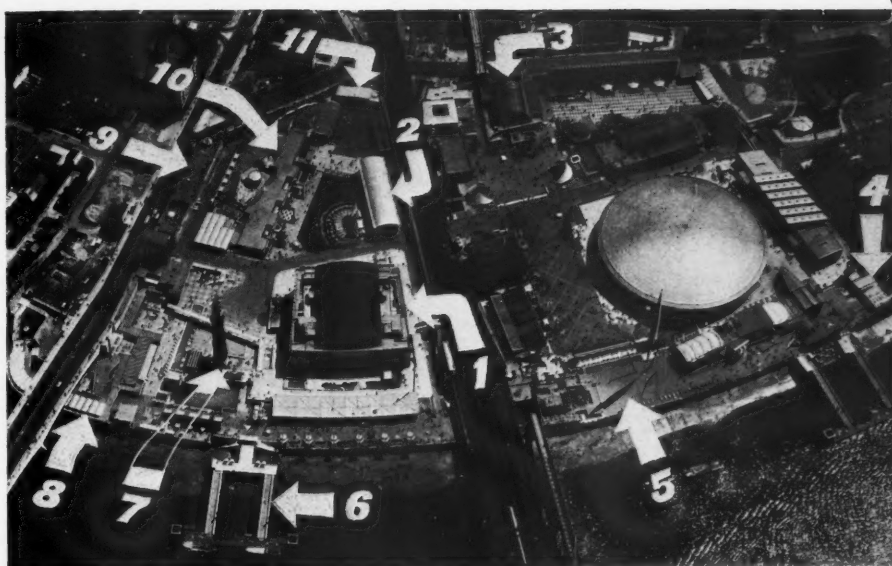
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Aerial view of the South Bank Exhibition site. The numbers show the buildings and features affected by the recent decisions of the London County Council described in the note below.

(Psychological Warfare Department). Since then chief industrial designer to Sir William Crawford and Partners; art editor of *Contact Publications*, and *Future*; consulting designer to BOAC and BSAA. Designed interior of Natural Scene and Country Pavilion, South Bank Exhibition. Likes all designing and work includes design of portable aluminium sewing machine, posters for *Punch*, book jackets, press advertisements, packaging, furniture, mobiles, exhibitions. Ambition is to run design school on 'all-round' principles. Married sculptress Daphne Hardy and has two sons. Lives in Hampstead.

Palladio

There are hardly any periodicals in existence dealing exclusively with the history of architecture. It is most encouraging therefore to find that *Palladio*, the Italian journal,* has resumed publication. It is to come out four times a year. The editorial board has been widened considerably and now includes Pierre Lavedan from Paris, Axel Boethius from Sweden, R. Krautheimer from America, D. Frey from Vienna and R. Wittkower and N. Pevsner from England. The first issue contains papers on Roman buildings at Verona identified from the Palladio drawings at the RIBA, and on the sources of the Hohenstaufen castles in the south of Italy. The standard of scholarship seems remarkably high.

* Libreria dello Stato, Rome.

The South Bank's Immediate Future

The immediate future of the South Bank site was recently settled when the London County Council adopted their general purposes committee's report on the subject. The aerial photograph on this page serves as a reminder of the general layout of the exhibition and has been inscribed with numbers referring to some of the

main buildings and features whose fate is now decided. 1, the Royal Festival Hall, is the only building which forms part of the long-term project for making the site a cultural centre. 2, the Lion and Unicorn pavilion, is to be demolished, as are also 4, the '51 Bar, 10, the Homes and Gardens pavilion, and the Dome of Discovery. 7, the Shot Tower with the adjoining 1851 centenary pavilion, 8, the Thames-side Restaurant, and 11, the Telekinema, are to remain for the present, together with 3, the Waterloo Station Gate, which is to be leased to the Ministry of Works. The futures of 6, the Rodney Pier, and of 9, the Administration building, are still uncertain. The Riverside Walk, running from the Thames-side Restaurant to the '51 Bar, is to be retained, and has already been opened to the public in an unfinished state to join up with the walk outside County Hall; it will later be laid out as memorial gardens. The upstream section of the walk, 5, will be screened from the rest of the upstream area by a wall which forms part of the Sea and Ships pavilion (most of which is to be demolished). Richard Huw's water mobile in this section will be retained, as will the look-out platforms in front of the concert hall in the downstream section. The sports arena between the Shot Tower and the river will become a children's playground and the pool nearby will continue to be used, although the bridge which crosses it from Waterloo Bridge to the concert hall will be removed. The Regatta Restaurant will go.

Success for an English Printed Fabric

Lucienne Day's printed curtain fabric design, 'Calyx,' which was illustrated in the *March REVIEW* (page 194, figure 12), has been judged by the American Institute of Decorators to be the best of the year on the American market; Mrs. Day received her citation of merit in New York at the end of March.

This is the first time that this much sought after award has been won by a British designer.

Citations are not awarded unless the jury is satisfied with the standard: two years ago no first award was made in the printed fabrics section. The awards have considerable commercial importance, since the winning designs are sent on a continent-wide tour of America.

EXHIBITIONS

Painting and Sculpture

The exhibition of the month, which will surely be the exhibition of the year as well, is the Leonardo da Vinci quincentenary exhibition in the Diploma Gallery of the Royal Academy. If it contained nothing more than the 183 drawings selected by Sir Kenneth Clark and Mr. A. E. Popham from the unrivalled collection at Windsor it would still be so; but although these provide most of the enormous artistic interest of the exhibition its general interest is materially increased by the scientific section, organized by the Science Museum (from whom the suggestion for the exhibition came in the first place, Sir Gerald Kelly tells us in the catalogue). Wisely, since the great majority of Leonardo's scientific drawings are in notebooks and therefore unexhibitible, considerable use has been made of photographs in this section; there are also a number of specially constructed models of his inventions, including the screw-cutting machine, the N-type girder bridge, mirror-grinding machines, the file-cutting machine, and the helicopter. A final section of the exhibition contains paintings by Ambrogio Preda, Boltraffio, Cesare da Sesto and others, which were based on lost paintings by Leonardo; to see a painting by Leonardo himself in England one must still go to the National Gallery, though now that *The Virgin of the Rocks* has been cleaned and is hung *sans glass* in the new air-conditioned room, with the *Portrait of Ginevra de' Benci* (lent by the Prince of Liechtenstein) next to it, no one need grumble at that.

At the Tate there has been an exhibition of paintings and sculpture from the collections of sixteen members of the committee of the Contemporary Art Society together with three paintings (a Sisley, a Sickert, and a Matthew Smith) lent by the society's patron, H.M. Queen Elizabeth the Queen Mother. The pictures were grouped according to ownership and were indeed hung by their owners, some of whom contributed short forewords to their sections of the catalogue from which the following thoughts seem, for one reason or another, worthy of perpetuation:

'Despite my longing for beautiful nudes and idealised myths, I find myself buying pictures of instruments for frying fish.' (Raymond Mortimer.)

'I never see a fine Sickert or a Gilman without wondering why I haven't collected their works; but I know I wouldn't have hung them.' (Sir Kenneth Clark.)

'By nature somewhat conservative, and with a dislike of parting with old friends, I do, however, think it is a pity in many ways that one cannot make a new collection, say, every ten

years.' (Hugo Pitman.)

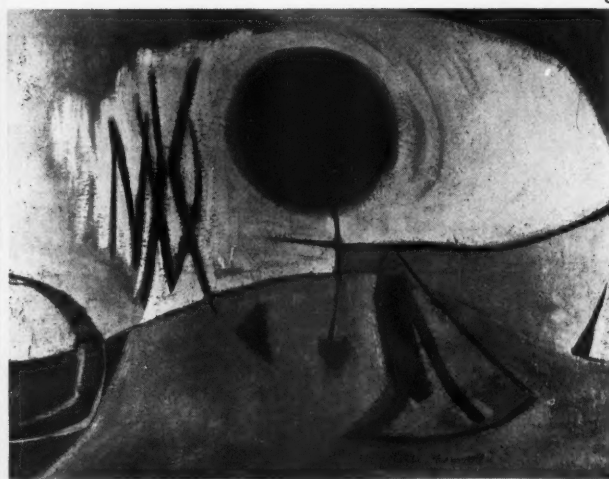
'That three non-representational paintings have been hung a "wrong way round" was done for practical purposes of hanging, and will, I hope, be taken by the artists concerned as a tribute to the aesthetic qualities of their work.' (Howard Bliss.)

'For those of us who have been stock-breeders, the drawings of animals by Mrs. Fisher-Prout require no explanation.' (Lord Methuen).

The layout of the exhibition made it almost inevitable that one should look at it in the first place as an exhibition illustrating contemporary taste, and the results of this approach were interesting enough. It seems that if, like Sir Kenneth Clark, you feel that Sickert is not for you, or at least for your personal surroundings, it is about three to one on your buying a Sutherland or a Matthew Smith instead, and eight to one against your having nothing by Sickert, Sutherland or Smith—that is, if you are a member of the committee of the Contemporary Art Society and possessed of the necessary means. If you collect sculpture as well as paintings, it is absolutely *de rigueur* that you should possess a small piece by Moore; at least, every collector who showed sculpture at all included a Moore. (E. C. Gregory was the only collector to weigh in with post-war, or indeed post-1932, works of sculpture by any other artist who is still alive.) But when all has been said from this point of view, this was after all an exhibition of works of art, many of fine quality and none of them normally accessible, to whose owners one had much reason to be grateful.

Peter Lanyon, who has had an exhibition of recent work at Gimpel Fils, is one of the best of the younger non-representational (rather than strictly abstract) English painters; and those people who like to find national characteristics in the arts may decide that he is 'very English,' too. The same people would have been hard put to it to show that many of the sixty Dutch painters in the recent exhibition of modern Dutch painting at the Redfern Gallery were 'very Dutch,' at any rate without first finding a new set of criteria quite unrelated to those with which the acceptance of seventeenth-century Dutch painting as the norm equips one. There was, it is true, Hendrik Chabot (1894-1949) whose big snow landscape had an affinity of mood with seventeenth-century paintings of similar subjects, and there were the neo-realists like A. C. Willink (born 1900) and Dick Ket (1902-40); perhaps the perfectionism of Mondriaan and Van Doesburg is the perfectionism of Vermeer in modern dress; accept Van Gogh into the Dutch tradition and the circle widens. But the most vital painting in Holland today, to judge from this exhibition, is being done by a group of prominent artists, including Frieda Hunziker, Constant, K. Appel and Corneille, in a near-abstract brand of expressionism whose violence it would be hard to parallel.

Gimpel Fils followed up Peter Lanyon's landscapes with iron sculpture, drawings, aquatints and stained glass by Geoffrey Clarke and paintings by Peter Potworowski. For me, Geoffrey Clarke's iron figures obstinately refuse



7, Scorched Earth by Constant, 8, Composition by Frieda Hunziker (Redfern); 9, Christ Mocked by Edward Burra (Lefevre); 10, Femme Allongée by Giuditta Scalini (Hanover).

to come to life; when he puts together a bundle of rods and calls it a man (or more precisely 'Complexities of man') it remains for me a bundle of rods and quite without any organic quality. Perhaps this is my own fault; at any rate it will be interesting to see what he does with the balcony and staircase in the entrance hall of the new Time and Life building at the corner of Bond Street and Bruton Street, which he has been commissioned both to design and to execute. Peter Potworowski (who at present teaches at the Bath Academy of Art, Corsham) is a painter of exceptional skill and sensibility; his landscapes present themselves to the eye first as compositions in large patches of broken colour; look again, and everything falls into place as part of a scene which is fully realized in spatial terms.

There remain the Hanover and the Lefevre. The former wore the aspect of the shrine of some goddess of femininity, with the ladies of Massimo Campigli going through the rituals of hair-dressing, sewing and eating ice-creams upon the walls and the not dissimilar ladies of Giuditta Scalini (his wife) wrapt in contemplation upon their pedestals. At the Lefevre there were heroic-sized water-colours by Edward

Burra. Whether those which represented New Testament scenes marked a new stage in the *rapprochement* of the arts and Christianity is a question which must be left to Christians, and to greater admirers of Burra's work than the present writer has the good fortune to be, for answering.

Andrew Hammer

Modern Italian Architecture

So far as the selection of work for illustration goes, the exhibition of contemporary Italian architecture held at the RIBA during the latter part of March and throughout April and now to go on tour is everything that it should be and that one expects from its organizers, the Italian section of CIAM. What is surprising, especially in view of the remarkable achievements in the striking presentation of photographic material seen at last year's Milan Triennale, is the tame effect of the exhibition as a whole. The stands bearing the screens, with circular bases of coloured marble and black enamelled metal uprights, are, true enough, both handsome and original. The trouble does

[continued on page 354]

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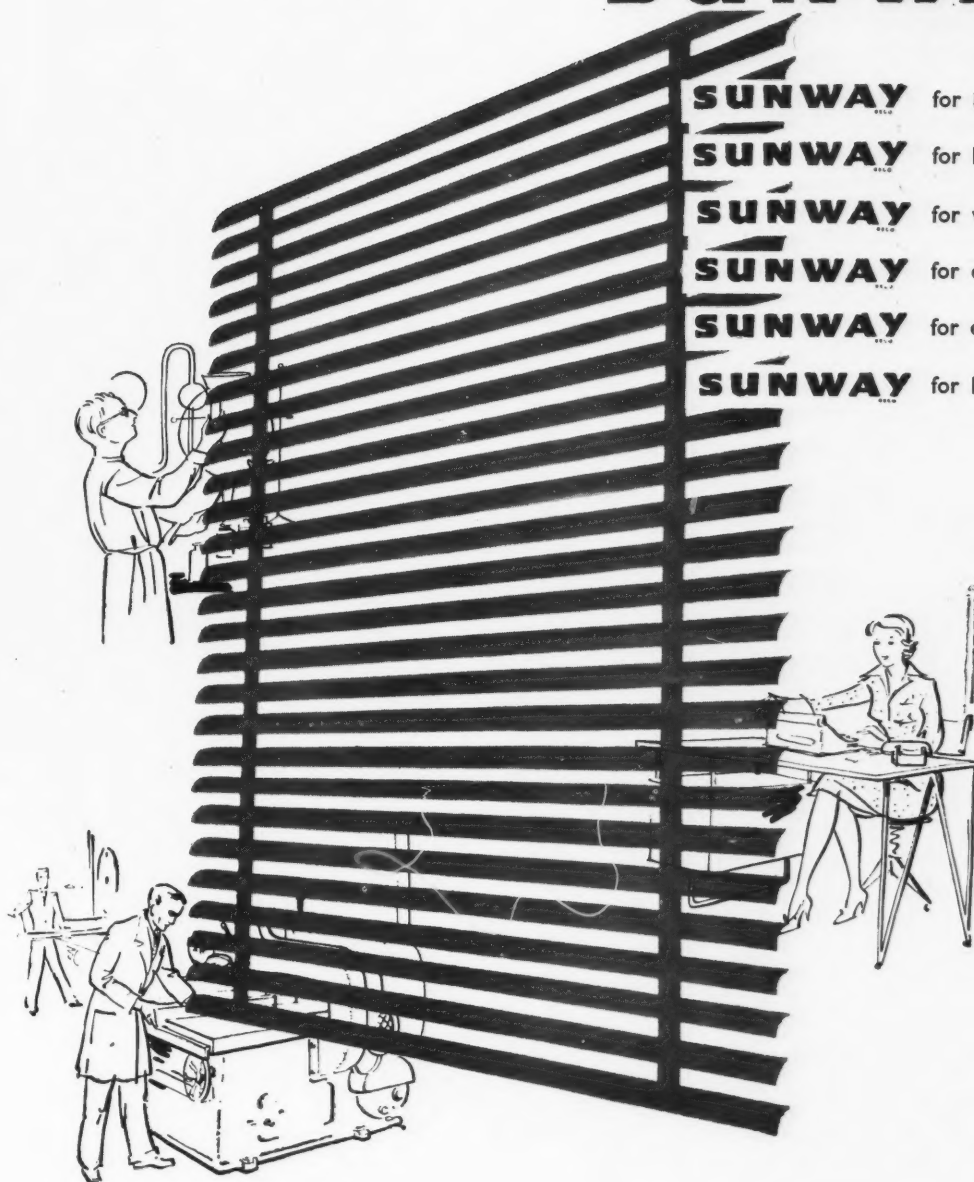
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continued from page 352]

not lie with them, but with the photographs themselves. For one thing, these are all very much the same size, and that size is rather smaller than we have become accustomed to in exhibitions of this kind; this makes for a monotony which is the more regrettable because it could so easily have been avoided by blowing up just a few photographs to eye-catching dimensions. Then there is strangely little sunlight in the great majority of the photographs; subjects apart, they look as if they had been taken in England. Presumably this is the result of the technical method by which the photographs and plans on each screen, instead of being mounted separately, are printed together on a single large sheet of sensitized card; this certainly makes a travelling exhibition easy to set up, and probably has the advantage of cheapness, but it may be questioned whether those merits are not more than counterbalanced by the poor quality of reproduction to which, apparently, the method leads.

It is tempting to regard this inattention to exhibition technique as a compliment; it is rather as if our Italian friends had said to themselves: 'The English are a rational people; if they come to look at these representations of our architecture it will be because they wish to learn what we can show them; not for them the skilful mixture of blows and blandishments by means of which we induce our own countrymen to use their eyes.' As we all know only too well, the premisses on which such reasoning is based

are false. The truth is that we are in great need of new methods of getting modern architecture across to the public, and so must be disappointed that the Italians have not, on this occasion, shown us any. What those new methods may involve is a question that can only be answered in terms of a particular exhibition and with regard to the funds available, but it is hard to believe that a bolder use of colour and a greater readiness to combine photography and draughtsmanship in the production of individual exhibits would not pay dividends.

TRADE & INDUSTRY

Randalrak Office Furniture

Though filing systems may not bother the architect as much as other business and professional men in their daily round, the problem of arranging the impedimenta of filing systems can be an awful headache when he is designing offices, particularly large offices. The normal filing cabinets are nearly two feet deep and the drawers pull out another 18 inches, so considerable room is needed for their accommodation and use. The standard dark green or olive of the metal cabinets and the stained finish of the wooden type are intransigent colours in any scheme.

The Randalrak Company, of 106, Victoria Street, S.W.1 has put some really intelligent thought into the problems that beset not only the architect but also the secretaries and typists who have to store and file documents and subsequently find them

again quickly. Their Referendus range of steel filing furniture has been designed, in the first place, to reduce the depth of a cabinet to 17 inches so that it forms far less of an obstruction than is normal in an office. Secondly, the cabinets are available in two shades of grey, a most welcome innovation. Another sensible feature is that all fixings for the assembly are situated inside, leaving the outer surfaces completely smooth.

Filing drawers accommodate foolscap files across



11, a Randalrak 'Referendus' filing cabinet.

[continued on page 356]



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WEAVERS





12, the new Cannon gas cooker.

continued from page 354]

their width or alternatively quarto files depthwise, an obvious method, but here used for the first time. The drawers are actually no more than metal trays with a frame sitting on top to hold the files. This frame, which incorporates the front, can be lifted

out complete so that anyone with many documents to file or consult can easily remove a complete drawerful. Index card drawers take two widths of the large standard size of card or three of the small type. Thought has also gone into the design of handles, the positioning of the labels on the drawers and into the very simple locking device. In this unit, the top section is used as a book and box-file shelf and the bottom one as a storage space.

Naturally a wide range of choice is possible to suit almost every need from a single composite office unit to a complete installation in a central filing room. Practically every standard size of file too can be accommodated.

A New Cannon Gas Cooker

When the last word in cooker design seems to have been said by one manufacturer, another always appears to cap it. In this case, the new gas cooker, produced by Cannon Iron Foundries and shown for the first time at the Ideal Home Exhibition last March, incorporates almost a revolutionary rearrangement. Apart from being a very slick design externally, though we jib at the 'borax' chromium oven door handle, the new design has some very sound practical advantages. The grill has been moved to the top of the splash back, a very original touch, making it possible to raise the oven, while the oven door opens downwards. Baking, therefore, involves less stooping than normal, while the door makes a very useful shelf. The oven itself is large—18 inches wide by 16 inches deep by 16½ inches high and the racks pull out fully without falling out. Beneath the oven is a plate-warming compartment which can also be used for storage of the grill and other utensils.

Returning to the grill, by placing it where it is, it has been possible to make it larger than usual—14 inches wide by 6 inches deep, it is fully visible, and it folds out of sight in one action when not in use.

Four boiling burners of varying capacity are fitted to the main hotplate and each is equipped with automatic ignition.

Malkin Tiled Fireplaces

The typical inter-war fireplace has been a byword for its hideous design, its pretentiousness and its intractable colour scheme for years past. Its horrors are still with us as recent exhibitions have shown. There are signs, however, that some manufacturers are bringing a more enlightened attitude to bear on this important subject and they deserve every encouragement for their efforts to improve a real black spot in design. Malkin Tiles Burslem, of Burslem, Stoke-on-Trent, have recently designed a completely new range of tiled fireplaces which break new ground in their restrained design and use of soft colours, which aim to make the fireplace harmonize with the rest of the room. It is to be hoped that the public response will show that the customer endorses this progressive policy.

GEC Cookers for the Blind

It is difficult for a person of normal sight to imagine a blind housewife going about her everyday duties of cleaning, washing and cooking but apparently it is by no means an unusual occurrence. In the normal way they may have to cope with equipment and appliances which are not designed to allow for their special requirements.

Recently, due to the initiative of one of their young engineers, GEC have marketed a control device which can be fitted to a standard electric cooker, to enable a blind person to cook successfully.

There are really two units in the device which are complementary to one another. One shows by a series of notches, which engage a stop on the 'Simmer-switch,' the various oven temperatures that can be selected. The other unit is an electrical relay system, in series with the thermostat which, when switched

[continued on page 358]



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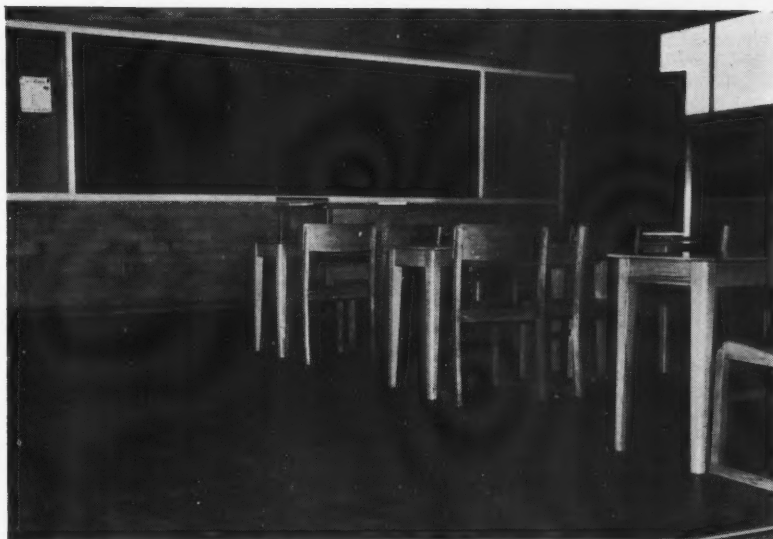
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County Architect beats Shortages



THE HENGIST SCHEME

for providing additional school accommodation in the West Riding has involved a rush building programme; all materials used had to be readily available. Accotile, specified by Mr. Hubert Bennett, F.R.I.B.A., West Riding County Architect, for flooring the sixty buildings in the scheme, was chosen primarily because it was readily available, and because for special reasons (see below) the cost of installation was remarkably low — but it has proved more successful than old-fashioned alternatives. Picture shows the Hengist annex at Mansel Crescent Infants' School, Parson's Cross, Sheffield.

VERSATILE NEW MATERIAL SOLVES FLOORING PROBLEM



One of the most urgent tasks confronting public authorities in the post-war years has been the provision of new school accommodation. In the West Riding of Yorkshire, population rise has so far outstripped the regular building programme that an emergency scheme has been put into operation for enlarging the present schools. Sixty annexes of standard design (see illustration) are being built in the grounds of existing schools, mostly comprising two classrooms, cloakroom and sanitary accommodation, in order to meet the emergency.

Owing to the urgency of the work, only readily available materials could be specified. At the same time, the budget would not permit luxuries.

Choosing a floor

One problem of great importance has been flooring. A floor had to be found that was at once durable, readily available, and not too expensive.

The material chosen by Mr. Hubert Bennett, F.R.I.B.A., the county architect, was "Accotile," the asphalt tile flooring made by the Armstrong Cork Company—firstly, because it is readily obtainable, and secondly, because Accotile, with its damp-resisting qualities, can be laid direct on to screeded concrete without the necessity of a damp-course—hence the installation is much lower in cost than for most floors.

Accotile provides the flooring for the classrooms and vestibules of every building in the Hengist Scheme.

Qualities of Accotile

Accotile is a composition of inert, asbestos fibres and ground rock fillers, fadeless mineral pigment and asphalt or resin-binders. It pro-

vides an extremely durable floor (floors laid in this country in 1938 and 1939 are still giving excellent service) that has a strong resistance to alkaline moisture. Accotile remains non-slip under all conditions, which makes it particularly suitable for schools and institutions.

There are almost unlimited possibilities of design for Accotile, and it can be laid to harmonize with existing decorations. Inconvenience is cut down to a minimum, since Accotile can be used as soon as it is laid.

Standard Accotile is cleaned by washing with

water, and can be polished when desired. It is resistant to stains and dilute acids. Where conditions make it advisable, a special Grease Resisting Accotile is recommended.

Accotile is available in two sizes of tile (12" x 12" and 9" x 9"); in two thicknesses ($\frac{1}{4}$ " x $\frac{1}{2}$ "); and in 19 different colours. In addition, Accotile Coved Skirting, supplied in 36" lengths, obviates the need for timber; and, as there are no corners for dust to collect in, it provides a hygienic, as well as decorative, finish to the room.

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In addition to Armstrong's own service, forty-two approved contractors with branches all over the country handle Accotile.

continued from page 356]

on, pushes out an indicator button through the switch panel on the front of the cooker. At the same time a low-tone bell rings to indicate that the oven is switched on. When the pre-selected temperature is reached, a high pitched bell rings and the button springs back into the cooker. The blind person can then set her braille process timer to the necessary time-setting. GEC will supply this unit without charge with any new cooker supplied to a blind customer.

New Application of Formica

Formica has recently been applied, for the first time on any scale, as a veneer surface bonded to cement-rendered walls. In the new BBC staff canteen at Bush House, panelling in $\frac{1}{8}$ inch Formica veneer has been applied to both flat and curved surfaces without cover fillets, supporting grounds or backing boards. Central supporting columns have been treated in the same way. In this way the extra cost and time required for preforming the plywood backing has been eliminated and the Formica was formed to the necessary curves on the site.

Chance's Vello Tubing Plant

Chance Brothers have recently opened a new factory in Glasgow to make this country self-supporting in the manufacture of glass tubes for fluorescent lamps. Until now, considerable quantities of these tubes were imported from America, and indeed the machines for this Vello process were mainly of American design though those now in use in Glasgow were made in Britain.

The Vello process was actually invented in France but was developed in the USA. It enables glass tubes to be drawn at higher speeds and to closer tolerances than other methods, and the new Chance plant has a potential of $3\frac{1}{2}$ miles of tubing per hour and it could operate continuously day and night for months.

Porn and Dunwoody announce that they have formed a new company to handle the manufacture of their lifts. This company will be known as *Porn and Dunwoody (Lifts) Ltd.* and will operate from their Southwark works, which have recently been enlarged and modernized.

W. T. Henley's Telegraph Co. have just produced a new catalogue of their flexible cords, showing the remarkably wide range of flexible electrical cables which they manufacture. Each has a special purpose and characteristic, a large choice of insulation materials is available and those for domestic use as visible lamp flexes are covered in specially chosen artificial silk or glacé cotton covers.

Messrs. Symington, Prince & Pike, F/FRIBA, have removed to 'De Montfort House,' De Montfort Square, Leicester (Granby 596 and 7).

H. McG. Dunnett

ACKNOWLEDGMENTS

Acknowledgments for this issue are due to Mrs. F. Cardew and Mr. W. T. Stearn of the Royal Horticultural Society Library for their help in research and advice on nomenclature; to Mr. S. Mullard and Mr. H. Taylor (LCC Parks Department) for technical advice on soil-less cultivation. Acknowledgments for photographs are as follows: Frontispiece, Andresen. Contents page, Courtauld Institute. ORIGINS, pages 287 to 295: page 289, top right, page 291, bottom centre, page 292, bottom right, page 293, top left, centre, bottom left, bottom right, page 294, bottom four, Spectrocolor; page 296, Tania Stanham. CULTIVATION, pages 297 to 301, drawings by Donald Dewar Mills; page 301, top, Galwey, Arphot; bottom, Tania Stanham. SPECIES, pages 302 to 328, drawings by Gordon Cullen. USES, pages

330 to 348, 1, 4, 18, 84, Kidder Smith; 2, 3, 14, 17, 21, 50, 51, 83, Andresen, Ordorp; 6, Strüwing; 7, 8, Roger Sturtevant, San Francisco; 9, E. Binelli; 10, 22, 23, 25, 26, 27, 29, 30, 31 to 40, 42 to 49, 52, 54 to 56, 58, 59, 62, 64, 66 to 70, 81, 82, Galwey, Arphot; 11, 63, 65, 85, Tania Stanham; 15, Jonals; 16, J. Scherb; 19, 80, E. M. Deichmann; 20, R. Spreng; 24, 53, H. J. Orgler; 28, 57, Peter Pitt; 41, C O I D; 71, Alan Dredge, Photo Union; 72, 73, 75, Alfred Cracknell; 74, 77, Edgar Hyman; 78, 79, Colin Westwood for Design Research Unit. Pages 335 and 336, drawings by Terence Conran. MARGINALIA, pages 349 to 358, 1, Sam Lambert; 4, Jack Howe; 5, Robert Melville; 6, Aerofilms Ltd.; 7, Hein de Bouter.

Publications

Modern Architecture in Gt. Britain is the subject of ARCHITECTURE D'AUJOURD'HUI, No. 39, price 18s. 6d. Subscription is £5 8s. per year (6 issues). See below.

Modern Furniture at the Triennale is the subject of recent issues of DOMUS. 10s. 6d. each, or £5 15s. per year (12 issues), or £2 17s. 6d. for 6 months. Sole agents: Alec Tiranti Ltd., 72, Charlotte Street, London, W.1, architectural booksellers since 1895. List of continental magazines free.

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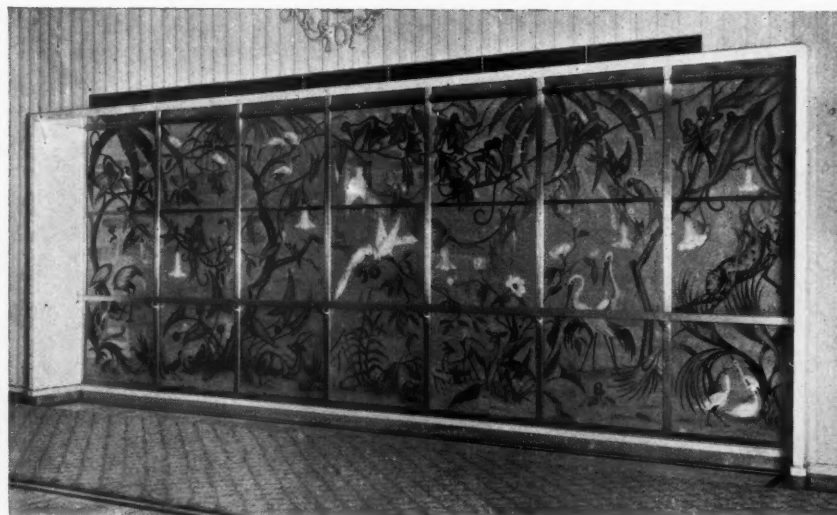
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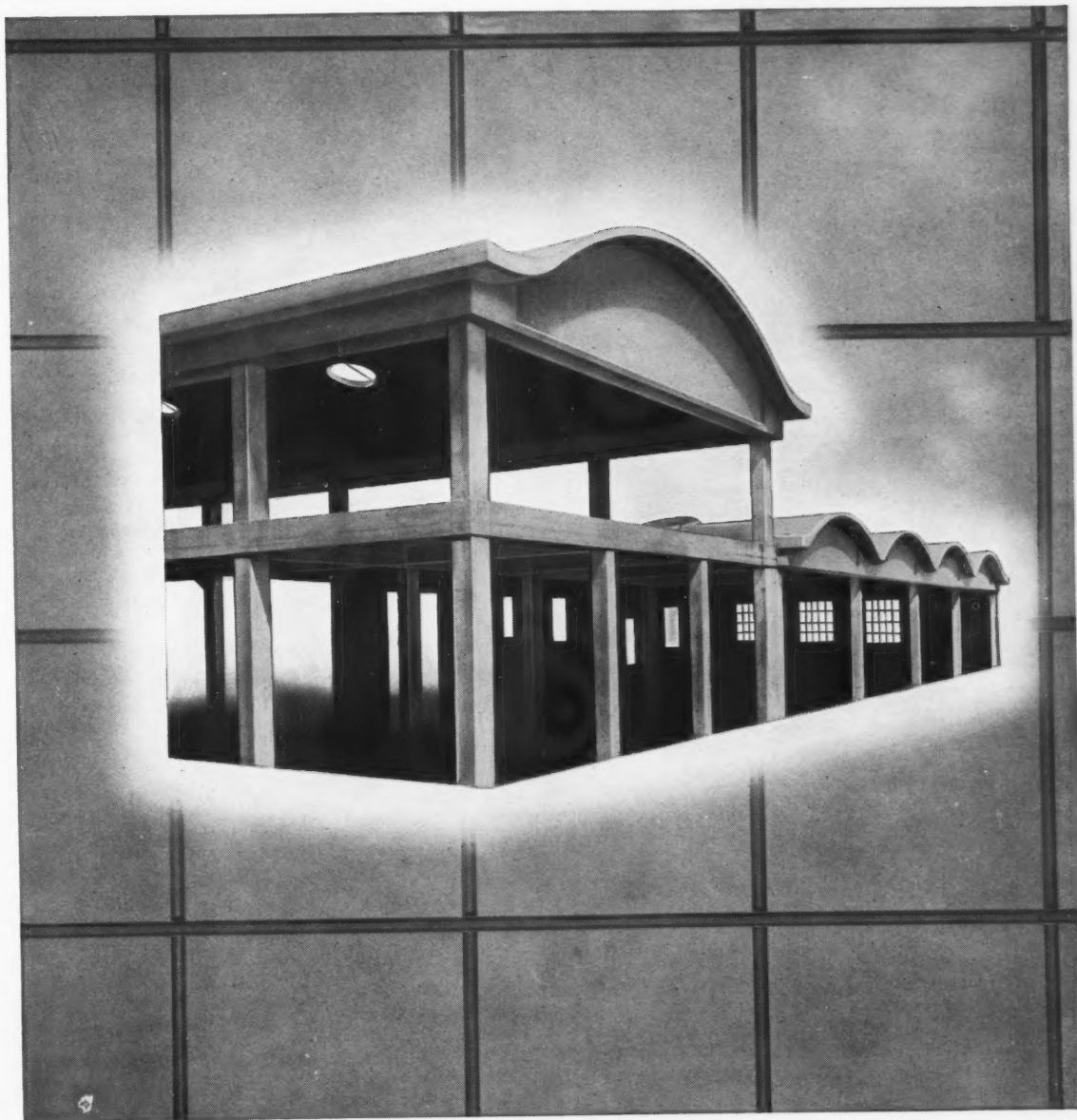
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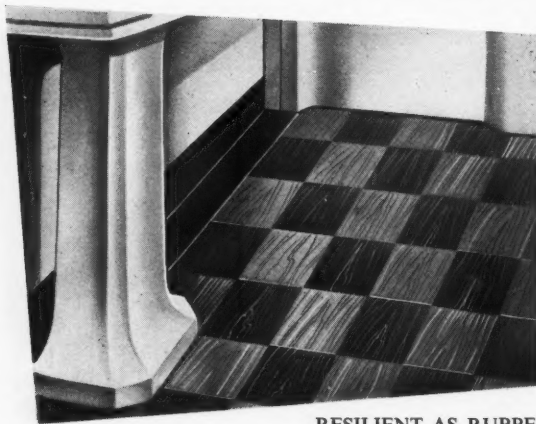
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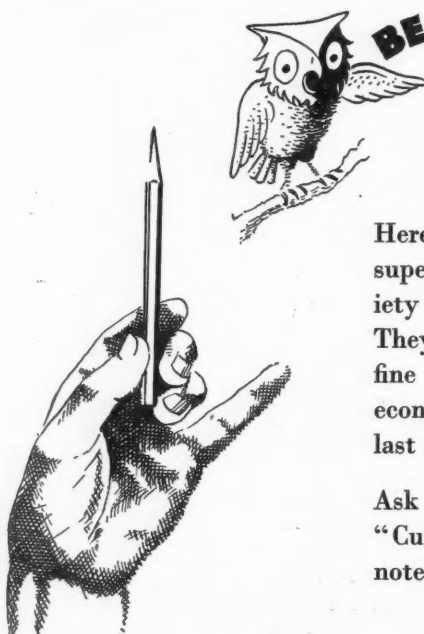
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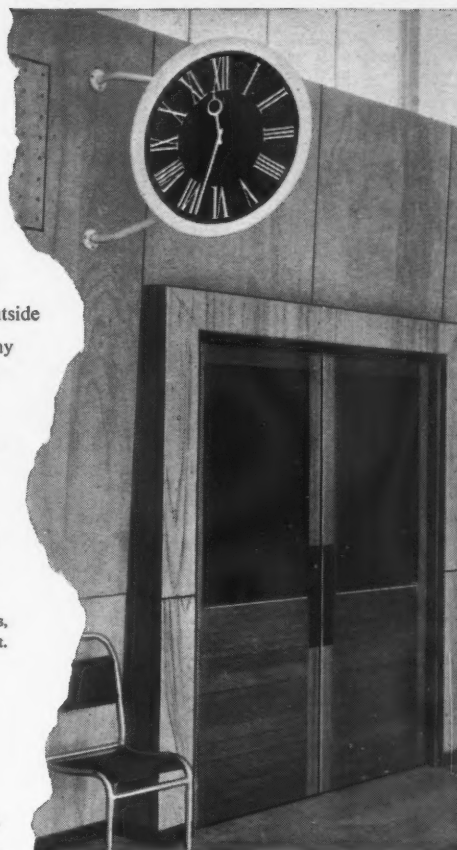
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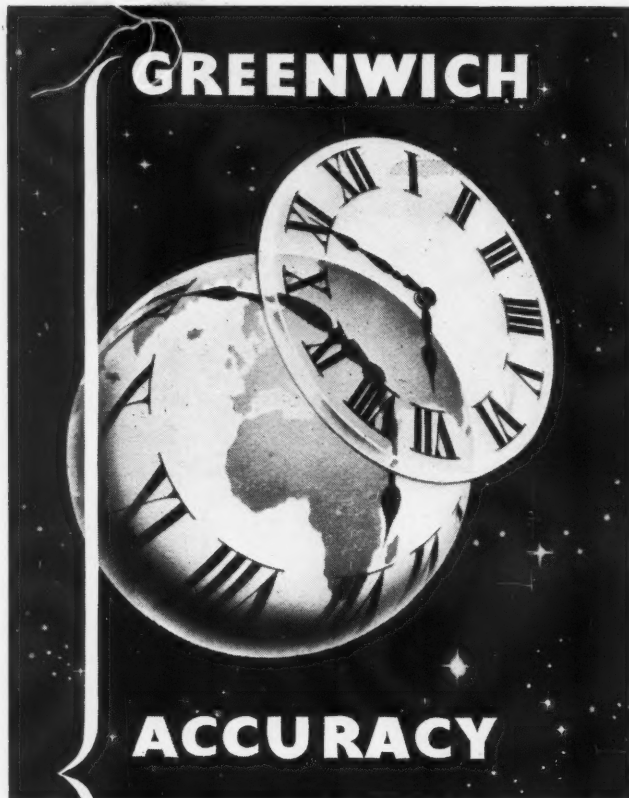
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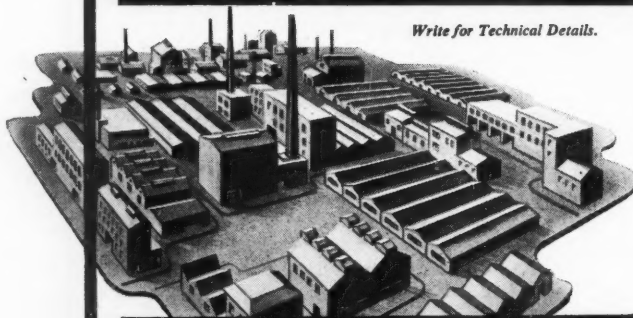




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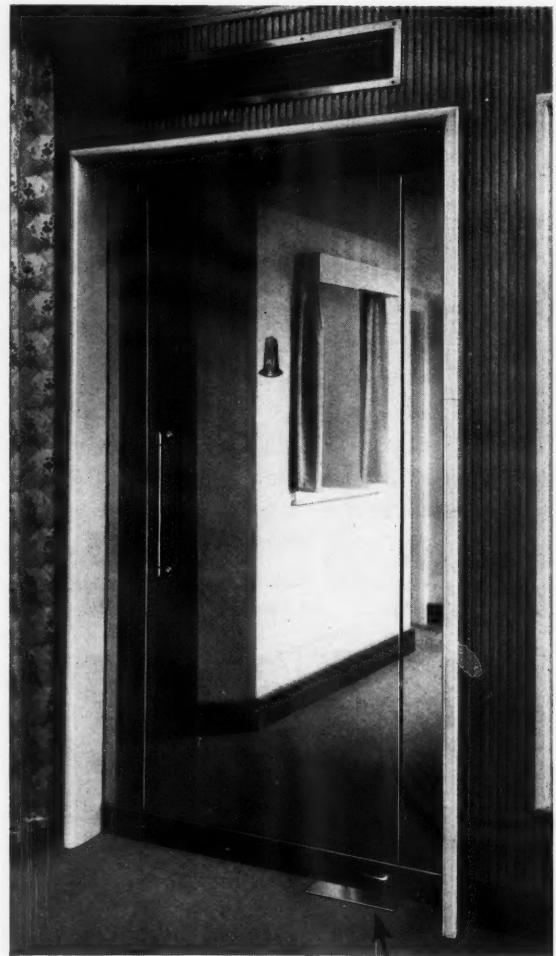


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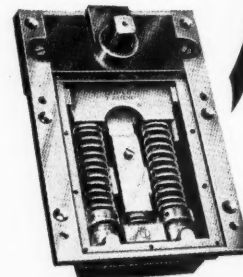
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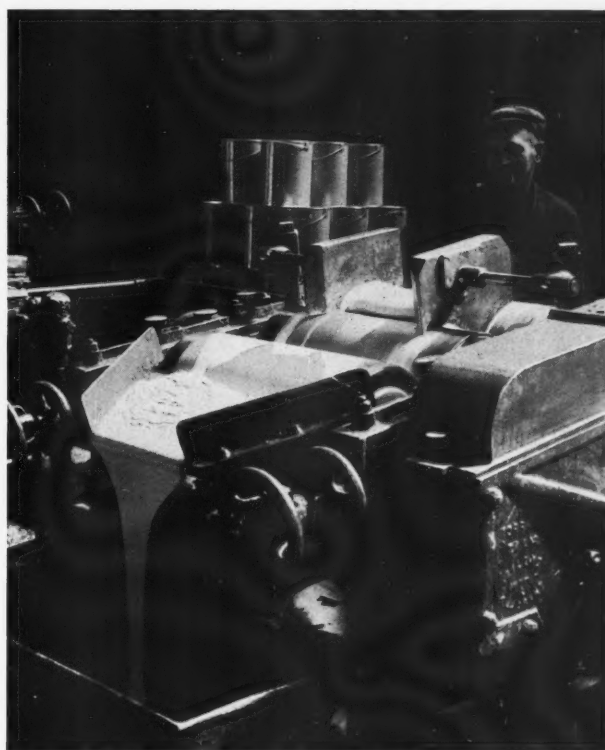
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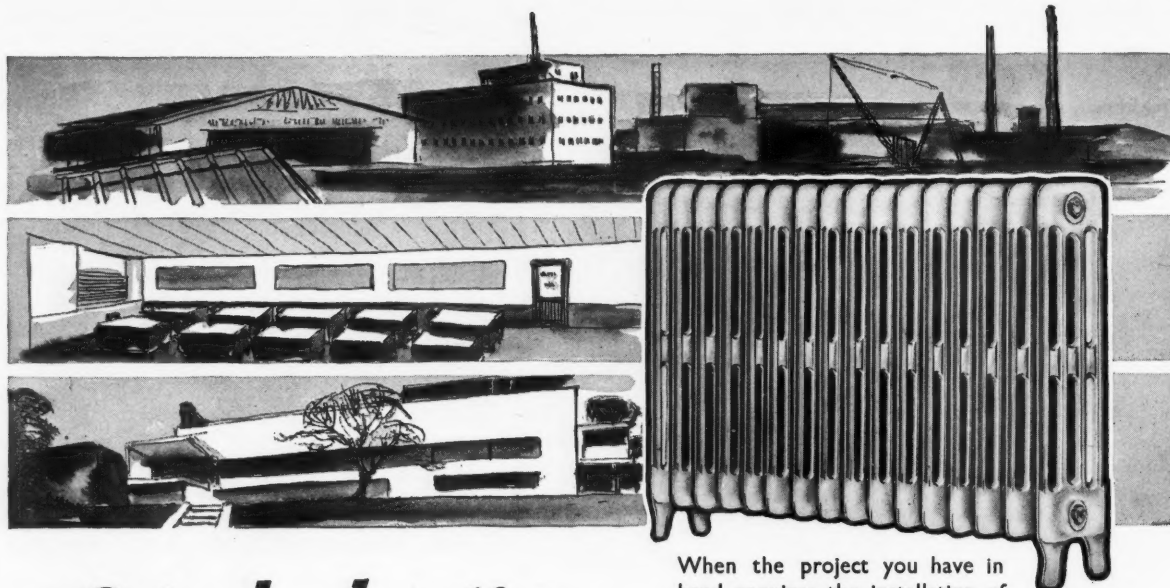
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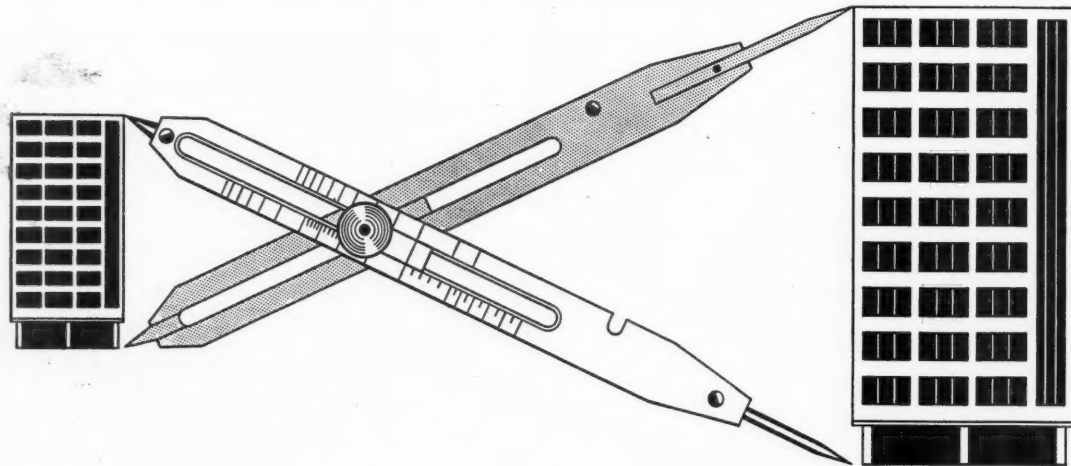


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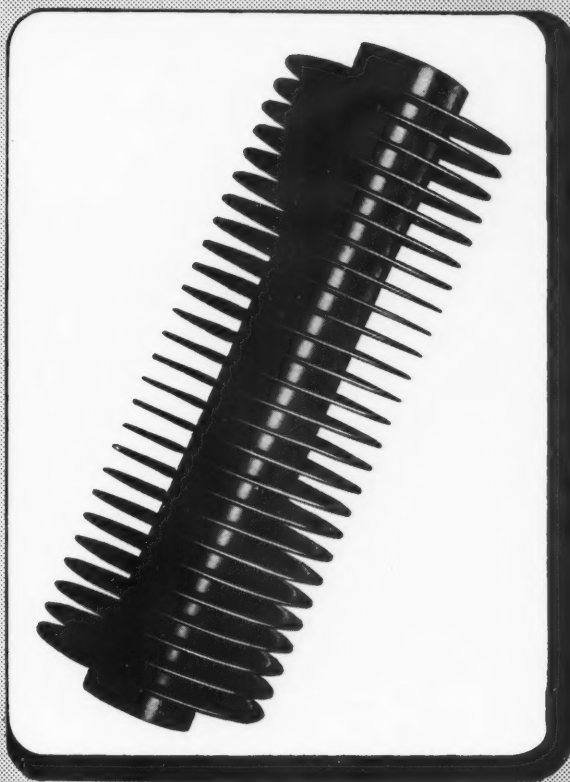
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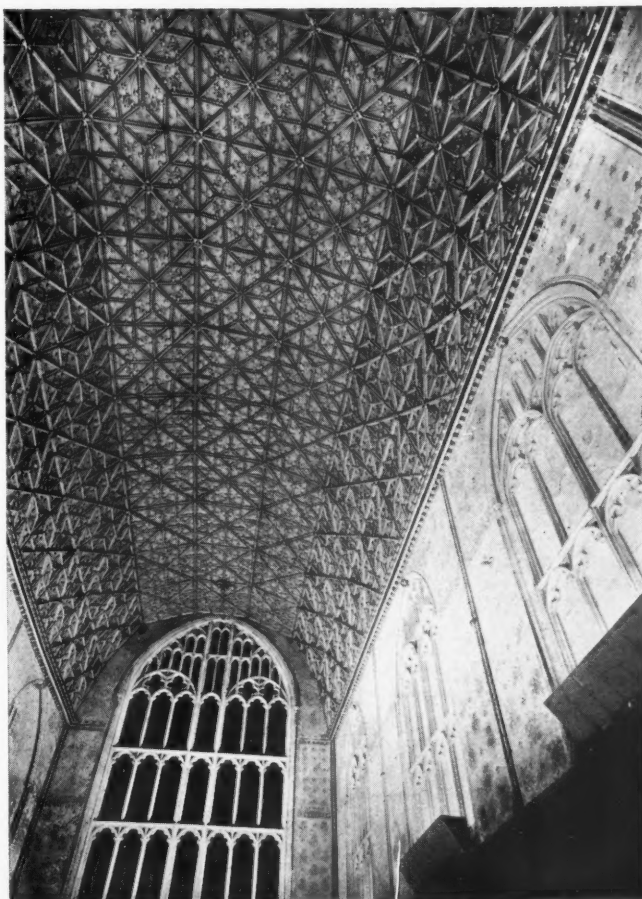
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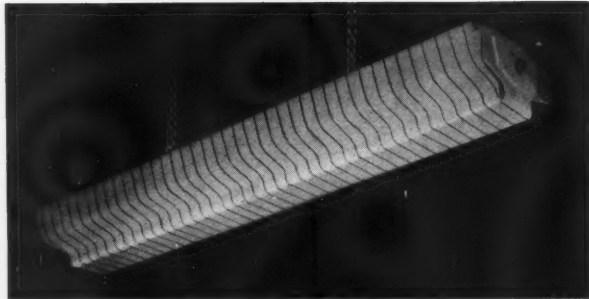
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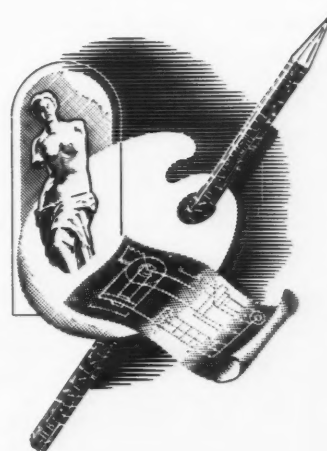
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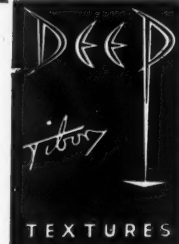
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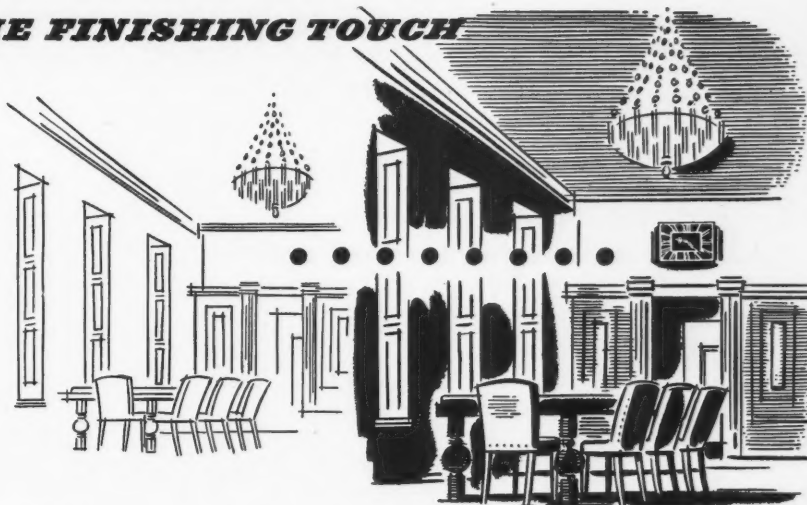


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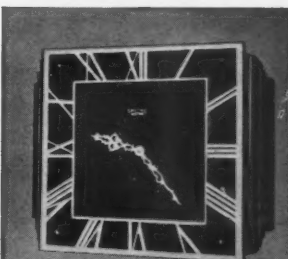
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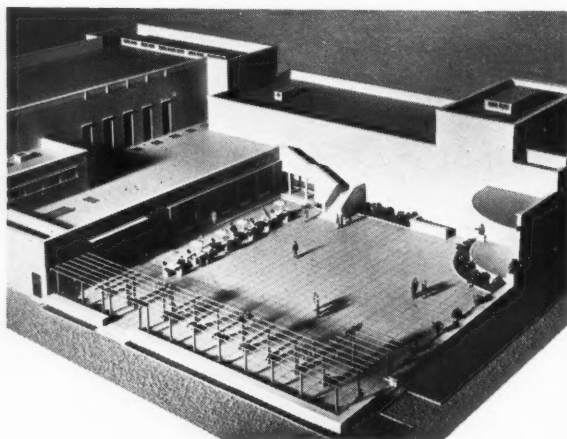
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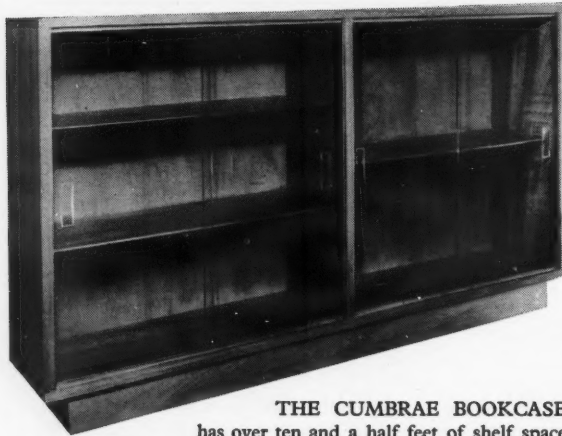
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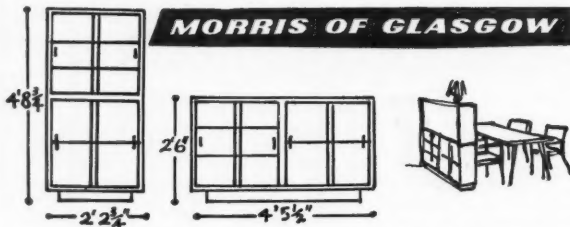
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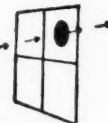
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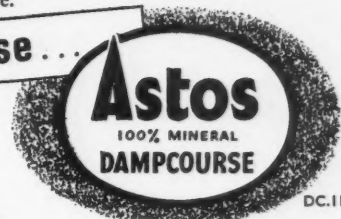


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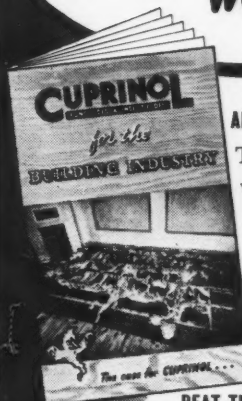
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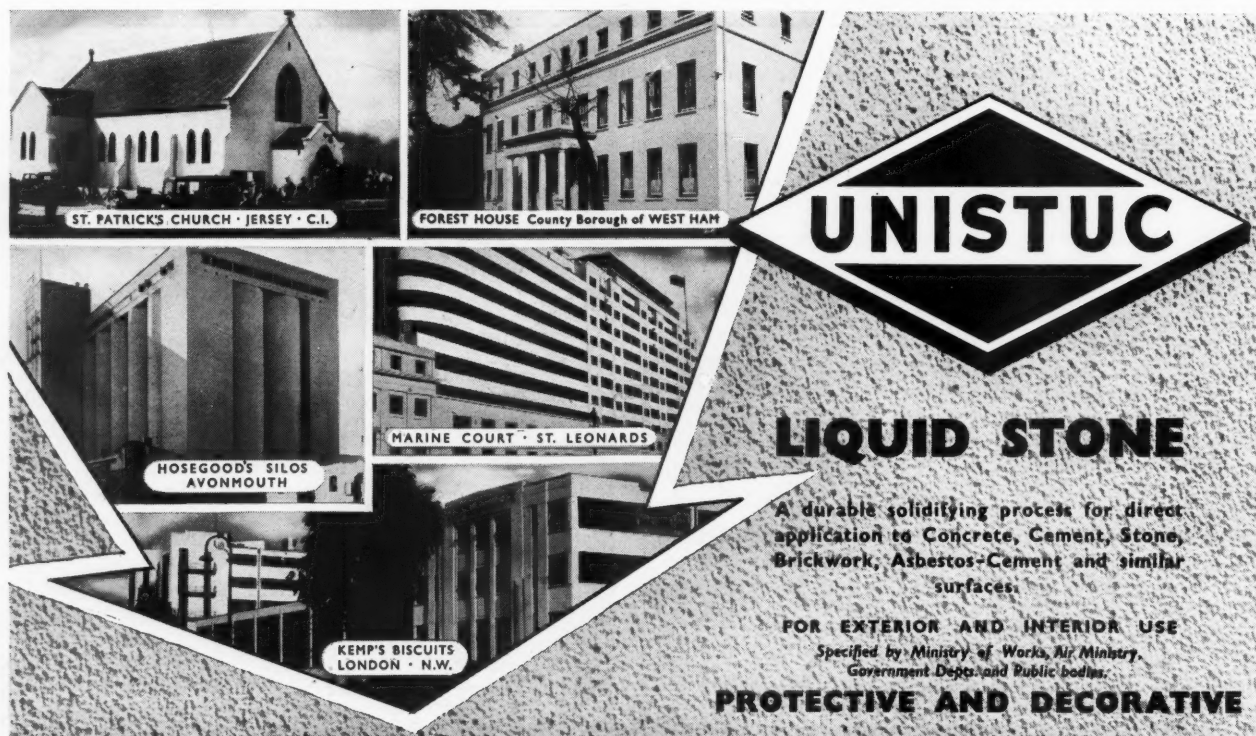
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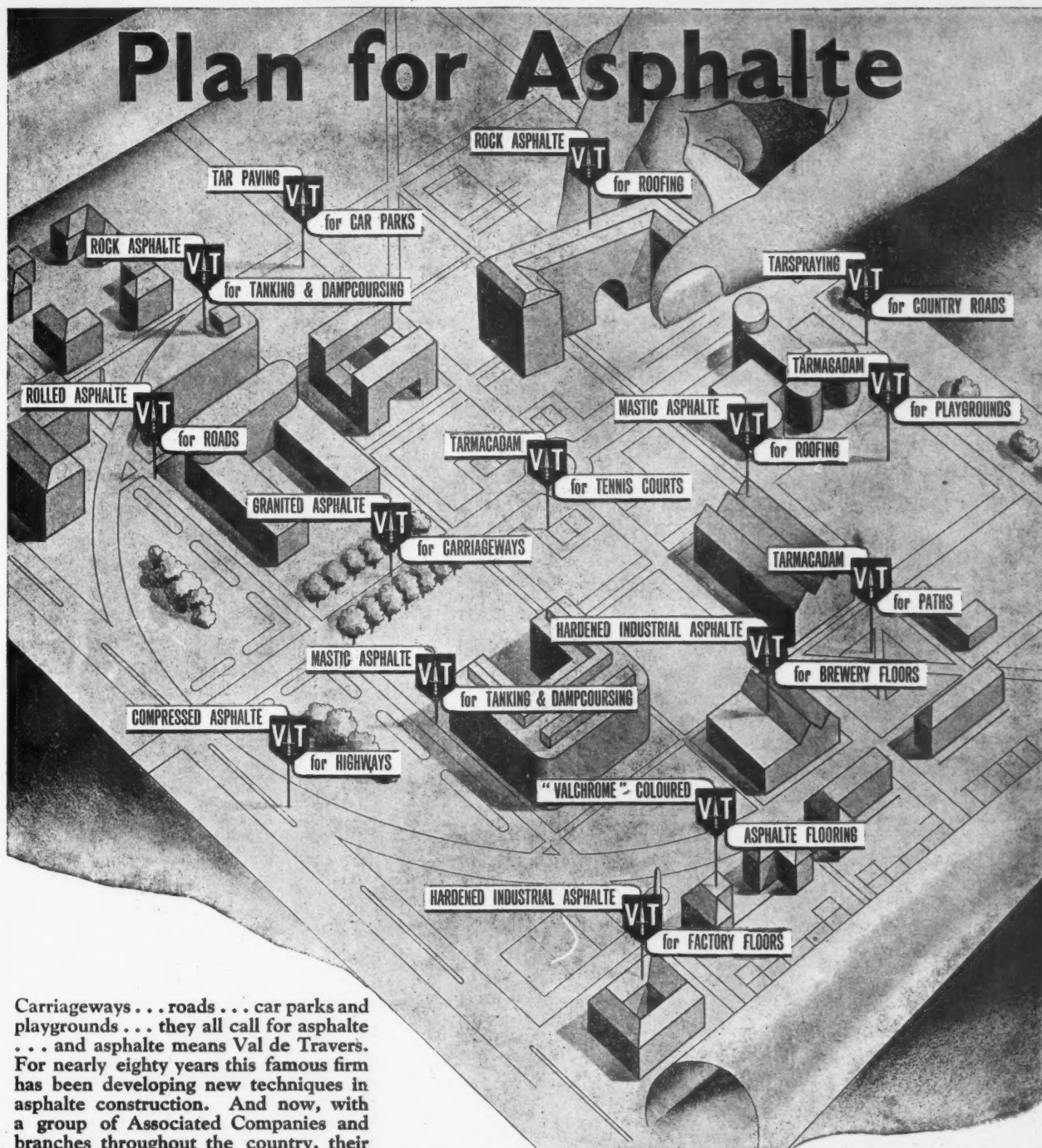
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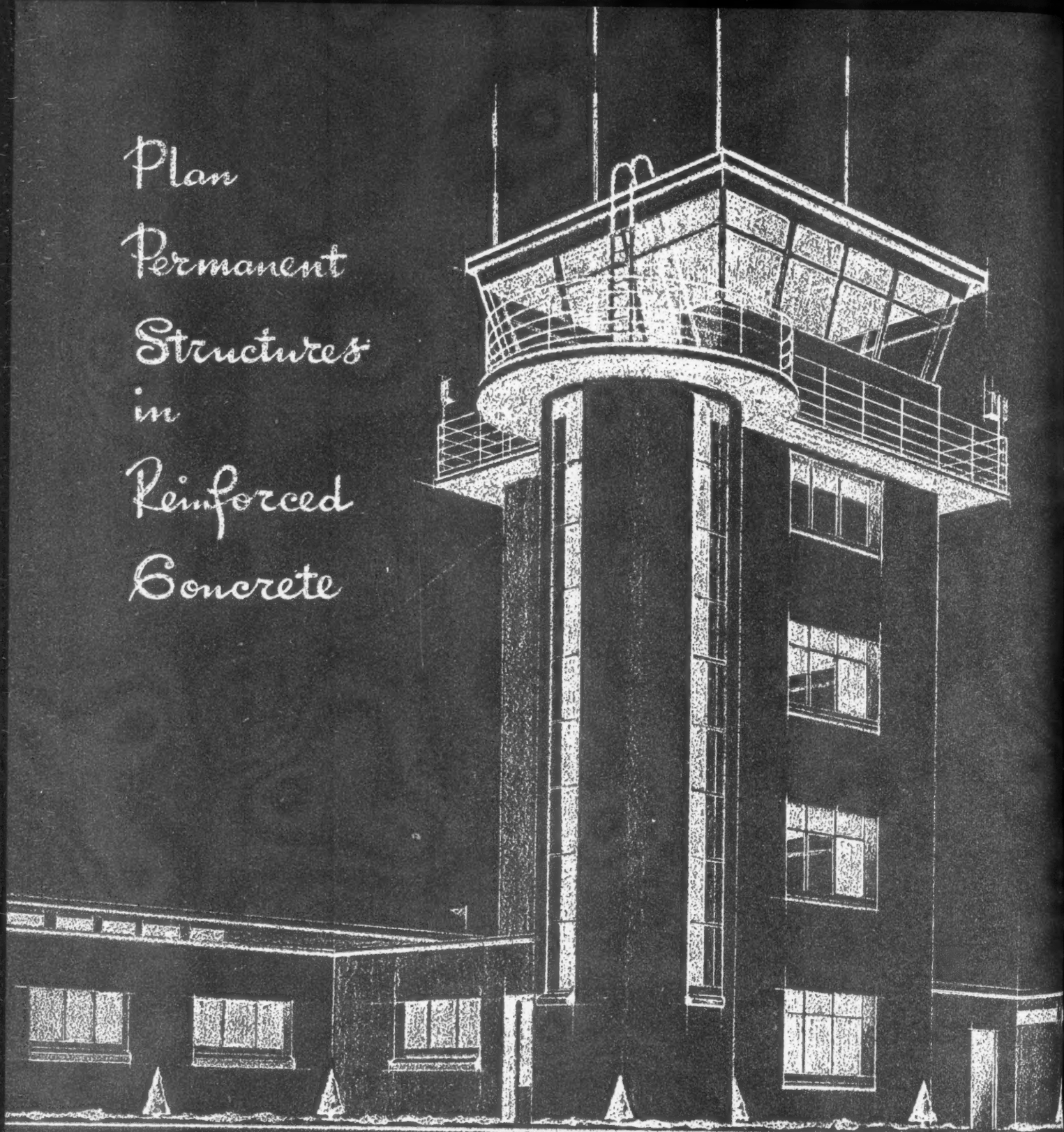
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