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The Gardens and Landscape of Rothamsted Manor - an Historical Report

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The Gardens and Landscape of Rothamsted Manor an Historical Report - Volume 1 - Text

Adrian Cooke

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An historical report

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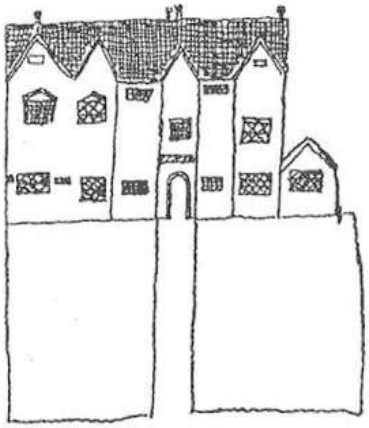

ROTHAMSTED MANOR, 1624

Prepared towards the Diploma in Conservation (Landscapes & Gardens)
Architectural Association

by
Adrian Cook

May 2001

M/L
Adam's Case
COOK

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PREFACE

Rothamsted is internationally known as the site of the Rothamsted Experimental Station, which is probably the oldest agricultural research centre in the world. A series of continuous and ongoing agricultural field experiments were begun in the mid 19th Century by Sir John Bennet Lawes, and findings made on the estate have been of great significance in the development of modern farming. Rothamsted was Sir John Bennet Lawes' ancestral estate and had been owned by his forebears, the Wittewronge family, since 1623. The manor house and gardens lie in the centre of the experimental fields, on a site occupied by the manor since the 13th Century. The history of the family, the house, and the Research Station (now called IACR - Institute of Arable Crop Research) have been researched and published, but the history of the gardens and the development of the surrounding landscape are subjects that have not been specifically addressed. To do so is the aim of this report.

This report has been prepared as an exercise in archival research as part of the Architectural Association's course in Conservation of Landscapes and Gardens. It is based on a study of published material, the Wittewronge papers held at Hertfordshire Archives and Local Studies (HALS) in Hertford, an analysis of maps held at HALS and the British Library, and information and material supplied by Winston Bothwell, the Head Gardener at the manor house. My study of the Wittewronge papers revealed records relating to the garden and estate principally from 1623-1728 and the report concentrates on this period. Commentary on later developments is based mainly on published and cartographic material rather than primary sources and is covered in less detail.

The report is arranged in two volumes. Volume I contains the text, and begins with a commentary on the sources used. Following a description of the manor and gardens at the time of writing, the development of the gardens is traced in three chapters. These are devoted to the estate in 1623 and the periods of Sir John Wittewronge (1618-1693) and Jacob Wittewronge [The Younger] (1693-1728). The chapter on Sir John Wittewronge forms the centre of the report. He was a substantial figure of particular significance to the development of Rothamsted and kept a unique 'Weather Diary' in the 1680's incorporating meteorological, agricultural and horticultural observations. The final chapter covers the period from 1728 to the time of writing, and was compiled from published and cartographic material. Volume II contains the Appendices and the Maps and Figures. Appendices A to F are: Chronology of Occupancy, Transcripts of References, Species mentioned in the 'Weather Diary' 1683-1689, Chronology from 1623-1693, Suggestions for further research, and Bibliography.

In this report Hertfordshire Archives and Local Studies in Hertford is referred to as HALS. Descriptions of directions using the cardinal points are made in relation to the orientation of the house, whose south front actually faces 23° west of south. In addition to the references given in the text, the transcripts of documentary sources in Appendix B may be of particular use when read in conjunction with chapters 4&5. The transcripts are arranged by category and in chronological order.

I would like to thank Anne Rowe of the Hertfordshire Gardens Trust for suggesting that I should choose Rothamsted for the project and providing me with the initial leads, and Winston Bothwell, Head Gardener at the Manor House, for his time and his assistance.

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1. THE SOURCES

This report has been prepared primarily on the basis of a study of the published and archival material available at Hertfordshire Archives and Local Studies (HALS) in Hertford. A small amount of additional material was found at the British Library (BL) and in the library of IACR Rothamsted. The Head Gardener, Winston Bothwell, was kind enough to allow access to the gardens, and shared some of his own knowledge of the site. He also gave me a copy of the guide produced for an open day in 1997.

Of published works, by far the most useful is the history of the manor house and its occupants written by D. H. Boalch[1], a former librarian of the Rothamsted Research Station, and first published in 1953. The bulk of the historical background and biographical information in this report is owed to Boalch. Sir John Wittewronge's 'Weather Diary' was published in 1999 with useful commentary[2]. The Victoria County History and articles in Country Life (1906) and the Gardeners' Chronicle (1875) were also helpful.

The archival record at HALS is contained in the Wittewronge Collection, which comprises family and estate papers dating back to the Wittewronges' purchase of the estate in 1623. The material in the collection is extensive for the 17th Century and early 18th Century, but thereafter it thins out, and there is little from the 19th and 20th Centuries. In addition to the original documents at HALS, the IACR Rothamsted library contains two volumes of typescript transcripts taken from the Wittewronge archive by B.P. Scattergood in the 1930's before it was transferred to HALS, and this contains some items that were not easily traceable in the HALS catalogue. Sources for the 19th and 20th Centuries are harder to come by, and this study of the Wittewronge Papers did not reveal any record pertaining to the garden or the design of the estate later than the first half of the 18th Century. Commentary on the development of the gardens from the early 18th Century to the present is therefore based on the published material and interpretation of maps.

The Wittewronge Collection includes the 1623 map of the estate, which is well surveyed and provides an invaluable record. The cartographic record for the two centuries following the 1623 map is limited, with nothing coming to hand for this study from earlier than 1766. A payment was made for a survey of the estate in 1722, but this does not appear in the Wittewronge catalogue at HALS. Rothamsted appears in Dury & Andrews 1766 map of Hertfordshire which contains useful information concerning the kinds of garden features present and their relative layout, but the map is small-scale and the plan distorted, and much of the detail appears generic. It appears that Rothamsted was only visually surveyed for this map, and it must therefore be interpreted with care. Volume II of Thomas Baskerfield's 'Hertfordshire Illustrated' c. 1790 contains a quickly executed watercolour sketch map of Harpenden with a rough indication of the features of Rothamsted and its gardens at that time. The 1822 Bryant map of Hertfordshire contains less detail than Dury & Andrews, and suffers from comparable cartographic distortions.

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[1] D.H.Boalch, *The Manor of Rothamsted*, 1953.

[2] Sir John Wittewronge, *'Observations of Weather' 1684-1689*, ed. M.Harcourt Williams & J.Stevenson, 1999.

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The 1838 Tithe Map of Harpenden is the only detailed and reliably surveyed map found by this study that dates from between 1623 and the 1st edition OS map. Unfortunately, its purpose was not to show the details of gardens and landscaping, and these areas lack differentiation. It is possible to distinguish between wooded and open areas, and scattered trees seem to indicate parkland. Many features that are known to have existed are not shown, such as the elm avenue to the south, the forecourt or turning circle, and the western approach. This makes it difficult to be confident about what existed at this time, but the map is useful as a survey of garden walls and boundaries prior to the changes in the mid 19th Century.

The 1st edition OS map was surveyed in considerable detail in 1878 and published in 1884 at 6" and 25" scales. It shows the gardens after the changes of the mid 19th Century, and also planting that survived from earlier periods. The surveying included the location of individual trees in un-wooded areas and an indication of broadleaf and coniferous planting. No other maps before or since have the same level of detail, making this map is a particularly useful record. The 2nd edition OS map was published in 1898; little had changed since 1884, and the detail shown on the earlier map is greatly diluted. The 3rd edition OS map was published in 1924 and shows the changes undertaken in the 1st decade of the 20th Century. Although several features shown on the 1924 map have since disappeared or lost their definition, it remains a useful document for the current gardens; the 1975 1:2500 map carries less information than any of its OS predecessors.

Illustrations were found in the books, articles, and collection of county views held at HALS, and a few more were found at the BL. The author took the photos. Views of Rothamsted from before the 20th Century show only the front of the house, which for the purposes of this study left the physical appearance of the rest of the gardens and landscape as a matter of deduction. HALS possesses aerial photographs taken in 1973, 1980, and 1990. One feature of these is the record of the toll taken by Dutch Elm disease and the 1987 storms.

It is possible that HALS and the Wittewronge Collection may contain useful material on the gardens undiscovered by this research. In particular, the 17th Century records are extensive and exhausting to read, and a considerable quantity of information may have been missed. It is also possible that further material concerning the gardens before the mid-19th Century may exist outside HALS, in archives of other branches of the family, or as letters, accounts or legal papers kept by others. The library at IACR Rothamsted informed the author that all their archival sources had been sent to HALS, but there may still be some relevant records, if only photographs, or papers relating to the Trust's administration of the estate in the 20th Century. The lack of primary material relating to the gardens in the 19th and early 20th Centuries suggests that there are other sources, possibly remaining with the family, from which more could be learned. Appendix E sets out suggestions for further research in more detail.

A full list of references is given at the end of the report, and transcripts of relevant entries from the primary sources are collected in Appendix B.

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2. THE MANOR AND GARDENS TODAY (Spring 2001)

Rothamsted is situated on the south-western edge of the town of Harpenden in Hertfordshire, c.2km east of the village of Redbourn and some 6km north-west of St Albans [Map 1]. To the west of the estate the A5183 (Roman Watling Street) runs north-west from St Albans, and to the east the estate extends to Harpenden Common, which is crossed by the A1081 between St Albans and Luton. The southern boundary follows the B487 between Hatching Green and Redbourn.

The estate is owned and administered by the Institute of Arable Crops Research (IACR Rothamsted), and is the oldest and largest agricultural research centre in the UK. The manor house, outbuildings, gardens and adjacent woodland occupy c.10ha at the centre of the estate. The house is used for conferences and meetings, and as a hall of residence for researchers. The gardens lie to the north, west and south of the house [Map 13].

The manor house and surrounding fields occupy a slight plateau at the centre of the site, from which the land gently slopes away on all sides. At present the principal prospect from the manor house is to the south, but views in all directions are to some extent restricted by trees. The similar elevation of land beyond the adjacent valleys and dips makes it unlikely that there were ever very distant views, and the surrounding valleys are obscured because of the extent of the plateau. The estate has a flinty clay soil resting on chalk. The main research campus is on the eastern edge of the site and there is an experimental farm located north-west of the manor house. Experimental fields cover most of the estate. The principal concentrations of trees are in the area around the manor house and in Knot Wood to the west, and there are mature trees along some site roads and field boundaries.

The main entrances to the site are from Harpenden and the Research Station to the north-east and from Hatching Green to the south east, where the driveway is marked by a 19th Century lodge. From these entrances roads follow lime avenues and then join to approach the house along a single road from the east, which forks at the entrance to the manor grounds. The southern fork leads through a shrubbery to the main entrance in the south front of the house. The northern fork arrives at a yard bounded to the north by stable or barn buildings, to the east by a 19th Century cottage, and to the south by the northern wall of the shrubbery [Fig.20]. On the west of the yard, access to the central courtyard of the manor house is through a two-storey gateway building [Fig.21]. The western approach to the house, which is no longer used, arrives at the south front along a straight drive from a 19th Century lodge on the B487.

As far as is known, the house [Figs.2,7,9,10] still stands on the site of the earliest manor house[3]. It is constructed in red brick, and listed Grade I. The majority of the external fabric of the house dates from changes made in the mid-17th Century when it was re-fronted and extended, and it was further extended in a similar style in the mid-19th Century. The principal architectural sides of the building are the south and west fronts, which incorporate 'Dutch' style gables. The main entrance is in the

[3] For the development of the house, see Boalch, *op. cit.*; N.Pevsner, *The Buildings of Hertfordshire*, 1977, pp.159-160; *Victoria County History*, Herts., Vol. 2, 1908, pp.136-138.

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centre of the south front. A central courtyard is enclosed by wings to the north and east, with the gateway in the east wing.

The area of gardens south of the house relates principally to the approaches and the main entrance in the south front. On passing through the shrubbery, the eastern approach divides to form a turning circle, emerging on either side of the lawn in front of the house. The existing layout of this approach was established between 1900 and 1911, having previously followed a more southerly route. A pond lies among mature trees to the south of the shrubbery, and from here a section of ha-ha extends west, overlooking the fields to the south. An ornamental ha-ha wall collapsed in the 1990's. A stone sundial is placed on the axis of the house, and a stone seat is located to the east of the front lawn. An area of lawn extends west of the turning circle and is ornamented with 5 clipped yews on the axis of the formal gardens to the north, from which it is separated by a low wall [Fig.9].

The walled garden lies to the north of the house [Figs. 13,15]. The walls are of red brick and are listed Grade II. The lower part of the east wall is the oldest section in the garden and dates from the 17th Century or possibly earlier. The north wall and the upper part of the east wall are later and are probably 17th Century, although they may have been altered in connection with the construction of a lean-to building outside the walled garden to the north in the 18th or 19th Century. The west wall is 19th Century with early 20th Century ornamental additions echoing the Dutch gables of the house. An arched walk of trained apple trees runs across the walled garden and is aligned with an ironwork gate leading west to the formal garden. The area to the north of the central path is uncultivated, and the area to the south is used as a gardeners' yard.

To the west of the house and walled gardens lie formal grassed parterres [Figs.11,12] which are separated by a ha-ha from the ornamental woodland of the 'Warren' beyond. The west front [Figs. 9,10,11] gives onto the upper parterre, which is flanked by two pairs of clipped yews, and enclosed by a gravel path. This lawn was laid out as a croquet lawn during the 20th Century, and it is reputedly the location of an earlier bowling green[4]. The 'Rose Lawn' to the north is a larger parterre set c.400mm below the level of the croquet lawn, to which it is linked by steps at both sides. It extends slightly north of the end of the west wall of the walled garden, which is lined with a herbaceous border. Flower beds, urns and clipped yews are symmetrically arranged around a central fountain, now dry. A 19th Century ornamental terracotta ha-ha wall with brick piers runs along the western edge. Other features include a reclining white marble nymph by Sir Charles Lawes-Wittewronge which was set on a pedestal in a pool at the south end of the lawn in the early 20th Century [Fig.14], and a rose arch along the western side of the lawn dating from the 1990's. Set within the lawn is a small plot that has been continuously planted with Red Clover since 1854 as part of the classic Rothamsted experiments. North of the Rose Lawn a grassed area with some ornamental tree planting extends to the west. The orchard that was set out in this area in the early 20th Century was removed in the 1980's.

The woodland, known as the 'Warren', lies to the west of the ha-ha and extends to the north of the parterre lawns. It provides a backdrop and a shelter for the house and formal gardens, exhibits

[4] *Welcome to Rothamsted Manor*, leaflet, 1997; Conversation with W.Bothwell.

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evidence of ornamental planting and other features, and has formed an important and integral part of the garden for much of its history. The principal designed feature is a formal avenue through the trees [Fig.16], which was laid out in its present form in the first decade of the 20th Century by Sir Charles Lawes-Wittewronge on the line of an earlier avenue. At the east end, facing the house, the avenue runs from an exedral (semi-circular) grassed area with a large copper beech to one side and two stone 'rococo' urns, and culminates in a circular clearing at the west end, where a sculpture, 'The Death of Dirce', by Sir Charles was set up according to his wishes[5] on his death in 1911 [Fig.17]. The avenue is lined throughout its length with laurel behind clipped yew hedging, which is doubled concentrically to create small compartments at the east end. Access from the croquet lawn is across the ha-ha via two steel bridges, which appear to be additions subsequent to Sir Charles' design. The axis of the avenue is slightly north of the line perpendicular to the house, and aligns with the Great Drawing Room added to the west front by Sir John Bennet Lawes in 1863.

In the woodland to the sides of the set-piece avenue, the trees include oak, ash, sweet chestnut, birch, maple, beech, sycamore, California redwood, spruce, lawson cypress, yew and larch. Trees lost in the 1987 storm included the last remnants of a lime avenue towards the southern edge. In the central area are the remains of a unique but as yet unidentified range of daffodils and rhododendrons, the legacy of a plant-breeding enthusiast who worked at Rothamsted from 1946 to 1974[6]. Further to the west, a line of yew trees remains along the line of the western boundary of the 17th Century 'Warren' woodland. To the south, a few redwoods and yews remain along the line of the old western avenue approach. In the northern section of woodland is an open circle of yew trees planted by Sir Charles at the end of the formal parterre axis [Fig.19], although this is at present obscured by rampant laurels and conifer planting. On the eastern edge of the woodland an octagonal brick and timber summerhouse with a clay-tiled roof [Fig.18] overlooks the Rose Lawn, and a ruined brick icehouse is located further to the west. Concrete foundations in the northern section are likely to date from the period of army use during the 1939-1945 war. Provisions for garden upkeep during the 20th Century did not allow for intensive maintenance of the woodland, and although some walks are still maintained, the depredations of invasive laurel are widespread.

[5] Boalch, *op. cit.*

[6] *Welcome to Rothamsted Manor*, leaflet, 1997.

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3. THE ESTATE AND MANOR HOUSE IN 1623

No documentary record of the physical form of Rothamsted has come to light from before the 17th Century. The earliest indication of the layout of the manor and estate is provided by the map of the estate and inventory of the manor produced at the time of the sale to Anne Wittewronge in 1623.

The 1623 map [Maps 3,4,15] shows the Rothamsted estate at a scale of 16 perches to an inch, and is quite accurately surveyed. It is probable that there was some later touching-up of the lines and annotations for the sake of clarity, but it is unlikely that the content was significantly contaminated as a result. There are pencil lines in the area around the house added by a later hand which seem to have been made when planning alterations to the layout. There are also some very faded red lines that follow the lines of routes that are likely to have existed through the estate [Map 4]. The principal lines are clear in the original and are shown green suggesting hedges, but the paper has darkened and the colours have faded, and the map as a whole would not copy well for publication. A tracing has therefore been used for modern reproductions and is faithful to the original, although some detail and distinction between colours and line-weights are lost. Map 15 is the author's attempt to adjust this map to the OS survey and to match the orientation and scale accordingly.

The map is principally a survey of fields and other enclosures, which are named, and their areas given. Wooded areas are indicated, together with a record of their position in the felling cycle. Trees are shown diagrammatically along some field boundaries, and form what appear to be avenues amongst more scattered arrangements in the vicinity of the house. Probably because of the scale of the map and the existence of a separate description, the house and its immediate surroundings are left blank although the forecourt, moat and orchard are shown. The position of the house in relation to the map is clear from the description in the inventory, and from the 1624 sketch of the house [Fig.1, Map 15].

The map shows the manor house set in an irregular network of fields, pastures and woods whose boundaries had probably changed little since the earliest enclosures. The fields immediately surrounding the house (The Couygre, Passage Close, The Green, The Parke, Upper Shepcote Feilde and Dredgfeild) fall within an inner boundary that may reflect the extent of the early manor.

Lanes run between Harpenden and Redbourne along the northern and southern edges of the estate. The only lanes shown approaching the manor house are from Harpenden and Hatching Green to the east; the connection with the Parish of Harpenden explains the emphasis on access from this direction. These lanes arrive at The Parke from which point no further roads are explicitly shown, but it may be assumed that the double row of trees leading south through the middle of The Parke denotes a tree-lined route. This leads to The Green (a name often associated with the entrance sequence of an estate), and from here a red line runs towards the court in front of the house and arrives on the axis of the central door, while another line gives access to the yard, stables and barns to the east of the house.

The central axis of the house extends out from the front court along a feature shown as a field boundary, but there is no evidence that this provided an actual route as suggested by the name of the

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field beyond; Passage Close. The view from the house to the south is unrestricted by trees as far as the edge of the estate.

The double rows of trees along the eastern edge and across the north of The Parke may represent alternatives to the principal approach. The northern route joins with a red line through the trees to the south of Upper Shepcote Feilde, leading to the house and yard from the north. The continuation of this route beyond the house goes through a double row of trees along the southern edge of Dredgfeild, possibly suggesting a formal approach from the west. An approach from the lane to the south-west is shown by a red line which follows field boundaries and leads to the front court.

The house and its immediate environs are described in the inventory[7]. This begins with the house, listing all its rooms including Hall, parlours, chambers, kitchen, brew-house and bake-house. An indication of the appearance of the house at this time is given in a sketch dated 1624, which shows a two-storey house with garret, triangular pediments, and recessed bays to either side of a central entrance. Having dealt with the house, the inventory continues:

A prettie Courte before the house at the goeing in on the South being 30 yds square, and is paled about. Two little garden plotts lying on each side the Courte, one behind the house, on the North there is a dayrie house, a verie faire Pigeon or dovehouse, and a Well house, that goeth with a Wheele, wherein a dogg is putt, and draweth up the water. There is also a Moate that compasseth the back parte of the house, which Moate hath been verie badly used and is dryed upp and stopped in one or two places. On the North parte of the said Moate there is a prettie orchard, that is planted with young trees, and hath verie pleasant walks about the said orchard if they were well looked unto and ordered. There is a[lso] a yard on the East parte of the house whereon standeth two faire Barnes, two Stables, and a Shedd for two Horse.

The front court appears on both the 1623 map and the 1624 sketch. The original map indicates a widening at the southern end of the central path, and shows the 'little garden plotts' in a light green colour. The perimeter of the court can still be traced in the front lawn during dry summers, which suggests that the paling was later replaced with walls. There is no indication of the use of the small plots shown to either side of the front court. Behind the house, the current location of the well and the pattern of later development indicate that the dairy, dove-house and well-house were situated to the north-east. The third garden plot would therefore have been located to the north-west of the house. It may also have extended across to the eastern edge of the moated area.

To the north of the moat, the orchard is indicated by a regular grid of trees and is coloured green to match the 'little garden plotts'. It is inscribed 'Kent'. A thin finger of land in the same colour extends south from the south-west corner of the orchard along the side of the moat, connecting the orchard to the area in front of the house with what may have been a planted walk. An orchard would typically have had perimeter and cross-walks, and it appears that the line of the east-west cross walk continued west along a tree-lined walk in The Couygre (subsequently called The Warren). The Couygre is scattered with trees in a similar way to the other areas around the house, none of which are shown fully forested.

[7] HALS *D/Elw E17*, transcript from Boalch, *op. cit.*

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4. SIR JOHN WITTEWRONGE, AND THE GARDENS AND LANDSCAPE 1623-1693

The Wittewronge family arrived in England from Ghent in 1564 to escape religious persecution in their native Flanders.[8] They became wealthy and respected members of the Flemish colony in London, with considerable interests in the brewing trade. Rothamsted was mortgaged to Jacob Wittewronge in 1611, bought outright by his widow Anne in 1623, and formally passed to their son John on his majority in 1639. John Wittewronge (1618-1693) was brought up at the house of his step-father, Sir Thomas Myddelton, a former Lord Mayor of London. He studied at Oxford, travelled abroad in 1637, and became involved in public life in London and at Court. In 1641 he was knighted, was married for the second time and took up residence at Rothamsted, which remained his principal residence for the rest of his life.

At the start of the Civil War in August 1642 Sir John joined the Parliamentary forces and saw active service until the following autumn. While continuing his involvement in public affairs he also pursued financial, business and property interests, which enabled him to carry out considerable alterations at his Rothamsted estate in the late 1640's and early 1650's. He would have been aware of current ideas and fashions in architecture and gardening through his connections, his education and travels, and his proximity to the great estates of Hertfordshire. He applied these ideas to his comparatively modest estate as appropriate to his wealth, status and aspirations. Sir John was elected to the first Parliament of the Protectorate from 1654-1658. At the Restoration he received a royal pardon, and in 1662 he was created a baronet. In 1663 he bought a property at Stantonbury in Buckinghamshire, where he enlarged and remodelled the house for his son John. From the 1660's until his death in 1693, Sir John's attention was increasingly focussed on the management of the Rothamsted estate, and his notebooks record his keen interest in the farm, brew-house, woodland and garden. A chronology of Sir John's period at Rothamsted is given in Appendix D.

In the contemporary spirit of enquiry and observation, he kept a 'Diary of Weather' from 1683-1689, in which he described daily weather conditions and wind direction. This provides rare detail of weather patterns from the period before formal meteorological recording, and has recently been published.[9] Adding to the interest of the diary are brief comments written alongside the weather entries which describe happenings and activities on the estate and in the gardens. With regard to farming on the estate, references are made to the progress and yields of crops, harvesting, haymaking, brewing and livestock. Within the gardens a few entries refer to flowers, but most concern plants and fruit raised for his own consumption, and cover not only the dates of flowering, fruiting and harvesting, but also the quality of the eating. Of additional use to this study is that some of the entries record changes to the design, while others refer incidentally to features about which we would otherwise know nothing. Taken together, this builds up a picture of mature and well-stocked walled gardens and orchards with a variety of ornamental and formal features, but devoted largely to productive plants. A list of plants mentioned in the diary is given in Appendix C.

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[8] For Wittewronge family history, see Boalch, *op. cit.*

[9] HALS *D/Elw F19*, published as; Sir John Wittewronge, *op. cit.*

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Comparison between the 1623 map [Maps 3,4,15] and Dury & Andrews' map of 1766 or the 1838 Tithe map [Maps 5,9] reveals a number of changes that transformed the estate from the Elizabethan (or Medieval) layout of 1623. These include the enlargement and regularisation of the walled area to the north of the house and the re-organisation of the field boundaries, apparently responding to the orientation of the house. Other changes less obvious from the maps had taken place: the house shown in the 1624 sketch was transformed, new outbuildings were built, extensive tree-planting was undertaken, the palings to the front court were replaced with walls, and a western avenue approach was established. Sir John's alterations to the house are well documented and survive largely intact, and it is clear that he carried out the majority of these changes to the estate, but unfortunately no maps, illustrations or descriptive accounts from his time were found during this research, and there is no overall picture of the gardens and landscape until at least 70 years after his death. That Sir John was responsible for the changes may be assumed for many reasons: their 17th Century stylistic characteristics, the survival of 17th Century brickwork in the garden walls that could only date from his period, and the fact that of Rothamsted's occupants between 1623 and the mid 19th Century he was the wealthiest, the most energetic and ambitious, and the longest-lived. He was also demonstrably interested in his estate and gardens. The account below is based on the fragmentary evidence of memoranda and accounts which mention particular features or changes, and represents an attempt to correlate these with surviving maps and with the gardens as they are today. In the light of this evidence, Map 14 is the author's attempt to show how the estate may have looked at the time of the 'Diary of Weather' in the late 17th century.

The account books and notebooks from Sir John's time provide by far the fullest record of any period covered by the Wittewronge Collection at HALS. The record is not, however, complete or continuous. Payments known to have been made do not always appear, and there are gaps in the sequence (eg 1649-1652) where it is unclear whether work was suspended, unrecorded, or whether the record is lost. Notebooks were often used only in part and some were re-used many years later. Memoranda appear almost anywhere; in separate books, or mixed in with accounts. Accounts for building work cover labour and materials, but seldom refer to specific items of work.

The 1623 inventory and map show that there were already established gardens at the time of the sale, but the description suggests that they had suffered some neglect over the previous years. A few repairs were carried out when Sir John took up residence as a later memorandum states; 'I had an Oake groweing in the warren which I caused to bee felled when I began to repair my house at Rothamsted about Anno 1638 or 1639'[10], but there is no record of major changes to the house and gardens until the late 1640's.

In 1647 the first payments to brick-makers appear in the account books, and they continue until 1653.[11] In this period the house was re-fronted in brick, dutch gables were added to the triangular pediments shown on the 1624 sketch, and it was extended with new bays at both ends of the south front. Three bays with dutch gables in a similar but more ornamented style to those on the south

[10] HALS *D/Elw F20,* also quoted in Boalch, *op.cit.*

[11] The building accounts for the house are examined in; J.Carpenter, This is the House that Jack Built, *Newsletter of Harpenden Historical Society.*

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front were added to create a new front on the west side with an open loggia (glazed in the 19th Century) on the ground floor, which Sir John referred to as 'The Arches'. A clock tower was added over the main entrance, which houses a bell dated 1650. Work was also undertaken in repairing, improving and adding to the outbuildings.

The period of greatest activity in the building works is recorded in the account books following the heading; 'Primo April 1648 – Charges aboute the building'.[12] The entries include digging sand, gathering stones, brick-making, lime-burning, tiling, plastering, carpentry, joinery and general labour. There are few explicit references to where the work was undertaken, but it is clear that it went beyond the house itself, extending, for example, to 'boarding in the Stables'. The brick-making was at its peak in 1649, and the quantity is recorded in an entry following that for 1st March 1649/50: 'Memorandum. There was burnt 184,000 of brick this year, 385 quarters of lime'.

The gardens are not mentioned in these accounts, but there can be little doubt that work was underway concurrently with the changes to the house. In 1648 'rayles' were installed by 'the new Moate'. In preparation for the new enlarged gardens and orchard, the moat shown in the 1623 map must have been filled in on the north and west sides, and a new moat (or ditch) dug further out. It is likely that the eastern side of the ditch was also altered. The ha-ha to the west of the formal parterres may date from this time.

In June 1649, payments to bricklayers were made 'for 36 pole of walling…and for 7 buttresses - £27-06-00' and similar entries for smaller quantities were made around that time. This suggests work of a routine and repetitive nature rather than that undertaken in the detailed and ornamental work on the house, and is a quantity greater than would be expected to be required for the house and outbuildings after two years' work. The payment is most likely, therefore, to refer to the construction of the new garden walls. In November payments were made to an elderly 'weeding-woman' in the garden, and the following January 'gilly-flowers' were brought from London, suggesting that new flower planting was underway in the garden. In August 1652 Sir John recorded 'Ripe Grapes & Peaches'[13], and the significance of this event may be gauged from the fact that the previous entry in the notebook was the birth of a daughter in April of that year. Later in life Sir John was to record similar events in his garden in some detail, but this is one of the first such references, and indicates that he was pleased to see his new gardens beginning to mature in the early 1650's.

In the Weather Diary, Sir John refers mainly to individual plants [see Appendix C], but there are also a few indications of alterations to the design of the gardens. In February 1685/6, for example, he 'sett the box that grew in the Knott, in the borders in the garden next the gravel walks'. This change reflected the fashion for the box-edged 'plat-bande' which was to flourish under William & Mary. There is no indication of where the 'Knott' was located, but it would have been close to the house, probably in the area immediately to the north or west. It may have been a survivor, at least in part, from the pre-1623 gardens. The only references to topiary trees or statuary appear in an entry for February 1686/7, when 7 yew trees were planted, 'one whereof is sett in the place where the

[12] HALS *D/Elw F23*.
[13] HALS *D/Elw F42*.

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stone boy stood'. In addition to these yew trees, it is likely that the 'old yew arbor' repaired by Jacob Wittewronge in 1721 (see next chapter) dated from Sir John's day. Yew trees in the garden were first mentioned in a memorandum of February 1665/6, when one was replaced with a pine. Yews became particularly fashionable in the 1680's, largely as a result of their survival in the exceptional winter of 1683 which had killed many other ornamental trees including the previously favoured cypresses, as was observed by Sir John in the early days of his weather diary.

Sir John's records do not appear to make reference to the front court described in 1623, but given the fashions of the day, it is likely that it was retained and updated in keeping with the house. The fact that the line of the court (30 yards square, as described in the inventory) can still sometimes be traced in the front lawn[14] suggests that footings may still exist, or may have been removed to leave an infilled trench. This would be consistent with walls, rather than the paling of 1623. This would be consistent with the typical layout of the period, with a gate set between piers giving access to an entrance courtyard in enclosing walls, across which a central 'broadwalk' flanked by lawns led to the main entrance. It is interesting to note that a payment to a mason for stone balls was made in 1658.[15] These may have been used for ornament elsewhere in the gardens, but they were usually used to mark gate piers, and a front court would have been the most likely location.

The 1838 Tithe Map [Map 9] shows the walled gardens and orchard prior to Sir John Bennet Lawes' alterations in the mid-19th Century, and there is no evidence that the outline of these had been changed since Sir John Wittewronge's time. Confirmation that this map shows the lines of Sir John's garden is supplied by his own measurements recorded in a memorandum of 1666.[16] This gives the length of the long walk in the gardens and orchard, running from 'the field before the house' to Dredge field as 486 feet (approx. 148m), and the width of the orchard at the northern end as 146 feet (approx. 44.5m) [Map 14]. These lengths agree almost exactly with the 1838 map when the known dimensions of the front court are added on south of the house.

Sir John's extension of the house made the house project beyond the forecourt on the west side. The new west front included 'The Arches' and overlooked an area reputed to have been a bowling green. Whatever its use, such a major architectural front would have required an appropriate garden to match. Bowling greens were typical features of gardens of the period, but this study found neither supporting nor contradictory documentary evidence in this case. 19th Century maps and views show this area laid to lawn and lying beyond the southern limit of the walled gardens. This may also have been the case in the 17th Century. but it is possible that it was enclosed as indicated on Dury & Andrews' 1766 map [Map 5]. In 1686, Sir John referred to 'the Vine by the Arches', and this appears to have survived into the 19th Century, as shown by later illustrations [Figs. 3,4,7].

The changes to the estate beyond the house and gardens in the 17th Century included alterations to the field boundaries shown on the 1623 map. A more geometrically ordered and orthogonal arrangement was created, oriented parallel to the lines of the house, although a number of irregular

[14] Boalch, *op. cit.*

[15] Transcripts from the Wittewronge Papers, B.P.Scattergood, 1935-1937, Vol.2, Bundle 39.

[16] HALS *D/Elw F20.*

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features were allowed to remain. These changes enhanced the setting of the house and gardens in accordance with the increasingly formal and axial concerns of the day, and followed similar lines to the later pencil additions on the 1623 map, which must have been used in the planning.

The alterations were most extensive to the south and west of the house. Running west from the gate of the front entrance court, a straight avenue was created to the lane between Redbourn and Hatching Green, along the line still existing today. Sir John would have used this route for his frequent travels to and from London, and the emphasis given to the new west front of the house confirms that this was an important approach. To the south of this avenue the pre-existing curved and irregular field boundaries were swept away, and a large, almost rectangular field was created, shown on the 1766 map, and still visible in fragments on the 1st edition 25" OS map [Map 11]. This larger field must have been created after 1667, when the settlement on the marriage of Sir John's son James included 'A close of pasture lying before the said Mansion House called Passage Close containing by estimation 10 acres'[17], which matches the field shown on the 1623 map. To the north and west of the house, the old orchard was extended north and west, and the wooded area of the Warren was moved north, reducing the size of Dredge Field. The line of this new boundary was extended further east, cutting off the southern part of Upper Shepcote Field [Maps 14,15].

Sir John's notebooks contain many references to trees. Most of these concern the management of his woodland, but in addition to records of day-to-day forestry there are some entries that show tree-planting underway to enhance the landscape of the estate. A number of entries show that varied tree planting was undertaken in the Warren to the west of the walled gardens, and that the Warren was thus increasingly considered to be part of the garden area. Access to walks through the Warren plantation from the walled gardens was probably from a gate at the western end of the orchard crosswalk. Planting included fruit trees, broadleaf natives, and a mix of conifers, which were considered ornamental and very desirable for a plantation. A memorandum of February 1665/6 mentions firs planted in the Warren and in 'the new warren orchard', and also the pruning of young trees.[18] The marriage settlement of 1667 describes the 5 acres of the Warren as a 'close of pasture adjoining the orchard or garden wall of the Mansion House called the New Orchard and Plantation'.[19] The effect of the evergreen conifer planting was such, that Jacob Wittewronge referred to the Warren as the 'ffurr grove' in the 1720's.

In the 1670's planting was carried out in the Park to the east of the house, and a memorandum of November 1674 states; 'made an End of setting ye Wood at ye left [side?] & further end of ye Park on ye left hand of ye long walk'.[20] The 'long walk' probably followed the line of the eastern approach shown in 1623. The wood and scattered parkland trees to the north-west of this route appear on the 1766 map, and survived largely intact on the 3rd edition OS map of 1924.

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[17] Scattergood, *op. cit.*, Vol.2, Bundle 39.
[18] HALS *D/Elw F20.*
[19] Scattergood, *op. cit.*, Vol.2, Bundle 39.
[20] HALS *D/Elw F42.*

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5. JACOB WITTEWRONGE [The Younger] 1693-1728

On the death of Sir John Wittewronge in 1693, Rothamsted passed to his second son, James (1647-1721). He followed a successful career in the law in London and Hertfordshire, but seems to have had little time or interest to devote to changes on his estate. Nothing is revealed about the gardens from the records of his period at Rothamsted. His son Jacob died at the age of 22 leaving James' grandson, also Jacob (born posthumously), to inherit Rothamsted in 1721. It had probably been little changed since the time of Sir John.

The majority of Jacob Wittewronge [The Younger]'s records were kept in a notebook previously used by Sir John.[21] This contains basic household, estate, cellar and garden accounts, and general memoranda. The events that he chose to record in the memoranda are reminiscent of his great-grandfather; births, deaths, exceptional weather, and the state of the garden. It is clear from the notebook that Jacob Wittewronge had an enthusiasm for gardening, and the changes undertaken by him were characteristic of contemporary fashions in garden design. The extent to which his ambitions could be realised was limited by the size and income of the estate, and by his death after only 7 years as proprietor, at the age of 35.

The accounts show that preparations for gardening works were already underway in 1720, when payments were made for a dunghill, gardening tools, and the first of many deliveries of trees. During 1721 the work was centred on the garden. A new 'Laurel arbour' and yew 'bench' joined the 'old yew arbor,' new garden gates were installed, 'palisades' painted, garden walls repaired, and 4 'lead colour' flower-pots were added. A hedge and ditch were made around the Warren, which was now alternatively called the 'ffurr grove', reflecting Sir John Wittewronge's 17th Century plantings.

In December 1721 attention moved beyond the garden walls, and work began on the 'Wood walks', which is likely to refer to walks through the Warren. This area was described by Sir John as 'the New Orchard and Plantation' in 1667, and in the terms characteristic of the early 18th Century it would also have been considered as a 'wilderness' or 'grove,' with straight and possibly serpentine walks amongst tree planting. The tree-lined walk suggested by the 1623 map may have been retained through the 17th Century, and others added. In this context the 1400 'hornbeam setts' would be typical of planting in the early 18th Century, and would have created lines of clipped hedging along walks or avenues between areas of larger trees.

In the same month an avenue of 40 elms was planted running south across the field in front of the house. This avenue was probably never used as an approach; it existed for show, to enhance the setting of the house. It appears on the 1st edition OS map, and some trees remained until destroyed by Dutch Elm disease in the 1970's.

In March 1721/2 new turf was laid out to the 'Grass walk in ye Garden' and in the 'Court' in front of the house. The latter may be explained by the contemporary fashion to change the approach to

[21] HALS *D/Elw F42*.

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the entrance door from a central 'broadwalk' between flanking lawns to a turning circle for carriages with a central lawn. In the same month there was also an increase in the topiary; in March 100 Standard and 4 Pyramid yews were added to the clipped yews of the arbour and bench, and these were followed in July by phillyreas, hollys and more yews.

In October 1722 labourers were 'laying out ye Orchard', and in November further evergreens and fruit trees were planted. The fruit trees are recorded in a memorandum:

Nov 14th 1722 – I planted the cross walks in the Orchard with young Apple trees for hedges most of them nonparels. I likewise planted at the same time the South West Wall next the Warren or Ffurr Grove wth Peaches, Apricots, Figgs, Pears, 2 plumbs, 2 Gold Pippins, & 2 Quinces. there is ag.t that wall 42 trees.

These new trees were added to the stock he had inherited, which was flourishing in 1723:

July 23th 1723 – I this day gathered a nectarine full ripe & found two ripe peaches fallen off one of my trees w.ch peaches never used to ripen till towds the end of August. Note this is the most plentyfull year of Wall fruit viz. Peaches, Nectarines, & Apricocks, that ever I remember, & they ripen a fortnight or 3 weeks before the usual time, it having been a very drye Summer.

From 1723-1725 the accounts show work continuing in the orchard, where the maintenance of the gravel walks seems to have been particularly labour-intensive.

An undated note in the accounts under 'An Acct. of money layd out abt my House, Gardens and Furniture…' gives an overview of the total expenditure at Rothamsted in this period. £101 – 08 – 06 was paid 'To Harvey, Davis, Kilbey & Bales [?]' out of a total of £960 – 02 – 00, for 'Fruit Trees & Greens, all sorts of Garden Tools, Labourers in digging Gravel, cuting & laying Turf &c. abt. the Garden'.

The accounts and memoranda tail away after 1725, but work was still underway. In 1726, £21 – 09 – 00 was paid to 'Labourers in ye Garden clearing Woods &c.'. This is a substantial sum compared with the earlier work on the 'Wood walks' and implies more than simple maintenance; it may record the clearing of a new avenue through the Warren.

It was characteristic of this period to adopt an increasingly large-scale approach to the design of an estate, with avenues and large areas of woodland or plantations brought into a formal layout. A survey was essential for planning on this scale. The accounts show that a survey of Rothamsted was carried out in 1722, but it is missing from the Wittewronge Collection at HALS. This study found no direct evidence to suggest that it was intended for use in planning alterations but this seems the most likely purpose, as there is no indication that the survey was required for a sale.

The last entry by Jacob Wittewronge concerning the garden appears as a debt of £60, owed 'To my Gardiner John Peters on Note' in October 1727. In June 1727, his wife died after 'a long and lingring illness', and Jacob died in the following year.

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6. THE DEVELOPMENT OF THE ESTATE FROM 1728 TO THE PRESENT

This account of the development of the estate from the 18th Century is based on analysis of maps and illustrations, supported by information from published material, in particular Boalch's history of the Manor.

Dury & Andrew's county map of 1766 [Map 5] shows the estate laid out with avenues and axial development in a form probably little changed since 1728. The approaches from Harpenden and Hatching Green, the western avenue, and the route running across the north side of the manor grounds are all shown as tree-lined avenues. The 'Warren' is shown as a plantation on a regular grid, and the area to the east of the house called the 'Hopp Pasture' in 1623 is shown in a similar style, suggesting an orchard. There is no sign of the influence of the Brownian landscape style.

At about this time the new occupant, John Bennet, commissioned plans from an unknown architect to build a new house in the Adam style. The drawings were never executed and remain in the Wittewronge Collection.

Thomas Baskerfield's 'Hertfordshire Illustrated' contains a view of the house dated 1787 [Fig.3] and a sketch-plan of the estate in a map of Harpenden c.1790 [Map 6]. The view shows the western approach curving and arriving at a grassed turning circle in front of the house, separated from the fields or park to the south by an ornamental fence. The walled garden is shown starting at the north of Sir John Wittewronge's west front. The 'Arches' are covered with climbing plants (probably a vine), two conifers are shown in island beds with shrub and flower planting, and conifers are shown in what appears to be a shrubbery on the east side of the house. The plan is little more than an ideogram, but it shows the four-quartered orchard to the north of the house, the eastern yard and outbuildings, and the pond, and it hints at the avenues. An interesting aspect is an exedral feature to the west of orchard cross-walk with an axial line extending into the Warren plantation. This is reminiscent of the Warren avenue laid out in the early 1900's further to the south.

In the early 19th Century, the 1822 Bryant county map [Map 7] and the 1st edition 1" OS map of 1835 [Map 8] show the area around the house and particularly to the south as open parkland. The OS map also shows four clumps in the park which would have featured prominently in views from the house. The most southerly of these was located on the line of the 1721 elm avenue, as shown on the 1st edition 6" OS map of 1878 [Map 10].

The 1838 Tithe Map [Map 9] shows the extent of the walled orchard, and the smaller walled garden close to the house is divided in two. Other features of interest are the pond shown in the eastern yard which appears nowhere else in the record, and the small building at north-west corner of the orchard in the approximate location of the existing summerhouse. In the accompanying field lists, the large field to the south of the house is listed as 'Home Field, arable, John Sarnell'.

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In 1834, Sir John Bennet Lawes took up residence at Rothamsted.[22] He set up a laboratory and began investigations on the manuring of agricultural plants, first in pots, and then on the home farm. The classic systematic field experiments started in 1843, and subsequently he was to devote 40 acres of the estate to research. He had taken out his first patent for super-phosphate fertilizer in 1842, and by 1847 he was beginning to see good returns, although the requirements of his scientific and business interests did not yet allow for major alterations to the gardens. In the same year his wife Lady Caroline Lawes painted the house from the south west, showing the same features as the 1787 view, but with some additional round island beds arranged informally on the west lawn [Fig. 4]. At about this time she also painted a view of the house from the pond [Fig. 5] which appears to show the park running up to the house, but it may be assumed that the cows were in reality excluded from the lawns in front of the house.

In 1863, in celebration of the coming-of-age Sir John's son Charles, the Great Drawing-Room was added in two bays extending to the north of Sir John Wittewronge's 3-bay west front, with Dutch gables in a matching style [Figs.2,10]. Two greenhouses were also added flanking the drawing-room to the north [Fig.7]. This work necessitated changes to the gardens, including the demolition of the southern garden walls. The walled garden adjacent to the house was removed and the larger walled area to the north was cut in half; a new wall running north from the west wing created a reduced kitchen garden to the east, and opened up the western half as formal parterres, enclosed to the west and south with a low terracotta wall. This layout is essentially that remaining today. A clear indication of Sir John Bennet Lawes' priorities is given by the fact that, despite the creation of this new formal layout, the continuous clover bed experiment set up in 1854 in the old walled garden was allowed to remain in position, now stranded off-axis in the ornamental lawn.

The 1st edition 6" and 25" OS maps were surveyed in 1878 and published in 1884 [Maps 10,11], and together with the article and illustrations in the Gardeners' Chronicle of 1875[23] [Figs.7,8], they give a good impression of the changes made in the 1860's. In addition to the areas around the house mentioned above, the maps show a number of interesting features in the 'Warren' and woodland to the west, which is shown with a variety of conifer and broadleaf planting.

An avenue is cut through the trees and extends in lines of broadleaf trees in the field beyond, oriented slightly north of square from the house. It is separated from the formal gardens by the ha-ha ditch. The fact that the avenue aligns with the windows of the drawing-room extension [Fig.16] suggests that it may be of a similar date, and there is no specific reference to this feature in the documentary record earlier than these maps. There was a fashion for avenues in the 1850's and 1860's, although these were often of conifers. Nevertheless its provenance remains obscure, and it may be of 18th Century origin. The intermittent trees and the ragged edges of the avenue seem to support this. It is tempting for the author to believe, albeit with insufficient evidence, that this feature was laid out by Jacob Wittewronge in the 1720's as one of his 'wood-walks', and was recorded in Baskerfield's rough map c.1790, albeit in slightly the wrong location.

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[22] For an account of Bennet Lawes' life, see Boalch, *op. cit.*

[23] *The Gardeners' Chronicle*, 5.6.1875, pp.720-1.

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To the south of the woodland, one of the lines of trees shown running along the western approach was the lime avenue mentioned and illustrated in the Gardeners' Chronicle article [Fig.8]. This lime walk formed part of a woodland walk that started from the front lawn and led around the southern and western edges of the 17th Century 'Warren'. The map shows new tree planting on either side of the field to the west of the wood (no.551 on 1st edition 25" map). This was arranged in such a way that the view across the landscape beyond was obscured until the point where the perimeter walk crossed the avenue. A branch from the perimeter walk went past the icehouse and then continued west and north along a further woodland walk kept separate from the estate tracks, leading through a new mixed plantation to Knot Wood.

Other features shown for the first time on these maps are areas of field experiments, and the three lodges on each of the approaches; from Harpenden, from Hatching Green, and towards Redbourn to the west.

The next period of change in the gardens was the first decade of the 20th Century. On the death of Sir John Bennet Lawes in 1900, Rothamsted was inherited by his son Sir Charles Lawes-Wittewronge (1843-1911), but the agricultural experiments on the estate were continued under the auspices of a trust. Sir Charles was an accomplished athlete and sculptor and did not share his father's scientific leanings, tending towards the arts. He was interested in genealogy and heraldry, and he undertook extensive work in the house in accordance with his desire to see Rothamsted as a country seat appropriate to the Wittewronge pedigree. He bought a large number of art objects and furnishings for the house and ornaments for the garden. Many of these were later sold, but some still remain.

Sir Charles' changes to the estate are shown on the 3rd edition 25" OS map [Map 12]. In the gardens, he removed his father's greenhouses to the north of the Great Drawing-Room and built a library at an angle, incorporating an earlier wall [Fig.2]. He built ornamental gables to the top of the kitchen garden's west wall [Fig.13], and linked this with the new library with a section of 'crinkle-crankle' wall. He added stone ornaments to the formal parterres, including his own marble sculpture of a reclining woman [Fig.14]. The lawn in front of the west front was planted with carpet bedding, as mentioned in an account of 1905 and shown on a postcard of c.1910 [Fig.10]. In the 'Warren' he created a formal avenue [Fig.16] along the line of the earlier clearing, terminating in a circular area designed to receive his large sculptural group 'The Death of Dirce' [Fig.17]. The tree-planting was extended further west to give this setting the required enclosure. To the north of the parterres he created a formal orchard extending west into the 'Warren', and he added further planting to the north around a circular clearing, now planted with yew, and possibly intended for another sculpture. South of the house, the end of the western approach was moved to the south. This created a new west lawn incorporating the limes of the earlier lime walk, and also had the effect of breaking the long perspective of the western approach. In 1906 Rothamsted appeared in 'Country Life'.[24]

Apart from minor alterations, little in the gardens has changed since 1911, although the kitchen garden is no longer used. Beyond the gardens, the character of the surrounding parkland has

[24] *Country Life*, 24.2.1906, p.270; 10.3.1906, p.349.

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understandably been altered as more land has been taken up by experimental fields. Many trees have been lost, including the scattered trees and clumps in the parkland to the south and west of the house. The 1721 elm avenue was lost to Dutch Elm disease in the 1970's, and the last of the limes in the western approach were lost in the storms of 1987.