

University of Oxford, Botanic Garden
Harcourt Arboretum



Restoration and Management Plan

UNIVERSITY OF OXFORD BOTANIC GARDEN

**HARCOURT ARBORETUM
RESTORATION/ DEVELOPMENT PLAN**

**REPORT
April 2003**

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Three prints of Harcourt from Boydell 1793

Harcourt Arboretum Restoration/ Development Plan Report

1. BACKGROUND

Introduction

The University of Oxford have managed the Harcourt Arboretum as part of the Botanic Garden for the last forty years during which time the inherited collection has been maintained and new collections and other initiatives have been introduced.

The pressure from visitors is growing as local people are finding the Arboretum an increasingly attractive as a place to visit and walk. Extended access into the winter months has exacerbated problems of maintenance. In addition the teaching and research emphasis within the Department of Plant Sciences is expanding from classification and study of individual specimens to include an understanding of plant communities and ecosystems and their conservation.

In view of these three considerations, the Botanic Garden has identified a need to agree a new direction for the Arboretum to acknowledge and maintain the historic resource, while still meeting the long term teaching role of the Botanic Garden, and providing a benefit for visitors. Kim Wilkie Associates has been commissioned to provide a plan for the Arboretum that will set out:

- a framework for management of the existing resource;
- a vision of the future of the Arboretum;
- proposals for implementation works; and
- outline costs for budgetary/ fundraising purposes.



1707. Showing the layout of the area as it was when Sir Simon Harcourt bought the estate in 1712

History of the Arboretum

Based on the research by David Lambert and Mavis Batey

Harcourt Arboretum, formerly the University Arboretum, was incorporated in the University's Botanic Garden in 1963. The University had acquired the estate in 1949 after the wartime requisition by the RAF had ended. Following extensive restoration in 1968, the main house was let as a hall of residence to Culham College of Education. In 1979 the lease was transferred to Rothmans International as a training centre, and the house has now been let to the Global Retreat Centre of the Brahma Kumaris.

The 1st Earl Harcourt (1714-77) built the house at Nuneham to a design by Stiff Leadbetter (1756-early 1760s). At this time the area later occupied by the Arboretum was part of the uninclosed waste of the parish of Marsh Baldon, and owned by Queen's College. Access to the house from the east was recorded on the Richard Davis map of Oxfordshire (1793-94) via an unimposing gate at the southern end of the village. A second grander approach entered from the south near Clifton Hampden. The 1st Earl notoriously transplanted the riverside village to the Oxford-Dorchester road a mile and a half to the east in the early 1760s, and demolished the church of All Saints (1764) to rebuild it as a classical garden temple. During the 1st Earl's ownership his son, who became the 2nd Earl in 1777, also commissioned William Mason to design the celebrated Flower Garden (1770-72). The 2nd Earl Harcourt (1736-1809,) commissioned Carr of York to remodel the house (1777-82) and Capability Brown to prepare designs for the park and pleasure grounds (1779-82). In the event, Carr's contract was cancelled (1781) and Brown oversaw the conversion of the villa.

Although the main ornamental approach to the house was from the Abingdon or Clifton Lodge to the south, the land to the east was not ignored during the eighteenth century. The park was inclosed with a wall when the village was moved in the 1760s, and the ancient field system was broken up at that date with part of those fields being inclosed in the park. These included most of Wheat Land Field, Rye Hills, Cow Common, and Wind Mill Field.

Plantations in Windmill Field and Coneyberry Hill were described as new in 1773, and in 1786, Lord Harcourt wrote to Lady Harcourt referring to what was evidently a new drive in Black Wood in the south-east part of the landscape. It can be guessed that this is the serpentine drive leading from the Abingdon lodge eastwards towards the southern end of the Arboretum area. Certainly by the time of the 1838 tithe map, the parkland on this side of the estate was well developed and an integral part of the ornamental landscape.

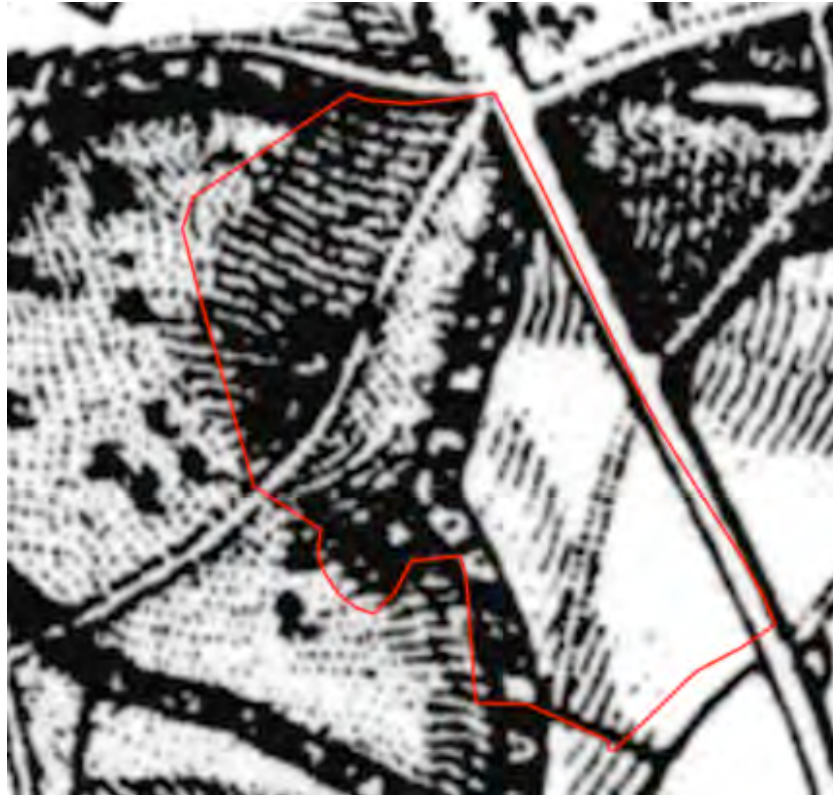
(The red outline on the following historical plans shows the current extent of the Arboretum.)



1797. The village has been rebuilt (top right) house has been built (to west)
Note secondary entrance from the Oxford Road through parkland and shelterbelts.



1811 Original entrance still used. Note topography of Windmill Hill



1830. Parkland and shelterbelt established. Marsh Baldon Waste has still not been planted.



1838. Layout of clumps, old drive, shelterbelts and planting on Windmill Hill in place

The Marsh Baldon waste however was not brought into the estate until 1837, when an Enclosure Act allocated 91 acres to “the trustees of Earl Harcourt”. In 1830, the estate was inherited by the 3rd Earl’s brother-in-law, who had become Archbishop of York in 1807 at the age of fifty. He changed his name to Vernon-Harcourt and embarked on a programme of estate improvement at the age of 73. Vernon Harcourt commissioned major enlargements to the house from Sir Robert Smirke in 1832. He also asked William Sawrey Gilpin to design a pinetum on an 8-acre piece of the newly acquired land. Abutting the turnpike the new land also allowed for the construction of a fresh approach to the house. The approach entered via a new lodge, designed by Smirke and built in 1838 on the turnpike south of the village. The drive led through the new pinetum before joining the old route from the village across the deer park.

Gilpin was a nephew of the Reverend William Gilpin, the leading figure in the development of the Picturesque as an aesthetic and landscape category. William Sawrey Gilpin’s treatise on landscape gardening, *Practical Hints upon Landscape Gardening* was first published in 1832. On the design of an approach he wrote in the *Practical Hints* that it should appear to be an “unstudied road to the house” and stressed that after leaving the public road “the approach should avoid any direction parallel with it.” He disliked the artifice of a perfect curve “or easy sweep, as it is termed”, and he also liked “to show from the approach such scenery as did not come within view from the house and the dress ground.” All these strictures are evident in the planning of this new approach.

Gilpin’s style of planting was to emphasise variety of form, eschewing “insipid sweeps” and preferring a contrast of “projection and recess” in plantations. He advocated portions of lawn intersecting in glades between masses of shrubs in “promontory beds” such as he introduced in reworking Mason’s Flower Garden, and similar patterns of which can be discerned in the pinetum. It is notable that his *Hints* also commended “punctuation” of grassy glades with conifers.

The Harcourt manuscripts contain records of many of the orders to nurseries placed during the period of Gilpin’s involvement. The records do not distinguish between plants for the Flower Garden and the vicinity of the house (on which Gilpin worked from 1834) and for the new Pinetum post-1837. Nevertheless specimen trees can be picked out, especially where they are bought as single items, as can forest trees. For example, in 1837 an order to Stone’s nursery, included three hundred each of spruce, larch, Scots pine and English oaks; however in 1838 an order to John Lee & Co. included what seem to be a number of specimen trees, ordered singly.ⁱ In 1838, J Bates was paid £12.2.6. for forest trees including 50 Birch, 100 elms, 450 Oaks, 200 Larch, 800 Scotch Firs, 150 strong Thorns, 200 Spruce, 100 Spanish Chestnut, 250 Beech, and 200 Quicks, as well as unspecified numbers of small trees and shrubs including Acacia, Magnolia, pink Hawthorn, Rhododendrons, Junipers, variegated Hollies, and Laburnums. In 1839 Thomas Waterer was paid £17 for American plants and in the same year, Gilpin arranged for the delivery of pine plants from Clumber in Nottinghamshire where he was also working.



1840. 'Waste' or common pasture inclosed in 1838 with little tree planting



1875/9. Pinetum planted, drive realigned, new gate house, note complex woodland track system



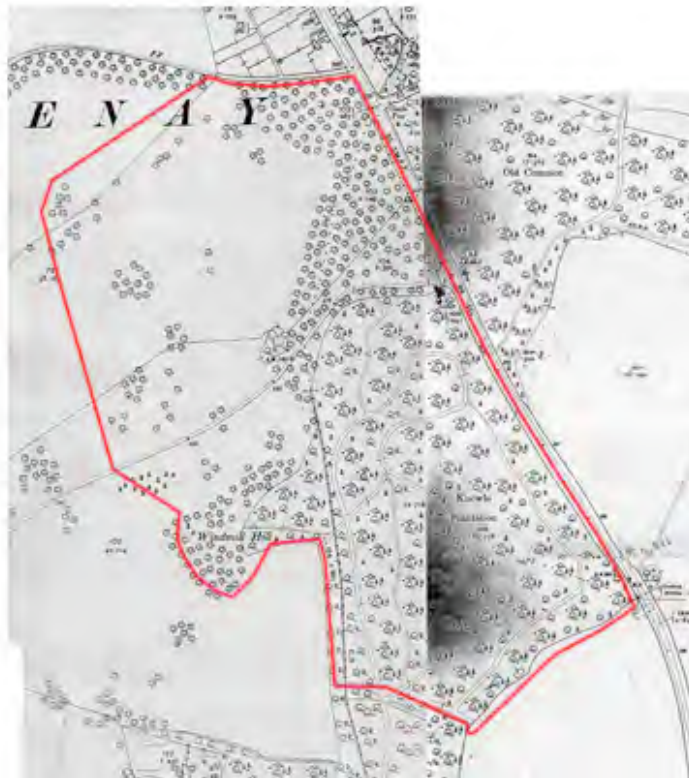
1884 Parkland clumps breaking up. Scots Pine on Windmill Hill and Serpentine Ride clearly visible



1899. Appearance of fencelines in the parkland.

It is uncertain for how long before his death in 1843 Gilpin continued to advise on the Arboretum but it should not be assumed that he was working in isolation, or on purely picturesque principles. Although in 1838, he was working for the Archbishop, who died in 1847 aged 90, the Archbishop's improvements to the house had enabled his extensive family to make a good deal of use. The Reverend William Vernon Harcourt was his second son, and only inherited after the death of his elder brother in 1861, but he was a regular visitor to his father and elder brother long before that. The Wellingtonias in the Arboretum probably date from shortly after their introduction to this country in 1853. It seems likely that William Vernon Harcourt, with his strong scientific and botanical interests, had an input into the design and planting of the Arboretum, possibly even from the time of Gilpin. Rather than see two phases (Gilpin: c1837-43) and Vernon Harcourt (1861-71) in the design of the Arboretum, it is probably more appropriate to see a continuum 1837-71. Research on the ground may reveal evidence of scientific rather than, or as well as, picturesque grouping of trees, in accordance for example with questions of taxonomy or varying ground conditions. There is evidence of a "scientific" grouping of Cedrus, and of Araucaria, even with some "picturesque" outliers.

Reverend William Vernon Harcourt was a Fellow of the Royal Society, and the founder of the British Association for the Advancement of Science in 1831. He was also a close friend of Professor Charles Daubeny, with whom he had studied chemistry at Oxford as a fellow undergraduate. Daubeny was elected President of the British Association in 1836, and had been appointed Sherardian Professor of Botany and given charge of the Oxford Physic Garden in 1834. Daubeny's curator at the Garden was William Baxter. Baxter made a specialism of the new American exotics, many of which survive today (e.g. by Rose Lane gate). Baxter was called on regularly for help with planting in the city, advising on, and supplying trees for, the landscaping of Park Town (1853-5) and of the University Parks. It seems inconceivable that Vernon Harcourt did not share his interest in plants with his old friend from his days at Oxford, and it seems unlikely that Daubeny and Baxter did not help with supplying plants for the Arboretum as Reverend William Vernon Harcourt developed it. Harcourt opened the Pinetum to the public twice a week after he inherited. Daubeny's diary 1836-50, kept by the University Herbarium, may be a useful source of information on his extracurricular work, but has not been examined for the purposes of this report.



1912. The layout is much as it is today. Fewer paths through the Pinetum and the Serpentine Ride clearly visible.

After William Vernon's death in 1871 he was succeeded by his son, Colonel Edward Harcourt, MP, who disentailed Nuneham before leaving it to his son Aubrey in 1891. After Aubrey's death in 1904, Nuneham passed to his uncle, Sir William Harcourt, Chancellor of the Exchequer. Ironically, Sir William's greatest political achievement, the introduction of death-duties, presented him with a succession of personal financial problems in sorting out fifty years of under-investment at Nuneham Courtenay. He already had a family home, Malwood, and although he began to tackle the estate's problems he survived only a few months after inheriting it. His son, Lewis, created Viscount Harcourt in 1917, oversaw a renaissance in the estate's fortunes, but died in 1922. Nuneham was then inherited by the last of the Harcourts, William Edward, the 2nd Viscount. William Edward sold the property in 1948 to Oxford University. In the original purchase only a part of the pinetum was acquired, and it was only in 1968 that it was enlarged to the present 50 acres.

The Arboretum was expanded in 1999 to take over the management of more of the parkland which had previously been farmed. The current extent of the Arboretum is indicated by the red line superimposed on the preceding historical maps.

For further details refer to *The Harcourt Family and their Planting* by Mavis Batey in the appendices.

Site assessment

Available information includes

- Digital ordnance survey base plan
- Digital contours
- Aerial photo,
- Historical desk studies by Mavis Batey and David Lambert
- The Arboretum's paper maps and records
- Site visits.

If a digital tree survey was carried out, this could be linked to a Botanic Gardens GIS database of plants and photos in the future

Summary of existing situation

1. Entrance

The entrance gates and lodge house built in 1838 as the new grand approach from the Oxford Road remain as a bold announcement to the Arboretum. However, the access road now runs slightly aimlessly through the Arboretum without an apparent destination as the main house is currently reached from another access off the Oxford Road immediately north of the Arboretum.

2. Parkland

The parkland has been managed as arable and pasture since the University purchased the estate. The route of the access road and the outlines of the major parkland clumps can still be discerned, as can the oaks planted to screen the Oxford Road when the new entrance was built. The park has been broken up to some extent by recent post and wire fencing. One fence line has been planted in the last year with hedge plants. Pylons carrying high-tension electricity cables now cross the site.



Parkland with clump of oak trees.

3. Gilpin's Serpentine Ride

Within the Arboretum, the Serpentine Ride laid out by William Sawrey Gilpin branching off the main access and rising up over the top of Windmill Hill before rejoining the original estate access remains but is no longer well enough defined to form the principal structure for the exotic plantings. His dense rhododendron plantations, which originally enclosed the grass path are considerably degraded along much of its length and are being slowly restored in places. The grass path is in poor repair in places and has been restored over perhaps 10% of its length.



The traces of glades probably laid out by William Sawrey Gilpin between promontory beds of massed shrubs can still be discerned; some of them still characteristically punctuated by specimen conifers. Some planting associations such as the magnolia glade or the camellia glade can be identified. In general however, the shape of the garden as originally designed is no longer apparent without careful study and interpretation.

4. The Vernon Harcourts' Pinetum

The Vernon Harcourts' exotic coniferous specimen plantings from the 1830s and 1860s are now mature and suffering ongoing losses due to disease, lightning or old age. Any pattern or grouping of plants is therefore difficult to assert with great confidence although there do appear to be particular areas of cedars, australian cedars, and firs.



5. Native woodland

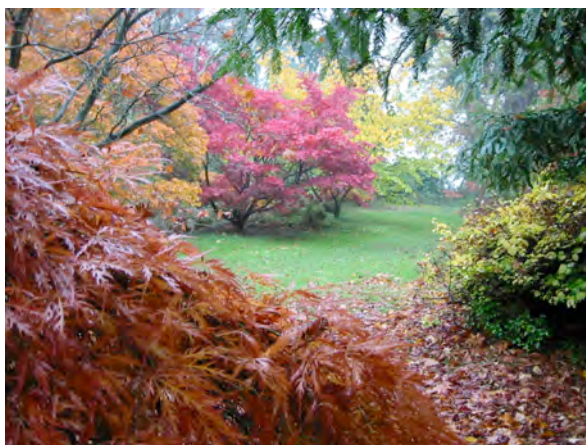
The plantings of native oak, lime and ash (18th and 19th century), with naturalised exotics such as sweet chestnut and beech continue to flourish and offer exceptional educational potential. Other areas of woodland, with undifferentiated mixes of self-seeded species in the wet central part of the Arboretum, need urgent management.



William Sawrey Gilpin's stand of Scots Pine still exists near the top of Windmill Hill and offers another useful potential to demonstrate a different habitat type. The area managed as species rich meadow has been increased by a recent allocation of land by the University.

6. Exotic collections.

There are also more recent exotic collections the largest of which is the Acer Walk (1960s and 1990s). In addition there are plantings of more recent or unknown ages such as the fern glade (1999), the plants from high places (1990s), the bamboo glade (1980s) and the magnolia glade (1960s).



2. VISION

Guiding Principles

1. Layout of the exotic Pinetum

The planting within the estate demonstrates a fascinating transition from a picturesque tradition of landscape design through a newly emerging scientific or gardenesque approach for the Pinetum in the 1830s and 40s and culminating in the plantings of William Vernon Harcourt in the 1860s and 70s. During the 1830s Archbishop Vernon-Harcourt inclosed land to create a new entrance and lodge house on the Oxford Road and commissioned William Sawry Gilpin to design a pinetum on the site of the present Arboretum. This was laid out in the 'picturesque' style with characteristic features reminiscent of his 'Mason's Garden' close to the house, such as grassy glades along a rhododendron-lined serpentine ride, separated and defined by mass shrub planting and punctuated with exotic conifers.



Mason's Garden



Pinetum

The structure of the serpentine walk with glades opening off it, should be restored both as a historical record and as a practical way of arranging and accessing collections of exotic plants. The key elements of this part of the Arboretum will be specimen trees, massed shrub planting, and grass with bulbs. There will not be many herbaceous plants or areas of bedding out.

2. Scientific Tradition

Harcourt's friend, Daubney was pioneering research at the time into the effect of soil types on plant growth. The unusual acid Greensand conditions on his friend's estate at Harcourt are highly suggestive of an inspiration, if not ongoing collaboration, in a more 'scientific' or 'gardenesque' basis for plant selection and placement. It is understood that Daubney's diaries still exist and may be the source of further fruitful studies that are unfortunately outside the scope of this short study.

The Archbishop's nephew, William Vernon Harcourt expanded the pinetum on a more purely scientific or 'gardenesque' basis from 1861 to 1865. Extensive exotic planting lists are available and it may be particularly significant that Vernon Harcourt also had associations with the Oxford Physic Gardens, which specialised in caring for the new conifer introductions from the Americas. This strongly suggests that the individual plant selections within each glade should be based on a rational, pragmatic and scientific basis to meet the future needs of the Arboretum.

3. Native Woodlands

There is a clear distinction within the Arboretum between the exotic collections of trees and shrubs associated with the Pinetum, and the areas of native woodland, some of which were planted at the same time in the 1830s and 40s, and some of which had been planted earlier as part of the original estate shelter belts probably around the 1760s.

These native woodlands have preserved a number of distinct characters that can be managed as a rare educational resource in their own right. These include oak/ bluebell wood (the traditional managed woodland of most of England), uncommon lime wood (once the original pre-human woodland of all of south east England), Birch, Scots Pine and Ash. This combination offers exceptional interest and innovative educational possibilities for teaching and researching plant communities, woodland management, woodland succession, and other ecological and environmental principles. It also offers a contrasting view of planting and caring for trees which may offer social and historical insights.

The native woodland types should be preserved, further differentiated and developed if possible to include other characteristic woodland types.



Birch/ fern wood



1838 map of woodland areas

4. Parkland

When the estate was first remodelled around 1750, the parkland stretched to the Oxford Road with clumps and boundary plantings of mostly native species on the area of grassland within the Arboretum. The wooded area of the Arboretum was at this point managed as pasture within an adjacent estate.

This suggests that the 'meadow' should be managed as grazed Parkland and that tree planting in this area should recreate the original parkland clumps. The line of the old drive can be mown as a footpath access and the original gate to the Oxford Road might be a suitable location for a new exit.

The Role of the Arboretum in the 21s Century

The role of the Arboretum will continue to be fundamentally about education, but the interpretation will need to expand to other groups beyond undergraduate teaching and postgraduate research to include schools and life-long learning. Similarly the lessons that the Arboretum can help teach will expand beyond traditional botany and taxonomy to ecology, plant communities and their management for conservation, garden history, the history of science, landscape history and management, and woodland history and management.

The collection and management of exotic plant species is now useful for amenity, for teaching and to illustrate the character of the historic Pinetum. However, the areas of different native woodland types potentially offer a more significant resource and an even greater range of teaching and research opportunities.

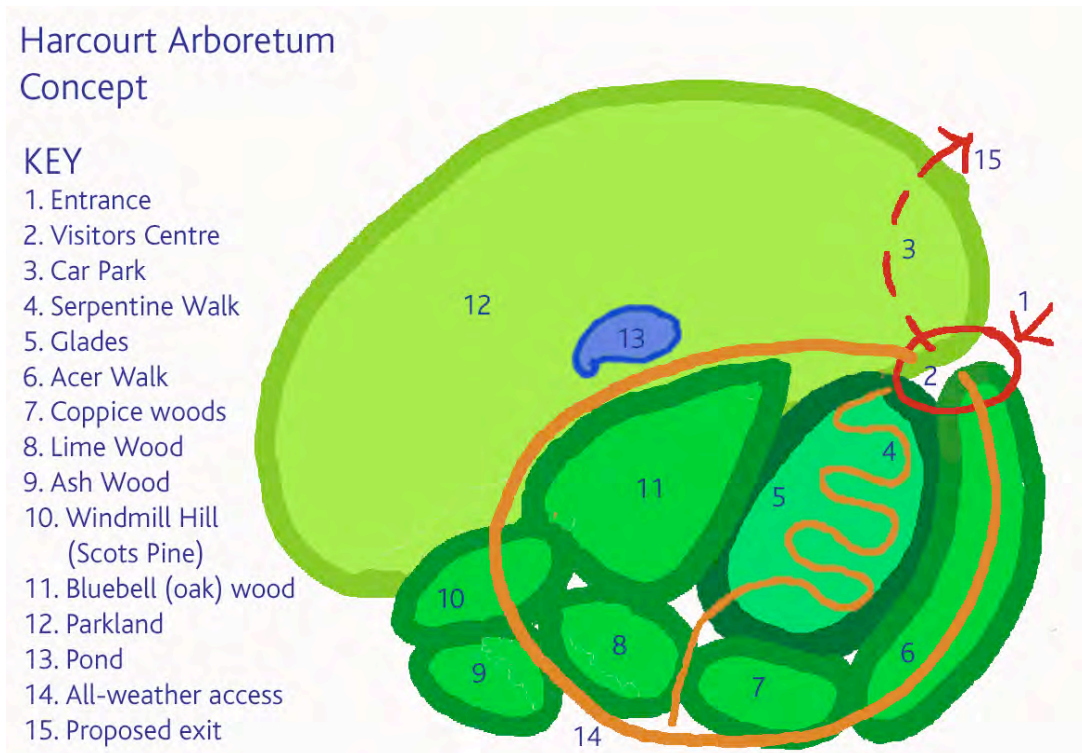
The Arboretum would also like to provide an amenity for local people to visit, walk and enjoy the trees. There may also be opportunities for other community benefits such as the demonstration of traditional woodland crafts, events performances and the display of art.

Structure

The Arboretum has to develop a clear structure which builds on the existing historical resource and can accommodate future uses

It will recognise distinction between three elements of the arboretum:

1. the exotic pinetum glades, with its specimen trees and massed shrubs,
2. the native woodlands,
3. and the parkland.



1. Glades/ pinetum

Restore the picturesque structure of the glades and develop the exotic collections

- Replant rhododendrons to line the serpentine walk through the exotic plantations and glades, and restore grass on sections still in poor condition including reshaping to drain more positively
- Develop glades to meet educational, collections, and artistic aspirations. Detailed design of planting to clearly express the separate character of each glade.
- Plant exotic specimen trees grouped scientifically around specific glades
- Replant promontories of massed shrubs between glades to define them more clearly, selecting shrubs appropriate to the trees in that area
- Maintain glades as mown grass with drifts of bulbs
- Do not introduce manicured herbaceous or bedding out displays alien to the Gilpin concept
- Promote event space within one glade and provide all-weather access and servicing as alternative to grass serpentine ride.

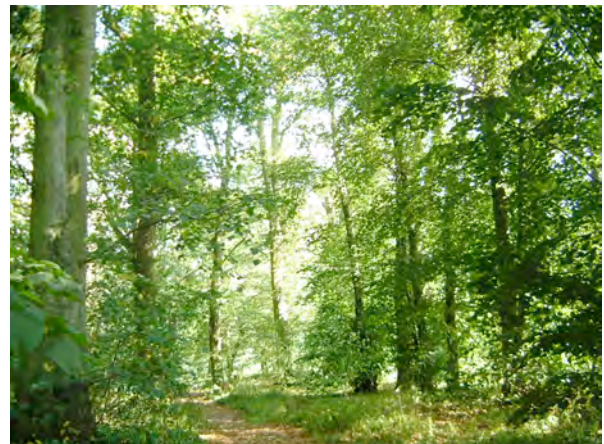
2. Woodlands

Differentiate management of nine woodland habitats: eight native/ naturalised and one exotic.

- oak,
- lime,
- ash,
- pine,
- wet, birch woodland,
- beech,
- yew
- coppice woodland, and
- autumn colour/ Acer woodland.



oak wood



lime wood

3. Parkland

Make proposals for managing the species-rich meadow as grazed parkland including provision of parkland fencing to permit three grazing regimes.

- Summer flowering
- Spring flowering
- Parkland under trees

Clumps of trees and woodland edge to be protected with black metal estate railing. Paths to be separated from stock during grazing using temporary electric fencing.



Access

The hierarchy of vehicle and pedestrian accesses can be clarified to improve the usefulness and attractiveness of the Arboretum

- Upgrade car park access with new exit onto Oxford Road to improve safety
- Improve drainage on grass serpentine ride
- All weather access to teaching and performance areas
- All weather access around full Arboretum perimeter to access all areas
- Mown grass paths on route of original (pre 1838) drive through meadows
- Cabling to permit temporary event lighting of key routes to teaching and performance spaces
- Signage for direction as well as interpretation



Operations

There are a number of opportunities to improve the operations of the gardens

- Interpretation.
Work with the building architects to link the visitor centre with external teaching spaces and a woodland craft facility for demonstrations and sales
- Access and Parking
Create new exit on Oxford road north of entrance with internal link road/ circuit. Plant specimen oaks in area of future parking extension. Surface parking using reinforced earth and reinforced grass to protect existing and future root plates. Create new woodland screen to Oxford Road incorporating new footpath from parking to visitor centre
- Signage
Design and implement interpretative and orientation signage.
- Tractor shed
Investigate relocation of the nursery/ holding area nearer to the Tractor Shed. Reorganise access and provide safe visitor viewing of composting

Habitat management

Manage habitats for nature conservation and as an educational resource

- Oak/ hazel woodland managed for oak timber, hazel coppice, and bluebells in the spring
- Sweet chestnut, hazel, willow and poplar coppice woodland to produce poles and wands for manufacture of craft items (palings, hurdles, etc)
- Lime woodland
- Ash woodland with associated shrub layer
- Beech and sweet chestnut plantations with limited shrub layer
- Scots pine woodland with ericaceous herb layer and holly/ juniper shrub layer
- Wet birch woodland with bracken, fern herb layer and foxgloves in clearings
- Black poplar woodland
- Herb rich parkland containing different management regimes and the wet margins of the ponds.



Plant Collections

Review configuration of existing collections. Planting in grassy glades along the following lines:

Glade	Trees	Shrubs
Entrance Lodge Glade	Cedars	Azalea
Entrance glade to serpentine walk	<i>Cedrus atlantica</i>	None
Monkey puzzle glade	<i>Araucaria araucana</i>	Eucryphia
First tree glade	Firs (Abies)	Ferns
Camellia glades	Ginkos and Metasequoia	Camellia
Pine glade	Corsican pine	Cistus, Ceanothus,
Magnolia glade	Magnolia	Magnolia
Swamp cypress glade (was plants from high places)	<i>Taxodium distichum</i>	Wetland, marginals, Kalmias
Performance glade	<i>Sequoiadendron giganteum</i>	Rhododendron

Within the Acer walk introduce single-species planted glades of Alder (*Alnus glutinosa*), Liquidambar, Aspen (*Populus tremulens*) and a ring of Coastal redwood (*Sequoia sempervirens*) at No Peace Corner.

Education

The Arboretum operates on a number of levels. Maintaining the resource of trees, which may take up to a hundred years to reach maturity, requires long term planning and a broad outlook.

- For University teaching the Arboretum needs to maintain a representative range of trees and shrubs from all the families found in the temperate regions of the world that can be grown in Oxfordshire.
- As well as individual exotic specimens, it can also maintain areas that demonstrate characteristic plant associations, particularly British plant communities.
- There is also a conservation role, both by growing suitable specific plants for programmes of seed collection from endangered gene pools (e.g. *Araucaria araucana* from threatened Chilean forests) and areas for the cultivation of translocated populations of endangered species, and as a practical resource for teaching the principles and practice of native habitat conservation.
- For school children, the Arboretum offers opportunities for teaching a range of subjects from plant biology and land management to ecology in a stimulating and appropriate environment.
- It can also serve to increase the appreciation and valuing of the environment among young people and offer them inspiration, guidance and examples of how we can live more sustainably
- There are opportunities to work with the building architects to link the visitor centre to the Arboretum through a demonstration garden and nursery
- There are opportunities for outdoor spaces for teaching
- Routes can be combined with teaching courses, leaflets and self guided interpretation trails.
- It would be possible to improve the links from the car park to the visitor centre to improve the arrival experience for groups and individuals.

Woodland crafts

The management of the woodland will demonstrate the traditional production of timber from felling of mature trees and wood from regular coppicing of understorey trees and shrubs.

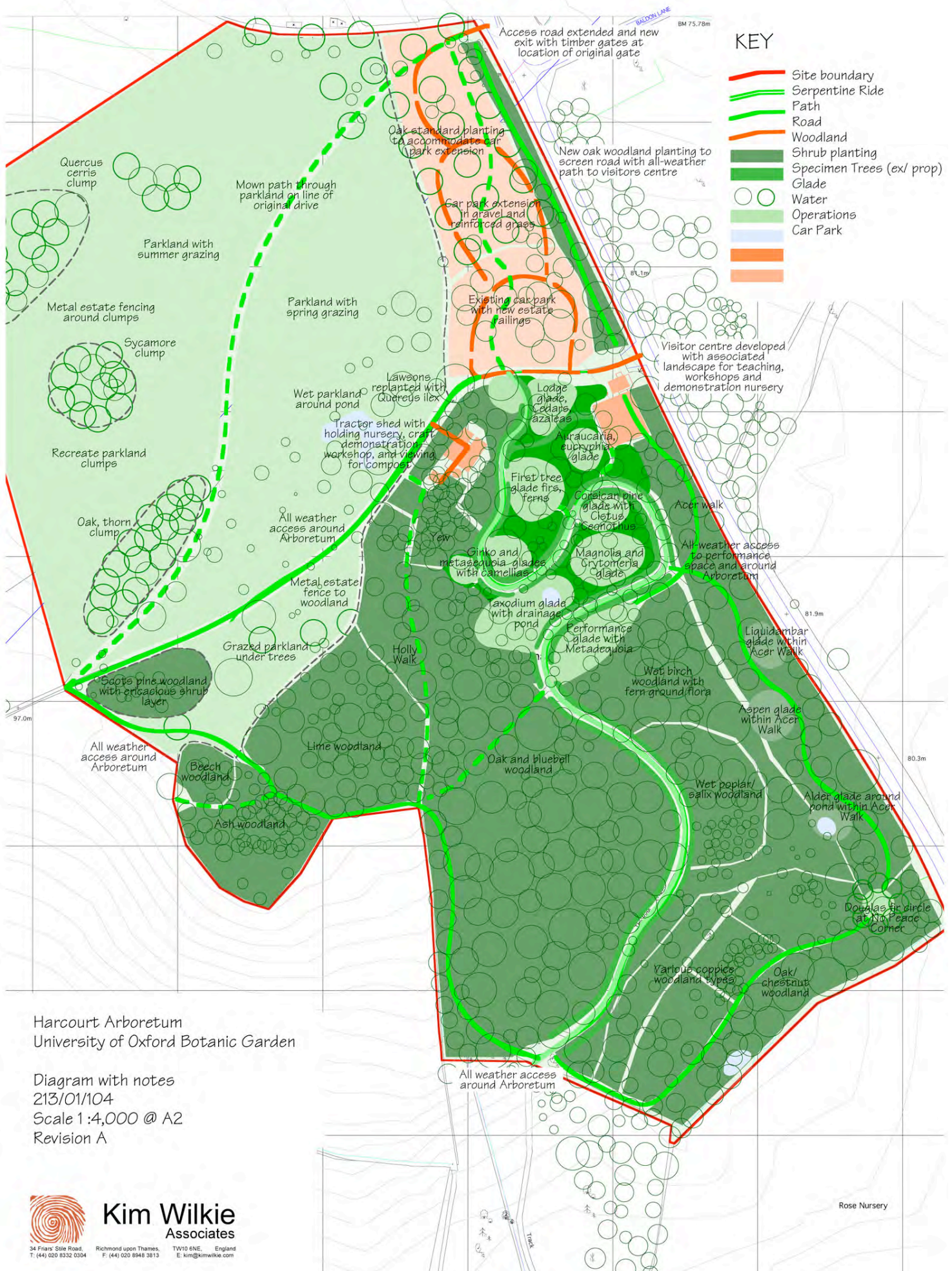
Facilities can be made available around the visitor and education centre for on-site businesses to demonstrate and teach woodland crafts which use traditional woodland products such as poles and wands. They can also sell products such as hurdles, stakes, baskets, cuttings and transplants

Arts

- Consider scope for extending existing collection of sculpture and artworks
- Explore with local schools the involvement of children in creation and appreciation of art, particularly environmental art



3. MASTERPLAN



Harcourt Arboretum
University of Oxford Botanic Garden

Diagram with notes
213/01/104
Scale 1:4,000 @ A2
Revision A

4. IMPLEMENTATION

Some of the proposals can be implemented by adapting the ongoing management and maintenance regime of the Arboretum. This will naturally require the appropriate allocation of resources. The majority of the capital works should be completed as a series of projects within a five to seven year timeframe. Some of these will require the services of external suppliers, consultants and contractors.

The first set of projects requiring grant funding should be developed to at least application stage within 12 months. These all have a defined scope and a potential grant funding source available. Funding bodies to be approached will include English Heritage, Heritage Lottery Fund, New Opportunities Fund, the Estate Management, Countryside Agency Stewardship scheme, and COPUS.

- Parkland
- Coppice project
- Car park and access
- External works to visitors centre

There will be a set of projects carried out by allocation of additional resources to existing staff:

- Woodland management
- Glade and ride planting
- Tractor shed improvements
- All-weather access

There are further projects that will also require grant funding and for which a potential source has been identified. However these are not such an immediate priority and could be considered once the first phase is underway:

- Performance space
- Signage and interpretation

Table of Possible Projects

project	Capital or ongoing	Externally or internally run	Grants available	Priority (high=1-2years, med=2-5 years, low=5-7years)
Parkland	C / O	E	Yes	High
Coppice	C / O	I	Yes	High
Car park and access	C	E	Yes	High
Visitor centre external works	C	E		Med
Woodland management	O	I		High
Glade and ride planting	C / O	I	Yes	High
Tractor shed improvements	C	I		Med
All weather access	C	I	Yes	Med
Performance space	C	I	Yes	Med
Signage and interpretation	C	E	Yes	Med

Appendix A

THE HARCOURT FAMILY AND THEIR PLANTING

Mavis Batey

The Harcourts, whose ancestral home was Stanton Harcourt, were the only Oxfordshire Conquest families to survive when the Lovells, the D'Oyleys and the Courtenays were only remembered as place names. The last Lord Harcourt sold the Nuneham Courtenay estate to the University of Oxford in 1948 and returned to Stanton Harcourt. If Stanton Harcourt had been acquired through conquest, Nuneham Courtenay had been obtained by the purse. The manor of Newnham had changed many times since it was held by the Courtenays, and it was from Sir John Robinson that Sir Simon Harcourt, Queen Anne's Lord Chancellor, bought the estate in 1712 for £17,000 as an investment; 'the cheapest pennyworth that was bought in Oxfordshire' as his lawyer said. The Harcourt seat was not actually moved there until the 1750s, when the Chancellor's grandson, the 1st Earl Harcourt, decided to abandon the low-lying ancient home at Stanton Harcourt and the nearby Queen Anne house at Cokethorpe in favour of the superior landscaping possibilities of Nuneham Courtenay on a bluff above the Thames, six miles south of Oxford. The visitor approaching the mansion from the road is unaware that it stands on an eminence until he reaches the garden front and the landscape which determined the Earl's choice of site opens up before him, as beautiful as it is unexpected.

1st Earl's Palladian villa and classical landscape

Lord Harcourt had inherited the estates and considerable fortune of his grandfather at the age of thirteen and landscaping and arboriculture were in his blood. His grandfather and father had been patrons of Alexander Pope, who often stayed at Stanton Harcourt, and his mother, who brought up the young heir, was an Evelyn. When he had completed his education by making the Grand Tour, the young milord became much interested in classical culture and in 1734 helped to found the Dilettanti Society for those, like himself, who had travelled in Italy; he became its first President. He had greatly admired the Palladian villas overlooking the Brenta which were a feature of the landscape between Padua and Vicenza and realized that he had had the good fortune to inherit at Nuneham Courtenay what Palladio himself had described as the ideal situation for a villa, 'advantageous and delicious as can be desired, being situated on a hillock of most easy ascent, at the foot of which runs a navigable river and on the other side surrounded by several hills that seem to form an amphitheatre'.

The Earl joined the Burlington set as an amateur architect and, with the help of Leadbetter, drew up plans for his villa, which would be given the prescribed Palladian situation on the easy hillock with its animated river prospect. The original manor house in a dell below the church was demolished and the family moved into their new villa home in 1760. Newly-acquired paintings by Poussin and Claude had pride of place on its walls, but before the Earl could achieve an idealised classical landscape to be seen from his windows drastic measures had to be taken. The Thames vista the Earl particularly wished to feature was that to the north with its skyline of the spires and domes of Oxford, remarkably reminiscent of the distant view of Rome from the surrounding hills, so beloved by painters.

The old sprawling Newnham Courtenay of about sixty farms and cottages stood in the way, however, and before commencing his landscaping the Earl was obliged to knock the entire village down, and remove it to its present position over a mile away outside the park on the Oxford turnpike. 'Athenian' Stuart assisted him in redesigning the old church as a Greek temple which

served a dual purpose as a garden ornament. Oliver Goldsmith, who had witnessed the removal of the village on the way to Oxford in 1761, berated, in his poem, 'The Deserted Village', the tyrannical 'man of wealth and pride' who had destroyed a 'smiling long-frequented village' and desecrated its 'decent church'. Horace Walpole thought differently and saw the temple-church as 'the principal feature in one of the most beautiful landscapes in the world'. The farming community had been banished, but his Lordship still needed some of their cattle to provide the Arcadian setting to his landscape. Sheep were of course essential to the classical pastoral image, but a means of keeping them out of the pleasure grounds was needed, the usual solution of the ha-ha not being sufficient as the water meadows flooded during the winter and the cattle needed to be taken to graze in the upper fields; undaunted the landscaper Earl had a tunnel cut through the hill for the transport of the ornamental cattle.

Once the village with its cobbled streets and hedged field boundaries had been removed, the Earl chose his trees for the new site with care and supervised the planting himself. Here his ancestor's great forestry classic *Sylva* would have been a source of enlightenment, not only on planting instructions but also on how the texture, colouring and character of the trees would assist the landowner who was his own landscape designer. Evelyn had stipulated that beech trees needed to be staked out for planting 40ft apart and would do well upon the side of a hill as they could insinuate their roots into seemingly impenetrable earth. Farington's illustration shows Lord Harcourt's beeches thirty years after planting, when the scrub had been removed from the slopes, allowing the lawn and the water meadows to unite and reveal the smooth contours of the landscape; the beeches provide a stately foreground for the panoramic view of Oxford beyond. Ironically, the Earl's fate was bound up with arboriculture as when, in 1777, he was engaged in measuring out and putting stakes in places for trees to be planted elsewhere in the park, his little dog fell into an old village well which had not been adequately covered and he lost his life in trying to rescue him.

2nd Earl and the Picturesque landscape

The 2nd Earl did not inherit his father's taste for grandeur or public life and was, for a time, greatly influenced by Rousseau and refused to attend court or be addressed as 'My Lord'. When he inherited he wanted a comfortable house to live in and a natural garden to walk in. Lord Harcourt's wife, his cousin Elizabeth Vernon, a poetess much admired by Walpole, was co-creator of romantic Nuneham. During his father's lifetime Lord Nuneham had already, in Walpole's words, 'begged an acre' for his famous flower garden where the cult of sensibility and flowers went hand in hand; it was laid out by the poet-gardener, William Mason, in 1772, as described in Book 4 of his poem 'The English Garden' and was inspired by Julie's Elysee garden in La Nouvelle Heloise, described as:

'a sanctuary, close to the house, concealed from the outside world by a thick shrubbery; inside all was natural without order or symmetry, garden flowers mingled with wild flowers, arbours formed by drooping foliage, creepers thrown negligently from tree to tree as in the forest and the path around the glade irregular like the steps of an indolent man.'

The 1st Earl, returning from his embassy in France had deplored the negligence of the drooping bowers and the sentimental urns and inscriptions evoking 'pleasing melancholy' in Mason's garden and built a laundry overlooking it. He then took his chastened son, Lord Nuneham, to accompany him on his next mission as Lord Lieutenant of Ireland to take his mind off Rousseau. After his father's death the new Earl lost no time in screening the offensive laundry and placing a statue of the 'Man of Feeling' in the Elysee, bearing the inscription 'Tis Rousseau, let thy bosom speak the

rest'. Although he never renounced his 'Rousseauian code' completely, 'the gentle executioner' as Walpole called him, did abandon his republicanism and invited their Majesties to stay at Nuneham. George III and his family made frequent visits after the reconciliation, finding it, as the King said the most enjoyable place they knew and, as for the Harcourts, the royal children thought them 'the very best people in the Kingdom after Mama and Papa'. Lady Harcourt remained the Queen's intimate and valued friend throughout her life.

The 2nd Earl and William Mason had turned their attention to the 1st Earl's classical landscape garden at an early stage and as the Revd William Gilpin was retiring from Cheam School in 1777 he was offered the living of Nuneham in order to superintend replanning; the picturesque parson declined, however, perhaps not fancying the Greek temple for his ministry, a traditional New Forest church being more to his liking. As Gilpin's patron the Earl had encouraged him to publish his manuscript tours of picturesque observation which he had undertaken in the 1760s and 70s. His picturesque tour of the Highlands would later be dedicated to Lord Harcourt. Gilpin pointed out to the traveller in various scenic regions 'stations' from which the view was such as would make a good picture, whether or not the onlooker intended to paint it. Gilpin had never intended his suggestions for picturesque tourism to be taken up by landscape gardeners but Mason developed the practical idea of creating a picturesque garden tour, with contrived 'stations' and framed views. The Earl, himself was an artist tutored by Paul Sandby, and much admired by Walpole; he assisted Reynolds with the formation of the Royal Academy and established a Society of Amateur Artists in Oxford. He wrote his own Nuneham guide book giving the picturesque stations he and Mason had planned, telling the visitor how to appreciate the view in terms of Gilpin's painterly ideas of composition, foregrounds, distances and connection. 'On the left there is a narrow opening that admits a view over underwood, and the trees in the foreground, apparently uniting with a clump in the garden below, leading the eye to the other masses of wood till it reaches Oxford, which is framed by trees and shrubs'.

This part of the tour relates to the northern terrace, already laid out by the 1st Earl with its panoramic views. The 1st Earl had left the thousands of acres in his southern landscape in its original heavily wooded state for hunting; a deer park was first mentioned in 1379, part of which is now known as Lock Wood, where traces of the park pale can be seen. The 2nd Earl wanted to extend his picturesque garden tour here as well, but thousands of acres of landscape were beyond Mason's capability and Brown was called in. His commission, in 1779, was in no sense the usual nobleman's wish for 'place-making' and Mason was instructed to keep a watchful eye on Brown's work with 'poet's feeling and painter's eye'. Capability Brown was quite happy with the arrangement saying that he preferred working for a sensitive landlord who had no wish to create the 'stare views' he was so often asked to provide. Whereas Mason had made use of the 1st Earl's existing landscape for his gallery of pictures, Brown was to make a natural woodland walk above the Thames from which to enjoy picturesque scenes; to avoid a continuous panoramic view the path was sometimes sunk or planted with shrubs to give Gilpin 'hide and discover' peephole views of the winding river and Abingdon church spire in its Berkshire hills setting. Seats were placed at the permitted viewpoints and at one spot a natural couch was provided by the moss-covered roots of an old oak, which became known as Whitehead's oak, since the poet laureate, who had been Lord Harcourt's tutor, used to love to recline there.

William Whitehead wrote a poem on 'The Late Improvements at Nuneham' pointing out that the whole picture seen from under his venerable oak was so seemingly uncontrived that it was difficult to see which was Brown and which Nature. Certainly little planting had been needed but in his light-hearted dialogue with Nature who claimed the beauties as her own, Brown pointed out;

*Who thinn'd, and who grouped, and who scattered those trees
Who bade the slopes fall with that delicate ease
Who cast them in shade, and who placed them in light,
Who bade them divide, and who bade them unite?*

'Brown's Walk', as it is still called, finally led down the hill through browsing deer to the river. Mason had planned a ruined Gothic tower, to be called Courtenay Castle, on the brow of the hill which was marked as 'intended' on Brown's plan and Walpole had already supplied the stained glass for it, but when, in 1787, Oxford presented him with the ornaments from the Carfax Conduit, discarded in a road widening scheme, the Earl decided that genuine antiquity and native workmanship would make a better picturesque eye-catcher for Brown's Hill. Farington makes a delightful depiction of the finished scene as viewed from Whitehead's oak as an illustration for Boydell's History of the Thames in 1794; the text by William Combe owed much to the Earl's Nuneham guide book. Another Farington illustration showed the rough path by the river, a picturesque scene which Walpole had said was 'worthy of the bold pencil of Rubens'.

Vernon Harcourts and Nuneham

William Harcourt, the 'cold general' of Fanny Burney's diary inherited when his brother died in 1809. Nuneham slept during the 3rd Earl's occupancy as he preferred to live at his house in Windsor Park and seldom visited. The 2nd Earl's widow, Elizabeth, who was on cool terms with the new Countess, returned to Sudbury and then to York to join the family of her brother Edward, who had recently been made Archbishop of York and was the next in line to inherit Nuneham, she and the 3rd Earl's wife both being childless (the 1st Earl Harcourt's sister, their mother, had married into the Vernon family). Elizabeth hoped that she might outlive her brother-in-law and one day return, in a dowager capacity, to the artistic Nuneham, she had helped to create with the 2nd Earl. Alas the 3rd Earl out-lived Elizabeth, dying aged 87 in 1830 when finally her elderly brother took possession of Nuneham without her. The Archbishop then changed his name to Vernon Harcourt and set about rehabilitating the estate, particularly the part of the park that had been patriotically ploughed up by the 2nd Earl during the Napoleonic Wars. The man chosen for 'extensive improvements' to the grounds was William Sawrey Gilpin, the nephew of William Gilpin, whose picturesque Wye Tour he had illustrated as a young man; his father Sawrey Gilpin had been drawing master at his uncle's Cheam School, which he had attended. William Sawrey Gilpin was already known to the Vernons at Sudbury through the Harcourts' patronage of his uncle, even before the 1820s when he notified the Vernon family that he had decided, belatedly, to take up a career as a picturesque improver.

The Archbishop had a large family of eleven sons and five daughters and his eldest son and heir, George Granville, persuaded him to add a new wing to the house to accommodate those who wished to stay at Nuneham, which for the academically-minded members, like the next in line, William, had the added attraction of its proximity to Oxford. Sir Robert Smirke was called in to add what was virtually a new country house as a south extension. 18th century Nuneham had literally sprung out of the turf and the Archbishop wanted that changed as a priority. William Sawrey Gilpin's first task was to add a balustraded terrace to the garden front of the villa. The ground sloped away from the house to the river and W.S Gilpin always advised that in these cases it was necessary to restore the plane for the house by a horizontal terrace and architectural feature. The Archbishop was now ready for grand receptions and in 1841 Queen Victoria and the Prince Albert spent part of their honeymoon in Smirke's new velvet state rooms following the

Prince's honorary degree ceremony in Oxford. Heads of colleges were received at a levee and could now spread out onto William Sawrey Gilpin's terrace to admire the Thames landscape.

Gilpin's nephew had also been instructed to turn his attention to the overgrown flower garden. As Loudon commented when he saw it, just before William Sawrey Gilpin appeared, it bore little resemblance to the famous garden he had seen thirty years before. The 2nd Earl had already made 'material alterations' to the garden painted by Sandby, but after the bust of Rousseau and many of the urns had been removed by the Archbishop, William Sawrey Gilpin could play down the sentimental emphasis of Mason's garden and concentrate on picturesque ornamental shrubberies, such as his uncle had described on forest 'lawns' with 'islands and peninsulas of forest scenery shooting into them'. When there were discussions about possible restoration of the flower garden in the 1970s it was thought that the more formal 1772 Sandby illustration with the box-edged beds should be followed and although this was attempted it has not been maintained and now the garden has of its own accord evolved into the 1834 William Sawrey Gilpin version. The nurserymen's bills show that at the time Gilpin had ordered sweetbriars, hydrangeas, Scotch roses, arbutus and rhododendrons for the picturesque shrubberies.

In 1832, the year he was first called to Nuneham, William Sawrey Gilpin had published his book 'Practical Hints on Landscape Gardening' in which he acknowledged how much he was indebted to his uncle's picturesque ideas, particularly in relation to trees in his 'Remarks on Forest Scenery' which he had published in 1791 when living in the New Forest. The Scots pine had previously been planted by improvers as a nurse crop but the Gilpins promoted its picturesque qualities when planted singly 'in a perfect state of Nature', comparing it with the stone pine which features as a foreground tree in so many Italian landscape paintings, being open enough to admit the distant view. W.S Gilpin introduced Scots pine at the Nuneham garden tour 'stations' to make framed pictures of the Thames. Mason had detested Scots pine and must have turned in his grave when they were planted; there was even one in his flower garden, which when it blew down in the 1980s was ring-dated to 1834, confirming the date of the William Sawrey Gilpin planting. The bills show that in all he had ordered over a thousand Scots pine, particularly for the part of the park in the Windmill Hill area.

The Gilpins disliked the open pastoral image, such as the 1st Earl had so assiduously tried to introduce into the creation of his original Arcadian classical garden, as they preferred connected picturesque plantations to 'mass with the distance', rather than a landscape garden which blended into the rural landscape by means of a ha-ha. W.S Gilpin also disapproved of Brownian clumps and smooth regular curves and advocated variety of form; he wanted no 'insipid sweeps' but contrast of 'projection and recess' in plantations. He recommended conifer 'punctuation' in grassy glades and this would have special application to the new pinetum the Archbishop commissioned him to lay out when he acquired land in 1835 for a new grand approach to the mansion from the Oxford road.

The Nuneham Arboretum Picturesque and Gardenesque

Designing and staking out the layout of an arboretum on picturesque principles was well within William Sawrey Gilpin's capacity but he could make no claims to botanical, horticultural or arboricultural scientific knowledge as J.C. Loudon was quick to point out when he reviewed his book 'Practical Hints on Landscape Gardening' in 1832. It was praise indeed when he stated 'we know not that there is a single hint, as far as hints go, to which we could object' but he regretted that horticulture as such was not mentioned. 'Mere picturesque improvement is not enough in these enlightened times' he said, 'it is necessary to understand that there is such a character of art as the

gardenesque as well as the picturesque'. The Royal Horticultural Society had already been founded at the beginning of the century following the growing feeling that horticulture had been neglected in the cult of the Picturesque. Loudon had used the term gardenesque for the first time deliberately in a Gilpin context to signify 'as a gardener would like it' in the same way as picturesque had been used to mean 'as a painter would like it'; what a gardener would like and expect, according to Loudon, would be the cultivation of plants, especially the new exotic introductions, in a way which would enable them to 'arrive at perfection'.

If Loudon's gardensque planning required down to earth botanical skills as opposed to painterly ideas of composition, then help, second to none, was near to hand in the Oxford Botanic Garden, which for more than 200 years had cultivated plants from all over the world in what might be called by Loudon's definition a gardenesque way. It was indeed fortunate that William Vernon Harcourt's lifelong friend and enthusiastic collaborator, Charles Daubeny, was appointed Sherardian Professor of Botany and put in charge of the Oxford Physic Garden in 1834, the very year that the Nuneham arboretum, or pinetum as it was first called, was being planned. Daubeny and William Vernon Harcourt had studied chemistry and mineralogy at Oxford together under Dr Kidd, whom Daubeny followed as Professor of Chemistry in 1822; both he and Vernon Harcourt were Fellows of the Royal Society and much respected in their fields. Vernon Harcourt was appointed canon of York in 1824, when his father occupied the bishop's palace, and held a Yorkshire living but was also active in establishing the movement for the cultivation of science in the county, constructing a laboratory where he occupied himself in chemical analysis, aided by his early friends Davy and Wollaston. William Vernon Harcourt was the founder of the British Association for the Advancement of Science in 1831, in York, and its first secretary; he drew up its plan for 'a stronger impulse and more systematic direction to scientific enquiry' with the backing of Daubeny from Oxford; the study of plants in the interest of science and industry was one of the ideas they wished to promote. Daubeny and Vernon Harcourt arranged for the next meeting in 1832 to take place in Oxford to indicate that the advancement of science should be strongly linked with their University; later famous Oxford meetings were held in 1847 and 1860 with receptions in the Botanic Garden.

Charles Daubeny, with his strong scientific application, wanted the Oxford Physic Garden, which he petitioned to be renamed the Oxford Botanic Garden, to become experimental and in particular to ascertain 'the effects of soils or of chemical agents upon vegetation'. In 1840 Daubeny was also given the new chair of Rural Economy and extended his interests to agriculture. Plots were laid out to test the mineral requirements of crops in an area outside the Oxford Botanic Garden, in what is now the residential Daubeny Road: he set up the first experiments with chemical fertilisers in this country. By 1843 one of his pupils, John Bennet Lawes went on to found the great experimental station on his estate at Rothamsted. Cultivating plants from abroad was a speciality of Bobart under Professor Morison; the combination of down-to-earth gardener backed by academic interest worked well as noted by John Evelyn when he visited the Oxford Physic Garden for 'hortulan refreshment' in 1654. In the 1830s there was a similar relationship between the head gardener William Baxter, working under Daubeny; his speciality was willows and caring for the new conifer introductions from the Americas, which 'interesting tribe' Daubeny noted in the guide he published in 1850 had been planted on the strip of ground outside the walls to the west of the garden. Baxter and his son, also William, who followed him as curator in 1851, were happy to advise Oxford on planting, notably at Park Town, the North Oxford garden suburb, the University Parks and Headington Hall, and would certainly have been available to be consulted by the Harcourt family at Nuneham if required.

Daubeny and Vernon Harcourt had a common zeal for universal scientific education. Vernon Harcourt had been the first President of the Yorkshire Philosophical Society and started a public

museum as part of it. Daubeny had been the founding secretary of the Ashmolean Society, which met in his rooms in 1828 and went on to form a Daubeny Club to bring together all those working or interested in natural science. He transformed the Botanic Garden and opened it to the public, labelling plants to increase visitors' interest and allowing the new Oxfordshire Horticultural Society, of which he was patron, to hold shows there. Oxford's children, many of them taken to the Botanic Garden on Lewis Carroll's walks, delighted in the giant Daubeny water lilies and the monkeys kept in cages in the gateway.

After his brother's death in 1861, William Vernon Harcourt settled permanently at Nuneham and as the new owner set about making it a centre for scientific research and a meeting place for scientists. He threw himself whole-heartedly into running the estate and extended the arboretum. There was now an even greater opportunity for specimen tree planting in Gilpin's picturesque pinetum when the redwoods arrived from California in the 1850s; today their trunks make striking, almost architectural features, at the end of his grassy glades. Nuneham's grounds were open to the public twice a week, not just to carriage folk presenting themselves at the lodge but also for those who rowed out from Oxford for whom picnic huts were provided by the river. Alice recalled being taken with her sisters to one of the huts by Lewis Carroll and afterwards walking in the 'fairyland of the Nuneham woods'. Doubtless it would have delighted Vernon Harcourt and Charles Daubeny with their mutual scientific interests and public-spiritedness to know that in 1968 the Oxford Botanic Garden would acquire the Harcourt arboretum and develop it into one of the finest tree and shrub collections in Britain which would promote plant conservation and be visited by hundreds of school children and thousands of adults every year.

Appendix B

Documents reviewed from Oxford University Botanic Gardens

1 FOLDER ONE

1	Arboretum Guide Book	A5 colour
2	University of Oxford Harcourt Arboretum guide	A5 b/w
3	History of the Arboretum	extraxt of above
4	OS superplan 1:2500	A2
5	Locations of specimen trees	A1
6	Hand drawn plan of Arboretum	A3
7	Coloured plan with section numbers annotated by hand	A3
8	Old planting lists 72/73 to 95/96 (77/78 missing)	folder
9	List plants lost 81/82	A4
10	Plants died 76/77	notepaper
11	Lost due to storm damage 90	A4
12	Plant deaths 80 to 86	A4
13	The Grey Squirrel and Tree Damage	photocopied article
14	Sketch map of Nuneham Courtnay in 1701	A4 copy with extract of history of Oxfordshire
15	Four aspects of Nuneham	a4 photocopy of article
16	Locations of specimen trees	A3 reduction 4 copies
17	Nuneham Courtnay Artoretum	A4 article 1 page
18	Plan of narcissus planting in acer glade	A3 hand marked
19	Plan of bulb planing (park)	A3 by hand
20	Plan of colchicum plantings oct 91	A4 marked by hand
21	Colchicum plantings 91 list	A4
22	Key to areas	A4
23	Fungi foray list 91	A4
24	Pinetum list of species with measurements 47/54/61/76	A4 sheets in plastic folder
25	Article about gift	A4
26	Construction of a key to flowering meadow plants at Harcourt Arboretum	A4 paper
27	Planting plans beds 1,2,3,4,5,6, (4,5,6,3,2,1)	A3 by hand, 3 sheets

2 UP TO DATE MAPS' FOLDER

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|----|--|---|
| 1 | OS super plan 1 to 2500 1997 | A2 |
| 2 | Planting plan of galanthus nirvalis along holly walk 2002 | A4 hand drawn plan, a4 list, 2 page A4 description of Galanthus nirvalis and Primula vulgaris |
| 3 | Plan fern gully | A4 |
| 4 | Plan and schedule of woodland plants 9/11/2000 | A4 |
| 5 | Camellias spring 1983 planting plan | A3 by hand |
| 6 | Arboretum pond plan | A3 by hand with a4 list |
| 7 | Pines plan | A3 by hand |
| 8 | Photocopy of part of OS? plan | A4 |
| 9 | Copy of bamboos plan | A4 marked by hand, 2 copies |
| 10 | Bamboo plan 28/02/90 | A4 by hand |
| 11 | Planting plan of two crescents | A4 by hand |
| 12 | Acer glade list | A4 by hand |
| 13 | Map of the arboretum marked up with approximate position of irrigation system and tap covers | A4 annotated by hand |
| 14 | Arboretum plan marked up with ponds, paths, plantations and ditches | A3 by hand, 2 copies |
| 15 | Map of the arboretum narcissu plantings 031299, plan and list | A4 by hand 3 copies |

3 OTHER ITEMS

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| 1 | Timber | colour leaflet |
| 2 | Nuneham Courtenay Oxfordshire, a short history and description 1970 | A5 colour booklet |
| 3 | Harcourt Arboretum, 1998 | guidebook |
| 4 | Catalogue of the plants growing in the university of oxford botanic garden and harcourt arboretum 1999 | square format book |

ⁱ 1 Cupressus Lusitanicus, 2 Juniperus Chinensis, 1 Cedrus Deodara, 1 Juniperus Oxycedrus
1 Cupressus Tournefortia, 1 Cupressus thyoides variegata, 1 Juniperus recurva var, 1 Abies Webbiana
2 Pinus excelsia, 1 Abies Douglassii, 1 Garrya elliptica, 1 Ixosa Coccinea, 1 Croton variegatum, 1 Croton pictum, 1
Dracena terminalis, 1 Grislea tormentosa, 1 Ardisia solanacea, 1 Oneidium altissimum, 1 Bignonia Jasminoides, 1
Epidendrum Cuspidatum, 1 Kennedyya nigricans, 1 Phlox Drummodii, 1 Lucalia gratissima, 1 Verbena Multifida
contracta, 1 Fuchsia Riccartonia