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Trees at Albury Park, Guildford, Surrey, 1973, by R. Charles Walmsley was compiled and expanded from his articles in the parish magazine for Shere, Gomshall and Peaslake.

Earlier, there had been *Catalogue of Hardy Trees and Shrubs Growing at Albury Park, Surrey*. Compiled by A. Bruce Jackson. Private distribution. West Newman & Co. 1913,

reviewed by the Botanical Society of the British Isles:

"This is a very neat, handy, well printed, and useful catalogue of the species grown in the Duke of Northumberland's beautiful seat in Surrey. Considerable points of interest are included. A Black Poplar is said to be 150 feet in height, hence one of the tallest trees in Britain; a new variety of Juglans nigra L., var. alburyensis is described. Some of the names used scarcely comply with the rule of priority, i.e. Quercus pedunculata, Betula verrucosa, Laburnum vulgare, but they are in common use. The Duke's example in having this book prepared might well be followed by other landowners."

in Country Life, 27 December 1913:

Dec. 27th, 1913.]

COUNTRY LIFE.

941

A BOOK FOR THE TRUE LOVER OF GARDENS. The English Flower Garden and Home Grounds, by W. Robinson. Twelfth edition. (Murray.)

EVERY gardener will welcome the twelfth edition of The English Flower Garden Grounds, by W. Robinson. Even those who profess other theories and Homa and principles than those explained in the book must be struck with the genuine gardening spirit in which it is written, the simple and in the best sense childlike love of flowers of its author, and the charm of the writing. It is a case in which love of the subject has developed an exquisitely fine style eminently suitable to the purpose to which it is put-an exposition of the principles that should guide the followers of Adam in the laying out and cultivation of their gardens. pattern, the abilities share, the measure and tape, the mathematical pattern, the constant repetition of the same effects. Fashions change very much in the garden, as elsewhere, and we doubt if Mr. Robinson has much sympathy with the modern ambition to rival one's neighbours in the production of a blazing herbaceous border coming up to the end of the house He is all for stillness and sweetness and naturalness. There is no gardening book which is more delightful to read, and we know of no list of flowers to equal that which forms the second part of the volume. Here each inmate of the garden is described with directness and simplicity. You feel the flower-lover in every paragraph and the directions for cultivation, brief as they are in many cases, are yet full and sufficient for every ordinary purpose. It is a great book on gardening, and one to be prized and loved.

ALBURY PARK TREES AND SHRUBS.

A Catalogue of Hardy Trees and Shrubs Growing at Albury Park. Surrey. Compiled by A. Bruce Jackson. Printed for private distribution only. (West, Newman.)

THE present enumeration of the trees and shrubs at Albury Park has been undertaken at the request of the owner, His Grace the Duke of Northumberland, K.G., and it provides a suitable companion to the Syon House list issued about three years ago. All who are at all well acquainted with the well wooded county of Surrey must also know of the estate and manor of Albury, situated about five miles east of Guildford, in the beautiful valley of the Tillingbourne. John Evelyn, the diarist, who lived at Wooton, within three miles of Albury Park, is generally credited with having laid out the Albury pleasure grounds, although some doubt is cast upon it in the work under review. There are, however, three entries in Evelyn's diary, in the years 1667, 1670 and 1687, relating to his work at Albury which should place the question beyond doubt. Moreover, much of Evelyn's work still remains, notably the yew hedge and the

fine terrace of greensward, a quarter of a mile long. The Cedar of Lebanon, which is said to have been introduced to this country by Evelyn, has attained remarkable dimensions at Albury. Concerning a fine group of Cedrus Lebani on the north of the house the author says: "The tallest I made to be 127ft. high by 15ft. in girth. Two other trees are nearly as fine, with girths of and 12ft. respectively at 5ft. from the ground"; and he concludes: "They must be among the tallest Cedars in cultivation." Some of the oldest and Some of the oldest and finest yews in Surrey are recorded close to Newlands Corner, and it is interesting to read that the ancient yew grove there is mentioned in Domesday. One of the tallest wellingtonias (Sequoia gigantea) in cultivation is recorded at Albury The tree is growing close to the Tillingbourne, its roots having probably passed beneath the bed of the stream. It was planted in 1857, and has now attained a height of 97ft. by 8ft. roin. in girth. Among other famous trees recorded is a red or canoe cedar (Thuya plicata), 94ft. high. This coniter has been largely planted on the Albury estate, where it grows vigorously, and a very high opinion is entertained as to its probable value as a timber tree. There are some remark able Spanish chestnut trees (Castanea sativa) in Shere Park, which is included in the Albury estate, one of the trees measuring 100ft, in height. Undoubtedly the most remarkable tree of Albury is the black Italian poplar, 15oft. in height, which is almost a record height for any tree in this country. The book is most carefully compiled, and forms a useful record such as we may reasonably hope to see of other noted gardens and estates.

"AN EDIFYING EXAMPLE OF AMERICAN THRIFT AND INDUSTRY." Van Cleve, by Mary S. Watts. (Macmillan and Co.) THERE is a good deal to be said for the steadfastness of the character of Van

THERE is a good deal to be said for the steadfastness of the character of Van Cleve Kendrick; had he not been a young man of remarkably settled disposition he must have come to no great good under the influence of his relatives who, to the tune of four are, with disarming regrets and self-reproaches, dependent upon him. There is Major Van Cleve, his uncle, who does little besides provide a fund of stories, in and out of season, to social gatherings; there is Grandma, who would not wrong her grandson of a penny piece for the world, but cannot help looking to him to protect her old age; there is Aunt Myra, with whom tears and hysterics are constant weapons of offence; and there is cousin Evelyn who, as a pleasant surprise for the young man, presents the doctor with one of her pictures in lieu of paying his bill. They are not thriftless or careless, this little dependent group; but there are things they must have; one of these is the excitement of perennial house moves, an expensive idiosyncrasy. Miss Mary S. Watts has painted them all "to the life" for us; with Van Cleve, with his stubborn practicality and concentration on "getting there." thrown in. It is an altogether delightful and human book.

and in Nature, 7th May 1914:

BOTANICAL CATALOGUES AND MANUALS.

 Catalogue of Hardy Trees and Shrubs Growing at Albury Park, Surrey. Compiled by A. B. Jackson. Pp. viii+66. (London: West, Newman and Co., 1913.)

(2) Lowson's Text-book of Botany. Indian

(1) M^{R.} JACKSON'S catalogue of the trees at Albury is an interesting document, especially when considered in comparison with the somewhat similar list compiled by him of the trees and shrubs at Syon. The value of the Albury list is enhanced by notes about particular trees and details as to the dates of introduction of the various species, characteristics of particular plants, uses, hardiness, etc. It is of interest to

notice that there are some remarkably fine trees at Albury, no doubt due to the soil and sheltered situation, a black Italian poplar, for instance, being about 150 ft. high, and therefore one of the tallest trees in England. The white lime and other limes, the London planes and cedars, and a special variety, var. *alburyensis* of the black walnut, a specimen of the chestnut oak of North America, *Quercus prinus*, in addition to other trees, are worthy of special mention.

(2) Of Mr. Lowson's text-book there is not

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TREES AT ALBURY PARK GUILDFORD, SURREY

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TREES AT ALBURY PARK, GUILDFORD, SURREY.

The contents of this booklet started as a series of articles which were contributed by a resident of Albury Park, R. Charles Walmsley, F.R.I.C.S., during 1973 to the parish magazine for Shere, Gomshall and Peaslake. They are reprinted here (in an enlarged and amended form) by kind permission of the Rector.

Any reader who wishes to know more about the fascination of trees is invited to turn to the following publications, from one or other of which the general information which follows has been largely drawn:

"Trees of Parks and Gardens" by J. Pokorny. (Spring Books 1967)

"Tree Planting and Cultivation" by H.L. Edlin. (Collins 1970)

"Hilliers' Manual of Trees and Shrubs" (Hillier & Sons 3rd Edition 1973)

"The Identification of Trees and Shrubs" by F.K. Makins. (Dent 1967)

ALBURY PARK AND ITS TREES

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(Constant South 1967)

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The grounds round the mansion at Albury Park have, for a very long time, been noted for trees. The anonymous author of "The History and Antiquities of Guildford" published in 1801, wrote, "Albury-place is situated on the south banks of the river and is surrounded with a large park consisting of a sandy soil and agreeably diversified with trees, particularly abounding with large chesnut trees". The majority of the "large chesnut trees" which were "abounding" in 1801 are no longer alive, although relics are visible in the form of mighty stumps. Some are still living. however, and they have been supplemented by an "agreeable diversity" of many other trees, planted mainly in the John Evelyn Gardens north of the Tillingbourne. Most of the present trees at Albury Park are believed to have been planted after Henry Drummond became owner of the estate in 1819. This was the same Mr. Drummond for whom the architect Pugin reconstructed the former house into its present form, between 1846 and 1852. Mr. Drummond died in 1860, leaving the estate to his daughter, who in 1845 had married Lord Lovaine, afterwards the 6th Duke of Northumberland. On the death of Lady Lovaine in 1890. Albury passed into the hands of the Percy family.

In 1912 the 7th Duke of Northumberland commissioned from a noted tree-specialist, Mr. Bruce Jackson, a "Catalogue of the Hardy Trees and Shrubs at Albury Park, Surrey", and Jackson's small book bearing that title is still of topical interest, although many of the older trees which were then outstanding, have disappeared through natural causes, several having been blown down by a violent storm in 1930. Many of the younger trees now growing have been raised from seed from the parent trees in the grounds. Very recently, Mr. R.J. Howes, the present head forester of the Albury Estate, completed the identification of about 250 individual trees within easy reach of the mansion, and the position and name of each of these has been recorded on a plan prepared by

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one of the Albury Park residents. This booklet is likely to be found of increased interest if read alongside the above plan, copies of which are available from the Hon. Secretary, Albury History Society, Albury, Guildford.

THE OAKS

The genus Quercus - the Oak - comprises many species distributed throughout the world, except, curiously enough, in Australia. One of these species. the Common Oak or English Oak, Q.robur, is the commonest broad-leaved tree in the British Isles. It is also long-lived, and can attain an age of over 500 years. As its name implies, the English Oak is native here, but the other kinds of oak to be found at Albury Park are all introduced species; the following notes take the species in the chronological order of their first being grown in this country. The Holm Oak or Evergreen Oak, Q.ilex. came in 1580 from the Mediterranean region. Excepting certain conifers, it is the most majestic evergreen tree cultivated in the British Isles, and resembles a huge holly tree - indeed the word 'holm' is an old English name for holly. The small elliptical leaves are glossy green above, and downy below. In June the Holm Oak can be a striking sight, when the tawny or white woolly young shoots and pendulous yellow catkins are emerging. The foliage, however, casts such a deep shade the whole year round that no plants can succeed beneath it.

The Scarlet Oak, Q.coccinea, came in 1690 from S.E. Canada. In summer the leaves are glossy green above, but in the autumn they turn, branch by branch, to a glowing scarlet.

The Willow Oak, Q.phellos, came in 1723 from Eastern U.S.A. It has slender branches and willowlike leaves, glossy green above which turn yellow and orange in autumn. The Valonia Oak, Q.macrolepis (or Q.aegilops), came in 1731 from S. Balkans. It is a small tree with grey twigs and oblong sharply lobed leaves. The acorns are set in large cups.

The Turkey Oak, Q.cerris, came in 1735 from Asia Minor. It is possibly the fastest-growing oak in this country. Both the winter buds and the acorn cups are furnished with long narrow downy scales.

The Lucombe Oak, Q.x.hispanica 'Lucombeana', was first raised by the Exeter nurseryman Lucombe in 1762, as a hybrid between the Turkey Oak and the Cork Oak, Q.suber, introduced from S. Europe in 1699. The bark, although thick and fissured, is not as "corky" as that of its parent Cork Oak. It has the unusual character of being semi-evergreen, holding its dark green leaves through the winter, but dropping them in early spring. There are some notable Lucombe Oaks at Albury Park, planted in 1925, grown from acorns on the Syon House and Goodwood Estates.

The Black Oak, Q.velutina, came in 1800 from Eastern U.S.A. Its lobed leaves are hard and large, sometimes up to 12 inches in length, dark green above but velvety beneath.

The Hungarian Oak, Q.frainetto (or Q.conferta), came in 1838 from S.E. Europe. It is a magnificent fast-growing tree. In the centre of the Lower Terrace at Albury Park a Hungarian Oak has recently been planted to take the place of a fine Holm Oak, the decaying stump of which is still to be seen alongside.

The Algerian Oak, Q.canariensis (or Q.mirbeckii), came about 1845 from North Africa. It is a handsome tree and in winter is easily recognisable by its dark shining green leaves, for these remain on the tree until long into the New Year.

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The Lebanon Oak, Q.libani, came in 1855 from Syria. This is a small elegant tree with slender branches and long leaves, glossy green above and margined with bristly teeth.

There are eleven species of oak at Albury Park, as described above. Although this is an impressive number, it must be set against the fact that in "Hilliers' Manual of Trees and Shrubs", there are over 80 species of trees listed under the heading of Quercus.

BEECHES, HORSE CHESTNUTS and LIMES

THE BEECHES: There are only a few species of Beech genus Fagus - but they include some of the most noble of trees. Their useful life span, at 200 years, is much shorter than that of the Oaks.

All the beech trees at Albury which are not the Common Beech, F.sylvatica, are forms of that species. The Common Beech is one of the few trees that is entirely at home in chalk and limestone country. The rich golden copper of the autumn foliage is unexcelled.

The Weeping Beech, F.s. 'Pendula' of which there are two spectacular specimens at Albury, is the tallest of the weeping broadleaves, and has the engaging habit of growing upwards for a few feet and then sending down a long cascade of pendulous branches and twigs.

THE HORSE CHESTNUTS: The various species of Horse Chestnut or "Buckeye" - genus Aesculus - all have compound palmate leaves i.e. leaves divided in hand-like fashion. They are among the most ornamental of late spring and early summer flowering trees. The Common Horse Chestnut, A.hippocastanum is exceptionally attractive when covered with its stout candles of white flowers in May. The Common Horse Chestnut has been hybridised with the Red Buckeye, (A.pavia, a beautiful small tree with crimson flowers) to produce trees which have reddish flowers. One of these hybrids, A. x carnea, is a large tree much used for avenues and parks, with panicles of rose-pink flowers; a more compact form with deeper coloured flowers is A. x carnea 'Briotii', the Red Horse Chestnut.

Four other varieties of Aesculus are found at Albury. One is the Sweet Buckeye, A.flava, which has flowers nearest to yellow. Another is the Japanese Horse Chestnut, A.turbinata, which has outsize foliage, and the yellowish-white flowers of which come into bloom rather later than those of the Common Horse Chestnut. Yet another is a spreading shrub only about 9 ft. high, the Shrubby Pavia, A.parviflora, which flowers latest of all, in July or August. The most unusual variety however is the Cut-leaved Horse Chestnut, A.hippocastanum laciniata, a slow-growing form with leaves narrowly and deeply incised.

THE LIMES: The various species of Lime or "Linden" genus Tilia - are very amenable to cultivation. Clipped and lopped limes bear leafy twigs repeatedly, no matter how often they may be cut back, and this fits the lime well for planting in avenues. The 6th Duke of Northumberland used the Common Lime, T. x europaea, for planting the lime avenue at Albury in 1862.

The Small-leaved Lime, <u>T.cordata</u>, has heartshaped leaves only 2 inches to 3 inches long. Its characteristic fragrant creamy flowers appear in late July, after those of the Common Lime. There is a large specimen of the Small-leaved Lime at Albury, the height of which was estimated by Jackson in 1912 to be not less than 80 ft. Quite near the house is a Michaux Lime (<u>Tilia heterophylla michauxii</u>), a North American lime rare in cultivation, its large leaves sporting whitish undersides.

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MAPLES, SYCAMORES and PLANES

Although Planes are of the genus <u>Platanus</u> whereas Maples and Sycamores are both of the genus <u>Acer</u>, all three are conveniently looked at together because many of the Maples look like Planes, and some of the Sycamores are colloquially known as Planes.

THE MAPLES: The botanical name of the Norway Maple, Acer platanoides, means 'plane-like maple'. The greenish yellow flower clusters of this tree break forth in early spring ahead of the leaves, rendering it a conspicuous object, and the clear russet tint of its early foliage ornaments the branches before most trees have leafed out. In the Schwedler Maple variety, A.p. 'Schwedleri', the leaves are a rich crimson purple when young, turning to dark green late in the season.

The Paperbark Maple, A.griseum, introduced from China in 1901, is one of the most beautiful of all small trees; old bark on the trunk flakes and curls back to reveal the cinnamon coloured underbark.

The Cappadocian Maple, <u>A.cappadocicum</u>, has attractive small glossy leaves which turn to butteryellow in the autumn.

The Japanese Maple, Acer palmatum, has been developed by Japanese gardeners throughout centuries of selection, producing many colour variations and foliage forms, brilliant in autumn. The finest one at Albury Park is a splendid specimen of <u>A.p.</u> 'Dissectum Ornatum' a dense rounded shrub, the branches falling from a crown and the finely-dissected leaves bronzetinted, but turning to flame before falling.

THE SYCAMORES: The Common Sycamore reputedly got its name through confusion with the "sycomore" of the Bible. Its botanical name, Acer pseudoplatanus, means "false-plane maple". In the Golden Sycamore variety, A.p. 'Corstophinense' the leaves are pale yellow when young but gradually become green as the season advances. A pretty variety, with leaves that are dark-green above but with an under-surface that is conspicuously purple, is the Purple-leaved Sycamore, <u>A.p. purpureum</u>. This contrast of colour produces an entrancing effect when the wind makes the foliage flutter.

THE PLANES: There are many fine specimens at Albury Park of the London Plane, <u>Platanus x hispanica</u>, including one outside the stable yard. This particular tree is given the distinction of a photograph (Plate 178) in the third volume of the monumental "Trees of Great Britain and Ireland" in seven volumes published 1906-1913; the author H.G. Elwes comments "I measured a very tall and handsome tree, which appears to be growing fast, at Albury in 1905 when it was at least 105 ft. high". This tree has continued to grow well. Its recorded height and girth (at 5 ft.) have been measured at intervals as follows:

1954	116	ft.	x	14	ft.	9	ins
1960	115	ft.	x	15	ft.	2	ins
-	1			-		1	20.

1973 124 ft. x 15 ft. 6 ins. The London Plane was first recorded in Oxford in 1665; it is a long-lived species, being a hybrid between the Oriental Plane, <u>P.orientalis</u> which comes from Asia Minor and the Western Plane, <u>P.occidentalis</u>, which comes from North America. As the trunk of the London Plane expands the outer brittle bark is shed in patches, revealing pale yellow or green surfaces below in a dappled pattern. The rounded burr-like fruit clusters are produced in strings of two to six and hang like baubles from the branches from early autumn through to the following spring.

There is only one Oriental Plane at Albury Park and that is a small specimen which has declined sadly. The Oriental Plane can however grow to be stately in this country, as a magnificent specimen in the grounds of Weston House, Albury, stands witness.

The Leopold Plane, <u>Acer pseudoplatanus 'Leopoldii'</u> (which is really a sycamore) is an attractive tree, having its green leaves speckled and splashed with yellow and pink. -7-

THREE FOLIAGE TREES

Some trees are planted primarily for their commercial products, others are planted for their looks. There are several trees at Albury Park whose particular aesthetic attraction lies in their foliage, three of these being the Liquidambar, the Katsura Tree and the Tulip Tree.

The Liquidambar (Liquidambar styraciflua) is a beautiful tree which was introduced in 1681 from the eastern seaboard of N. America where it is known as Sweet Gum because its bark, if wounded, exudes a sweetly-smelling resinous juice. Its scientific name means "the liquid amber tree from which incense flows". The leaves are deeply lobed and resemble those of a maple, but they are alternate not opposite. During the summer the foliage is an unobtrusive midgreen, but in autumn the leaves develop a marvellous range of glowing red tints, from scarlets through crimson to purple. A specimen stands in view from the north of the house, across the Tillingbourne.

The Katsura Tree (Cercidiphyllum japonicum) is an attractive Japanese tree with leaves that assume a striking pale yellow or smoky pink autumnal colouring in favourable seasons. A specimen which stands at the western end of the upper terrace was sent to Albury from Wigtownshire in 1911 by Sir Herbert Maxwell.

The leaves of the Katsura Tree are very similar to those of the Judas Tree (Cercis siliquastrum), specimens of which are to be seen along the top of the retaining wall which separates the upper terrace from the lower terrace. The Judas Tree has rosylilac flowers which are not only pretty in themselves but are also unusual in coming into clustered-bloom directly on the wood of the bare branches before the leaves unfold in the spring. Legend has it that the Judas Tree is the tree on which Judas Iscariot hanged himself, although he is hardly likely to have found one high enough for that purpose.

The scientific name of the Tulip Tree, Liriodendron tulipifera, means "the lily tree that bears tulips", but it is grown for the splendour of its foliage rather than for its display of flowers. The flowers, which open in June, often pass unnoticed; they are yellowgreen in colour with orange markings and resemble tulip-shaped waterlilies. The leaves are light green, with shiny surfaces which reflect the sunlight. Each leaf is shaped like the outline of a saddle, and has a broad notch, instead of a point, at its top. In autumn the foliage turns to a rich butter-yellow. In winter the tree is recognisable by the peculiar leaf buds, each shaped like a duck's bill in miniature, and also by slender cone-shaped fruits made up of hard slim seeds (from which young trees can be raised).

Jackson in 1912 describes how two branches from a large tulip tree on the lawn at Albury Park had layered themselves and become fair-sized specimens near their parent tree. The two well-grown tulip trees which now stand south of the old parish church are doubtless these 1912 youngsters transplanted. Their parent tree on the lawn, which in 1879 was said to have been 100 ft. tall and is still that height in 1973, is now sadly past its prime.

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TWO TREES FROM THE CAUCASUS

On the lawn at Albury Park, between the house and the river, there are specimens of two handsome trees that were introduced into this country from the Caucasus in the latter half of the eighteenth century.

The Caucasian Elm, Zelkova carpinifolia, was introduced in 1760. Although the zelkovas are closely related to the elms they do in fact constitute a small separate genus of their own, including the long-lived and slow-growing carpinifolia which is the only species to attain the size of a really large tree. The bark is smooth and grey like a beech, but flakes with age. In the British Tsles the trunk is short, giving way to numerous erect crowded branches which form a dense conical head.

The largest zelkova at Albury Park is an old specimen and a very attractive one, with a typically buttressed trunk from which a mass of huge branches tower up to a height (in 1973) of 95 ft. H.G. Elwes refers to this particular tree in his "Trees of Great Britain and Ireland" with a note "At Albury there is a remarkable specimen with a bole of only 4 ft. in height but 16 ft. in girth, dividing into numerous stems". This tree has not grown at all in height in the last 20 years but its bole has shortened since Elwes saw it in or about 1905; the following are height and girth measurements, all the latter being at a bole height of 2 ft. :- 1954 95ft. x 13ft.5ins.

1959 95ft. x 13ft.llins; 1973 95ft. x 15ft.4ins.

The Caucasian Wingnut, <u>Pterocarya fraxinifolia</u>, was introduced in 1782. It is a hardy fast growing tree which is happiest in a moist soil and is particularly suitable for planting by rivers. The largest specimen at Albury Park is a tree with several trunks, which stands right on the bank of the Tillingbourne.

The leaves of the wingnut are large and are composed of numerous oblong toothed leaflets. In the summer the greenish flowers drape the branches in pendulous catkins up to 20 inches long. In autumn the winged nuts hang in clusters, and when the nuts have fallen the hanging strings, to which the nuts were attached, make a characteristic winter feature.

TWO TREES CALLED BLACK

The Dowager Duchess Helen, widow of Alan, 8th Duke of Northumberland, wrote a guide to Albury Park, first published in 1951, which includes notes on various of the trees in the grounds. In the following paragraphs the two passages in quotation marks come from those notes.

Black Walnut (Juglans nigra 'Alburyensis')

"A remarkable example as it differs markedly from the typical form in its pendulous branches and its fruits, which are borne in clusters of three, four and six, instead of only one or two. Specimens of this tree are preserved at Kew".

This particular tree stands on the lawn east of the house and now (in 1973) measures 65 ft. in height. The native Black Walnut grows in forests along the large rivers of eastern North America, whence it was introduced to this country in 1686. The nuts of the walnut (both of the common walnut and of the black variety) are a random harvest that may or may not arrive in any particular year. Those of the black walnut are not palatable.

Black Mulberry (Morus nigra)

"On Terrace near Swimming Pool. Introduced about 1548. The Black Mulberry is the tree that King James I, 'desiring to wean his people from idleness' and to encourage the silkworm industry, presented in large numbers to growers all over the country. But unfortunately for his schemes, the mulberry preferred by the silkworm is the White Mulberry, Morus alba. Thanks to King James's well-meant generosity, however, there are many fine, well-grown, specimens of the black mulberry in southern England; one of them in Hampstead, is the tree under which Keats is said to have written his 'Ode to a Nightingale'."

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The particular specimen referred to in the above note is a dumpy tree which has become gnarled and picturesque with age. The Black Mulberry is native to Persia. King James could have gone to China for trees of the White Mulberry but his schemes could still have gone awry because the white species does not thrive well in Britain.

CONIFERS GENERALLY

It is interesting to reflect, when looking at the cone-bearing trees in England that, with the exception of the Yew, the Juniper and the Scots Pine, each and every one has been introduced from some other country where it is native. And even the now common Scots Pine, although once native to England, had long since been extinct here until re-introduced from Scotland; Capability Brown in the 1750's used many thousands of these pines, which were the first of the conifers to be used in landscape gardening on a large scale.

Of the conifers which are represented at Albury Park the earliest arrival in this country was the White Cedar, the first seeds of which were brought from Eastern America over 400 years ago. The Deciduous Cypress came next, in or about 1640, from southern USA. A few years later the Cedar of Lebanon was introduced from one of the high mountain ranges in the Middle East. A hundred years later, in 1759, there came the Corsican Pine from the island of that name.

Of the other conifers now growing at Albury Park none can be more than about 150 years old because seeds of their various species were only brought to the British Isles in the 1800's or later. It was mainly during the 19th century that various firms of nurserymen sent seed collectors to comb the globe for fresh species; the names of the five principal collectors - Douglas, Fortune, Jeffrey, Lobb and Veitch - are commemorated in the botanical names of some of the species that they introduced. - 12 - Conifers are less easy to identify than broadleaved trees, but the following are some characteristics that may be looked for.

<u>Cedars.</u> Many conifers, including the <u>Thujas</u>, have been loosely called "cedars" because of their fragrant foliage or fragrant wood, but the true cedars (genus <u>Cedrus</u>) are the only conifers that bear evergreen needles in tufts on short shoots along their branches. Cedar cones are barrel-shaped with flattish scales and a hollowed-out top. They stand upright on the branches and take two years to ripen. When ripe the cones break up and fall as single scales.

Pines. The true pines (genus Pinus) are all evergreen, their needles are tough and leathery and are nearly always grouped in twos, or threes, or fives, the number in each cluster being constant for each species of pine.

Firs and Spruces. It is easy to confuse the silver firs (genus Abies), the douglas firs (genus Pseudotsuga) and the spruces (genus Picea), because all these have short single needles ranged along their twigs. At the base of a fir needle, however, there is no peg as there is with a spruce, and if the needle is pulled away a smooth round scar remains. The cones also are different for each genus: a silver fir has cones which are upright and fall to pieces after ripening, leaving a stiff axis on the tree; the cones of a spruce are pendulous and fall off intact; and the cones of a douglas fir (which also hang downwards and fall off intact), carry a conspicuous three-pointed bract under each scale.

Cypresses. Many conifers, including the Taxodiums, have been loosely called "cypresses", but the true cypresses have two key features: they have scale-like leaves which hug the twigs so closely that they completely hide the branchlets, and they have a round woody cone which is shaped like a little button or knob. Cypresses that have rounded or square branchlet systems are placed in the genus Cupressus, and those which have flattened frondlike branchlets are now included in the genus Chamaecyparis.

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SOME PARTICULAR CONIFERS

These paragraphs briefly describe certain of the conifers growing at Albury Park. Subsequent paragraphs will deal with four other particular conifers, namely the two Sequoias and two "fossil trees".

The remarkable feature of the Cedar of Lebanon, <u>Cedrus libani</u>, is the flat character of its masses of foliage. Near the Lower Terrace at Albury there is a fine specimen planted in 1780, nearly 200 years ago. Its measured height and girth have shown the following figures:- 1931 96ft. x 15ft. &ins.at 5ft. 1954 100ft. x 16ft. 4ins.at 5ft.

1973 100ft. x 18ft. 7ins.at 3ft.

It would have been pleasant to think of this splendid. tree as being a hundred years older, in which case it would have been planted as part of the gardens which John Evelyn designed for Henry Howard (later Duke of Norfolk) in 1667 and which were laid out in succeeding years, at the time when the first Cedar of Lebanon seeds had but recently reached the British Isles. John Evelyn is, by some, credited with introducing this tree of the English country house: he wrote of it in his Sylva (1664), "But now after all the beautiful and stately trees, clad in perpetual verdure, should I forget the Cedar, which grows in all extreems for so it does on the mountains of Libanus, from whence I have received cones and seeds of those few remaining trees. Why then should they not thrive in Old England? I know not, save for want of industry and trial".

The upper branches of the Atlas Cedar, Cedrus atlantica, strike upwards and outwards at an acute angle to the trunk. A spectacular variety of the Atlas Cedar is the Blue Cedar, C.a. glauca,

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the blue colouration of which is caused by waterretaining resin and wax, this being a necessary adaptation to life in its native Atlas Mountains of North Africa where the limited amount of water gained from snowfalls in the winter must be conserved through the heat of a sub-tropical sun in the summer. It was introduced about 1840.

The Lawson Cypress, <u>Chamaecyparis lawsoniana</u>, is a large conical tree with drooping branches and broad fan-like sprays of foliage. It was discovered in S. Oregon in 1854 during a botanical expedition promoted by an Edinburgh nurseryman, Peter Lawson.

The Nootka Cypress, Chamaecyparis nootkatensis, has foliage which is rough to the touch and having a rank smell when crushed. The drooping habit of growth of this cypress makes it always look as if it needed a good watering.

The "cone" of the Yew, Taxus baccata, takes the form of a berry-like fruit, made up of a single (poisonous) brown seed within a pink fleshy (nonpoisonous) cup. Yews can attain a great age: some vews in churchvards are older by hundreds of years than the church buildings beside which they stand: this implies that some of the earliest Christian churches were built close to old yews, already hallowed by tradition, which had served as a meeting place for pagan worship. The Lower Terrace in the John Evelyn gardens has a walk along one side bounded by a line of yews about which Jackson in 1912 made this note, "The yew hedge at Albury, which is believed to have been planted about 1676 under Evelyn's direction, is 448 yards in length, with a gap of 90 ft. It now contains about 200 trees and the stumps of a number of those which have died".

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Passing now to the Corsican Pine, Pinus nigra maritima, there is a fine specimen at the end of the Lime Walk, with the typical characteristic of its species, namely a perfectly upward main stem and all the lower branches shed. This particular tree was planted in 1850: its height was measured at 110 ft. in 1931 and it is still that same height in 1973; its girth is however still increasing, from 10ft.9ins. in 1931, to 11ft. 8ins. in 1954, 12ft. 0ins. in 1960, and 12ft. 3ins. in 1973. The needles are in pairs, dark-green, long and twisted. Another pine is the Monterey Pine, Pinus radiata, identifiable by its long soft emerald-green needles in bundles of three.

There are several specimens at Albury of the Ehutan Pine (or Himalayan Pine), <u>Pinus excelsa</u> or wallichiana, all grown from seed brought from Goodwood Park in 1921. The needles are long and drooping, in bundles of five. The cones of the Bhutan Pine are banana-shaped, large, resin-covered and pendulous.

The Oregon Douglas Fir, <u>Pseudotsuga menziesii</u>, takes its botanical name from Archibald Menzies who discovered it in Oregon about 1792, and it takes its common name from the Scottish botanist David Douglas who introduced it in 1827.

The Deciduous Cypress, Taxodium distichum, known in America as the Bald Cypress, is one of the very few conifers which are deciduous, and it is unique among conifers in being able to tolerate waterlogged ground. The soft-textured green foliage changes in autumn to a fiery orange before falling.

The timber of the Western Red Cedar, Thuja plicata, is much used for the making of roofing shingles. And its foliage, in large flattened sprays of glossy green, is in demand by florists for use as background material in floral arrangements. The White Cedar, Thuja occidentalis, is a closelyrelated species. The foliage of both thujas exudes a resinous fragrance when crushed.

THE SEQUOIAS

The two kinds of Sequoia are the giants among trees. One of them, formerly classified as <u>S.gigantea</u> but now referred to as <u>Sequoiadendron giganteum</u> is familiarly known in Europe as the Wellingtonia. The other is <u>Sequoia sempervirens</u>, which is colloquially known as the Californian Redwood. Specimens of the Wellingtonia were first happened on by John Bidwell in 1841, in a deep valley of the Rocky Mountains near the Sacramento River in California, but the tree was not introduced into this country until 1853, when seeds were sent to England by William Lobb who was the most important of the seed collectors employed by the Exeter nurserymen, Veitch's. The name of "Wellingtonia" was given to <u>S.giganteum</u> in 1853 in honour of the Duke of Wellington, who had died in the previous year.

The Californian Redwood was discovered by Archibald Menzies in California as long ago as 1794. But it was not introduced here until 1843, and then it came not from America but from Russia; the first seeds were sent to the nurserymen, Knight and Perry by Dr. Fischer of the Botanic Gardens at St. Petersburg.

At Albury Park there is a fine Wellingtonia growing right on the bank of the Tillingbourne. This specimen was planted in 1859, only six years after the first seeds reached the British Isles, and seven years after the reconstruction of the mansion by Henry Drummond. By 1879 the tree is recorded as having grown to a height of 54 ft. Jackson in 1912 put its height at 97 ft. adding the comment: "This must be one of the tallest Wellingtonias in cultivation". Subsequent measurements of height and girth (at 5ft.) have been:-

1931	117ft. x	: 13ft. Oins.
1954	122ft. x	: 13ft.10ins.
1959	123ft. x	14ft. Oins.
1973	140ft. x	14ft. 8ins.

The exceptionally narrow habit of this particular specimen accentuates its great height. There are, of course, - 17 -

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vastly bigger specimens in America, where <u>S.giganteum</u> goes by the name of "Mammoth Tree", or "Big Tree", these adjectives being descriptive of its great size, rather than of exceptional height. The largest recorded Wellingtonia, named the "General Sherman" tree in the Sequoia National Park was 272 ft. tall and 79 ft. round when last measured and its weight over 1,500 tons. Despite its size, an unexpected characteristic of the Wellingtonia is that its thick reddish-brown bark is so soft that a resolute punch with the clenched fist not only does nothing to jar the tree, but also does not even jar the attacker's elbow!

Quite close to the Wellingtonia at Albury there are two well-grown Redwoods. In 1912, Jackson put their height at 90 ft. Since then they have grown evenly together, subsequent measurements of height and girth (at 5ft.) being:-

1931. 107ft. x 11ft. 4ins; and 103ft. x 11ft. 3ins. 1954. 114ft. x 13ft. lin.; and 117ft. x 12ft.10ins. 1959. 114ft. x 13ft. 5ins; and 115ft. x 13ft. Oins. 1973. 125ft. x 14ft. 2ins; and 125ft. x 13ft.10ins. Although a height of 125 ft. is impressive for this country it is puny when compared with the native trees. One Redwood, called the "Howard Libbey" tree in the Humbolt State National Park, was measured in 1896 at 230 ft. from the ground to the first branch and 340ft. in total height. This is believed to be the tallest tree in the world; by 1968 it had grown to 368 ft. In respect of longevity, many Redwoods in California were alive before the birth of Christ. Wellingtonias are even longer-lived; counts of the annual rings on the stumps of felled Wellingtonias show that some of these had attained an age of over 3,000 years.

The Wellingtonia may be regarded as one of the oldest and largest living things in the world, and the Redwood as the world's tallest living thing.

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THE FOSSIL TREES

There are two kinds of tree at Albury Park which may be described, metaphorically, as "living fossils". This was in fact the description that was applied to one of them, <u>Ginkgo biloba</u>, or the "Maidenhair Tree", by Darwin. Darwin was not in a position to describe the other, <u>Metasequoia glyptostroboides</u> or the "Dawn Redwood", because the first specimen of Metasequoia was found only in 1941, in Central China. In 1944 further trees of Metasequoia were discovered, in a landlocked valley in the Szechwan province of China; specimens were collected, and the sensational news was then released that a genus which had been known, from fossil remains, to have lived about 160 million years ago; was in fact living still.

Ginkgo is of even greater antiquity than Metasequoia being the sole survivor of an ancient family whose ancestors occurred in many parts of the world (including the British Isles) during the Mesozoic era when dinosaurs were still roaming the earth. Indeed the Ginkgo's ancestry can be traced back for another 100 million years to the Permian period in the late Palaeozoic era; this was the period of Fishes, which preceded the period of Reptiles, which preceded the period of Mammals; the period of Mammals itself preceding, by some 100 million years, the first appearance of Man on the earth. There are two Ginkgos at Albury, both inconspicuous specimens but easily recognised by their peculiar fan-shaped individual leaves, which turn a beautiful clear yellow before falling in autumn. This change of colour was described in an article on the Ginkgo by Mr. H. Prideaux-Brune in the Journal of the Royal Horticultural Society for November 1947, as "the ethereal radiance, daffodil glint in the autumn world, a reflection from the immeasurably distant past". A book by Dr. Li Hui-Lin on "The Origin and Cultivation of Shade and Ornamental Trees" devotes

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27 pages to the Ginkgo and includes the comment "Thus the sole living member of a once great and dominant race of the vegetation of the world, the Ginkgo is, among all the tens of thousands of plant species existing today, a most precious and tenuous link between the present and the remote past". Its introduction (or re-introduction) to England was in or about 1758, nearly 200 years before the arrival of the Metasequoia.

The first Metasequoia seeds were brought to the British Isles in 1948. The tree was found easy to propagate by cuttings and this characteristic, together with its rapid growth and its ornamental qualities combined to make Metasequoia one of the most popular coniferous species. Its feathery foliage is bright larch green during summer, becoming tawny pink and old gold before falling in autumn. Metasequoia is pyramidal in shape, and is not unlike Taxodium (the "Swamp Cypress") but it differs from that tree - and indeed from every other living tree in the world - in having its buds below the leafy twigs: in all other trees any buds grow above a leaf base. At Albury there are two Metasequoias, both about 35 ft. high in 1973, and probably among the earliest specimens to be planted in this country. Their heights in 1959 were recorded as being 14 ft. for one and 11 ft. for the other.

TREE-PLANTING YEAR

1973 has been the Year of the Tree. Following the exhortation to "Plant a tree in '73", the residents at Albury Park planted a specimen of the Purple-leaved Sloe (Prunus spinosa 'Purpurea'), a compact bushy tree with rich purple leaves and white flowers.

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