

Archaeological excavations at Upper Lodge, Bushy Park, London Borough of Richmond, 1997-1999

By Christopher Keith Currie, with contributions by Peter Foster, Martin Locock and Kathy White.

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Abstract

Excavations at Upper Lodge, Bushy Park, revealed a complex history to the site of this former royal hunting lodge. A series of walled compartments, entered through an imposing gate, surrounded the earlier lodge. This building was clearly of some substance. The original lodge was demolished in the late 17th or early 18th century. The demolition rubble contained the remains of a set of tin glazed tiles of late 16th/early 17th-century date depicting hunting scenes. Between 1709-15, the Earl of Halifax laid out an elaborate water garden, and rebuilt the lodge on a new site. The water gardens were much disturbed by later activity, but the remains of two grottoes, either side of a cascade, were discovered. These remains revealed the highly contrived techniques used to create ornamental garden structures.

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Introduction (Fig. 1)

A series of archaeological investigations were undertaken from 1997-1999 to explore the archaeological remains of a former water garden laid out by Charles Montagu, 1st Earl of Halifax between *c.* 1709-15 on the south side of Upper Lodge in Bushy Park, London Borough of Richmond (NGR: TQ 1462 7060). It was proposed to restore these gardens as part of a reinstated parkland setting for the lodge. Prior to this the grounds of Upper Lodge had been cordoned off from the rest of the park during its use by the Ministry of Defence from 1939-45 and then as an Admiralty Research Establishment *c.* 1945-94, under lease from the Crown Estate. During this period, a large number of modern buildings, many of a temporary nature, had been built over the former gardens. These were demolished early in 1999, leaving Upper Lodge to be landscaped in an appropriate fashion, and reintegrated with the rest of Bushy Park.

The original restoration proposals were based on an assumption that Halifax's water garden was the first ornamental design of any real consequence to Upper Lodge. Although some details were known of the earlier lodge, the discoveries made during the excavations reported here put matters in a different perspective. It would now seem that Halifax's water garden was only one of a number of elaborate designed landscapes that were laid out since the construction of the first lodge *c.* 1537. This report traces the development of the lodge and its setting.

The land containing the site was formerly held by the Knights Hospitallers. They had leased the land out for at least two hundred years before its confiscation by the Crown at the Dissolution of the Monasteries in 1537. In this year a John Field is recorded as living in the lodge. He may have also been acting as Ranger of the royal deer park at Bushy Park.

The title of Ranger continued, and in 1709 the lease on the land was purchased from the Crown by Charles Montagu, 1st Earl of Halifax. At this time the Ranger's house was in a ruinous condition. As part of the purchase agreement Montagu agreed to rebuild the house in return for a lease of three lives. He seems to have started work on the water gardens soon after this agreement was reached as a plan in the Public Record Office shows the proposals for the site. They were completed soon after this as much comment was made on their beauty before Montagu's death in 1715.

The site passed back to the Crown in 1771 following the death of George Montagu Dunk, Charles Montagu's descendent. The office of Ranger thereafter continued as a sinecure with an annual payment of £6-13s-4d.

After 1770 parts of the water gardens were altered, and the remaining original features gradually fell into neglect. Upper Lodge was empty during the First World War, and George V gave it to the Canadian Red Cross for use as a convalescent home. Between the Wars the house was used as a school, but at the outbreak of the Second World

War the house was requisitioned for war use. It remained on lease to the Ministry of Defence until 1994, when it was returned to the Crown Estates¹.

Historical background to the Earl of Halifax's water garden (Figs 2-8)

By C K Currie, Peter Foster and Kathy White

Prior to the archaeological excavations two lines of enquiry had been followed in researching the historical and topographical background of the site. These include an assessment of the documentary sources, and an earthwork survey. The latter was undertaken by the Royal Commission on Historic Monuments for England², as part of a Royal Parks Survey. A history of Bushy Park has been published by White and Foster³.

The earliest map of the site shows it as it was before Charles Montagu, 1st Earl of Halifax, altered it. This shows a formal arrangement of walled gardens, with a circular feature to the south, similar to a turning circle for carriages. These gardens were not precisely symmetrical, as might be expected for an early 18th-century design, suggesting that the site may have developed piecemeal until this time.

The Upper Lodge site is thought to have been occupied by 1536⁴. An inventory of 1653 describes a reasonably substantial house⁵. In 1685 Henry Savile was made keeper of the park. He petitioned the Treasury for money to repair the lodge, as it was in disorder. It is mentioned that the garden wall needed repair, suggesting that this feature, which still survives, was already of some antiquity. In 1700 the Earl of Macclesfield had an avenue of 110 large elms planted leading to the site, and works were carried out on the gardens to the south of the house.

When Halifax took over the keepership early in 1709, the lodge was ruinous. In return for a lease on the house for three lives, he agreed to repair the lodge and grounds at his own expense⁶. The earlier house had not been on the site that he used to rebuild the lodge, but off-centre to the west. A compartment of the walled gardens extended south over part of the terrace. This was removed entirely in the redesigning of the site. The pre-1709 plan of the site also shows some unsymmetrical ponds to the SE (Fig. 2). These features were removed, the only earlier features being retained being the outer walls of the walled garden north of the house, and the southern avenue. Apart from this the reorganisation of the site appears to have been comprehensive. A plan of Hampton Court and its parks, made between 1709 and 1713, seems to show the largely completed water garden (Fig. 3)⁷

After the site had been remodelled by Halifax, some contemporary pictures, and commentary by visitors have survived. Of the pictures, the most important are a painting by Jacob Bogdani (1660-1724), and another, by an unknown artist, currently in the Royal Collection⁸ (Fig. 4; hereafter referred to as the 'Figures in a Garden' painting), that both show the Upper Pond, the cascade, and the Lower Pond. This part of the garden has survived in a condition nearest to that of c. 1715. Although the detail has been subsequently altered, these ponds and the cascade still exist today. This applies to the other well-known picture of the site, a drawing of a cascade and basin based on Bushy Park that appears in Stephen Switzer's *An introduction to a general system of hydrostaticks and hydraulicks, philosophical and practical*⁹.

Perhaps the most intriguing view, from the point of view of this study, is a possible engraving of Upper Lodge in 1775, showing the area in front of the house¹⁰. It shows a house, with a setting of low walls in front of it similar to those shown on plans between 1710 and 1754. This shows no Central Basin, merely a stretch of grassland open to the park. If this can be believed, the pond had been filled in by this date. Although General Roy's 1784 plan of the OS baseline shows a circular basin in front of the house, there are a number of features on this map that suggest it was copied from earlier maps, and is not a fully accurate survey. The 1775 engraving is supported by plans from 1823 onwards, which all show the basin missing. This removal may have been in keeping with changing landscape fashion. It is possible the occupants of the house were prepared to tolerate the gradual deterioration of the formal features to the east and west not in direct view. In front of the house, they may thought differently, removing all signs of blatant formality in front of the house.

Of the written descriptions, there are three of note. The most important is that of Stephen Switzer. He states:

'Plate xxxiv is an Upright and Perspective of the Cascade at Bushy Park, the real Design (at least the approved one) of the great Maecenas of his Age, the late Earl of Halifax, whose true taste and extensive Gardening, I have long ago took leave to celebrate.

This very handsome rural Design is supply'd by a Branch of the River Colne; which, though not affording a perpetual current, yet is never wanting to give Spectators a particular Pleasure. The Design is so well known that I need not expiate or enlarge upon it; but it is, however, of so rude and rustick a Manner that it may serve as a Pattern or model to any that shall be disposed to make use of Water-Works.

There is one Thing observable in the judgement of the noble Lord before-mentioned, and which is his not endeavouring to crowd wood about his Cascade, as the Italians and French do, inasmuch as it is in a Country where there is not so much Heat as there is in those just mentioned; and this Consideration it is, that has very justly been the Occasion of some modern and very great Designers in Gardening, to make their Designs more open and freer from Cover; because water, however delightful it is, is apt (especially if in the shade, and not clear) to detract greatly from the Beauty of it'¹¹

Other records of Halifax's garden include a notice given by Jonathan Swift in *Journal to Stella* (1710):

'Since Charles Lord Halifax was appointed ranger of Bushy Park in June last, he has expended £1064-10s-7d in repairing lodge and walls of garden, in building brewhouse, making pond and walks and planting orchards and gardens... The Bacon (*sic*) he has made near the lodge is much larger and higher than the reservoir to which pipes are laid.'¹²

In February 1714 Samuel Molyneux described the gardens in a letter:

'From Hampton Court we went to see a lodgeing Park called Bushy Park belonging to the Palace which is now in the hands of my Lord Halifax as Ranger I believe of that

Park, there was here little or nothing remarkable but the Cascade which was not very high, but little and yet very beautifully dispos'd so as to fall between two fine pieces of Grotto Work where are places left for Paintings representing two Caves in which little walks around the Basin of the Cascade end the Paintings are moveable so as to be taken away in Winter.¹³

These descriptions, maps and pictures combine to give a reasonable picture of the outline plan of Halifax's garden. There are other little clues as to its disposition hidden in the descriptions, and from our knowledge of the activities of Halifax's family elsewhere.

Switzer's statement that Halifax had arranged his garden in a style that agreed with Switzer's views yet opposed Italian and French methods of laying out such gardens, may give insight into the internal detail of the garden. The important statement here appears to be that concerning the lack of planting around the water features. This is very much in line with Switzer's views on water features. In his general recommendations for making ornamental canals, he states that their banks should 'be free of trees', as they tear the banks in strong winds by rocking.¹⁴ This is in keeping with some other historic treatises on ponds that state that trees should never be planted on their banks.

Switzer's dictum here fits in with the possibility that late formal gardens in England (those of the first half of the 18th century) were becoming increasingly spartan in their planting, relying more on elaborate man-made features. At Tredegar, Gwent, archaeology-led restoration discovered the garden plan *c.* 1700 may have been defined as much by coloured earths and bands of crushed coal and shell, than by plants.¹⁵ Such restoration has not been universally popular with garden historians, who felt it lacked horticultural interest. Likewise, the apparent spartan planting revealed by archaeology in the 'new' walled extension laid out by Sir John Bridgeman at Castle Bromwich (*c.* 1730-47) caused offence to the expectations of at least one garden historian¹⁶. Other late formal gardens can be shown to have been based on simple design, ornamented with relatively spartan planting. The renowned gardening aristocrat, the Duke of Chandos, demonstrated this at Shaw House, Berkshire in the 1730s¹⁷. As a reward Chandos became the butt of a satirical poem by Alexander Pope, one of the 'new' gardening pioneers who began the contemporary move away from formality.

Switzer's dictums were not universal. Langley, writing in 1728, considered canals best decorated if:

'an extensive canal terminates at one End in an elegant Piece of Architecture, with a Grove on each side thereof, and the other End in a Wood, Grove etc. ...'¹⁸

This opinion does not actually state that the planting should be right up against the banks, as it would go against the advice of all the great pond building treatises¹⁹ who all support Switzer's opinion. Further, it might be suggested that Langley was essentially influenced by European styles, whereas Switzer was much less of a copyist than many of his fellow writers on garden design. Switzer even went so far as to criticise the extravagance of Bridgeman's designs, showing that he clearly belonged to school that favoured uncluttered design. His praise of Halifax in this respect is

important, as it shows that he felt the gardens at Bushy Park fell into this style. Although some might consider the Bushy Park water-garden 'elaborate', in relative terms it was an extremely simple but effective, layout, the hallmark of intelligent design.

It had been previously considered by garden historians that cascades were rare in formal English gardens.²⁰ Recent archaeological projects have shown this to be incorrect, and a number of these features have recently been recorded. These are discussed in a report on the recently restored cascade at The Gnoll, Glamorgan.²¹ The cascade at Bushy Park is yet another survivor to add to this growing number. Of the larger examples recently recorded, most are of a late date, although the general opinion suggests they were most popular between c. 1690 and 1740.

The Bushy Park cascade seems to fit relatively early into this sequence, again highlighting Switzer's view that the design should be taken as a model. Of formal cascades discussed by Currie and Locock²², the approximate dates are as follows: Chatsworth, Derbyshire (1690s); Knowle Hill Derbyshire (c. 1700); Harrow-on-the-Hill, Greater London (c. 1700); Shire Oaks, Nottinghamshire (before 1726); Gnoll, Glamorgan (1727-28), Stanway, Gloucestershire (c. 1730) and Drumlanrig, Scotland (before 1739). Others known from literary sources, such as Dryham, Gloucestershire and Bramham, Yorkshire (the latter still surviving) seem to date from the last years of the 17th century.

The remains of the Central Basin in front of the house seem to have been set higher in the stratigraphy than one might expect. This is possibly because the basin here may have been a raised feature. It almost certainly needed a raised bank on the south side to hold it against the line of the terrace around the house. Without this bank, its waters would have flowed south down the formal avenue framing the house. Such embanking may have been intolerant of neglect.

As John James commented in 1712, water has a tendency 'to run away', and it is important to get it right first time as they are difficult to repair²³. At Castle Bromwich, an ornamental basin created in the c. 1730-47 phase of gardening was rapidly abandoned on the death of its creator, possibly because it may have leaked²⁴. Such may have caused the early abandonment of the Central Basin at Bushy Park. It was probably the most vulnerable feature of the water garden in this respect. The relatively shallow depth of this basin suggested by the archaeology reflects contemporary practice. Great depths were unnecessary unless fish were to be kept safe from predators like the heron. In an ornamental capacity, as a mirror pool in front of the house, their muddying tendencies might not be desired. In this case James²⁵ suggests the pool should be designed as a 'Bason', being 'ordinarily from 15 to 18 Inches [deep], or two Foot at most.'

Lord Halifax's uncle, another Charles Montagu, had a celebrated water garden at Boughton, Northamptonshire. The description of the cascade here given by John Morton in his *Natural history of Northamptonshire* (1712) is similar to that at Bushy Park, if perhaps more elaborate in conception:

'...the parterre of Basins and the water parterre, wherein is an octagon basin whose circumference is 216 yards, which in the middle of it has a jet d'eau, whose height is

above 50 feet, surrounded with other small jet d'eaus.. The Canal at the bottom of all, is about 1500 yards in length in four lines falling into each other at right angles. At the lower end of it is a very noble Cascade... adorned with vases and statues. The Cascade has five falls. The perpendicular about seven feet. A line or range of jet d'eaus in number thirteen are placed at the Head of the Cascade... There are also jet d'eaus in the basin underneath. Also the knot of regularly figur'd Islets beset with Aquatick Plants.'²⁶

The mention of fountains and statues within the water gardens at Boughton brings up the possibility of such features at Bushy Park. The earliest plan of Halifax's completed garden is thought to date from 1735, but using information surveyed *c.* 1714 (Fig. 5)²⁷. An earlier plan of *c.* 1710 seems to show superimposed outline proposals only.²⁸ The later plan seems to show dots in the middle of most of the major ponds or basins within the design. Could these dots have been statues standing in the centre of the ponds, or even fountains?

Certainly statues and other decorative features within ornamental ponds are well known. The description of the Montagu family's Boughton gardens given above makes it clear that these were often elaborate. Recent archaeological work on water gardens at Court of Noke, Herefordshire revealed the remains of symmetrical brick features within the main canal that were interpreted as statue bases.²⁹ These were dated to *c.* 1700, although many similar examples are known where the dates have not been verified by archaeology. One of the best known examples is the early 18th-century water gardens at Westbury Court, Gloucestershire, where statues rose out of the formal canals. These are shown existing on contemporary illustrations.

The possibility that such features existed at Bushy Park must be considered. The pools showing dots in their centres that concern this study are the Upper Pool, the Central Basin and the pool at the western terminal of the Canal Plantation canal. Contemporary literature would seem to expect such features to adorn the pools, although Switzer argues that fountains should be reserved only for the finest parts of the garden because of their expense.³⁰ Langley, whose taste often seemed to contradict Switzer, suggests that fountains should be introduced into every partition of the garden where water can be brought to them.³¹ Again we see the contradiction between these two writers, Switzer preferring to recommend keeping design simple, with Langley favouring greater extravagance. One wonders if this shows Switzer the more practical man. Later Horace Walpole makes a comment on the reason he considers that formal water gardens fell out of favour.

'But for magnitude and enormous cost, the hydraulic works, fountains and waterfalls, were the most extraordinary; indeed, their extreme first expense, and the constant demand for supporting them in perfection, led in a few years to their total disuse. Neglect soon occasioned decay, and decay caused their entire removal'.³²

Such views were expressed earlier by Pope in his Epistle to Burlington:

'Consult the Genius of the Place in all,
That tells the Waters to rise or fall...

With silver-quiv'ring rills maeander'd o'er-

-Enjoy them, you! Villario can no more;
Tir'd of the scene Parterres and Fountains yield,
He finds at last he better likes a Field...

The suffring eye inverted Nature sees,
Trees cut to Statues, Statues thick as trees,
With here a Fountain, never to be played,
And there a Summer-house, that knows no shade.³³

Despite the dot shown in the Upper Pool c. 1714, neither the Bogdani and the 'Figures in the Garden' paintings nor an 18th-century engraving of this part of the garden show nothing there.³⁴ The subject of internal ornament to the pools must therefore remain unresolved for the present.

On the question of the surrounds to the ponds, documentary sources offer some clues. The illustrations of the lower pool seem to show a path leading to the 'false' caves either side of the cascade. This is supported by Molyneux, who talks of 'little walks round the Basin of the Cascade.'³⁵ Elsewhere grass seems to extend to the edge of the pools and canals, although this would not preclude the existence of stone or timber revetment to the sides.

It is possible that the reason the cartographic evidence seems to show a gradual deterioration in the sides of the water features at the eastern end of the system, is that the edges were not lined. Switzer seems to have preferred grass edges with gently sloping sides. He states that 'strong grass turf' is to be preferred unless stone was cheap in the area.³⁶ He shows a typical sloping profile to a canal/basin, recommending that the slope should be 1:3.³⁷ James³⁸ shows that stone and concrete edges were clearly used in contemporary ornamental ponds, but the evidence to date at Bushy Park may suggest Switzer's preferences were followed.

Halifax's water garden may have been incomplete on his death in 1715, as his nephew, George Montagu, the 2nd Earl of Halifax, was granted leave to finish the 'several works left unfinished' by his uncle.³⁹ The gardens certainly seem to have survived until the time of John Rocque's map of the countryside ten miles around London (Fig. 6; c. 1741-45)⁴⁰, when they seem to be shown in a completed state. Rocque is the earliest source that seems to show the Central Basin as water-filled. On all earlier plans the oval shape shown here could have been a grassed area within a turning 'circle' in front of the house.

The description of the remains before the present work was undertaken is given by the RCHME report.⁴¹ This suggests that traces of a tree avenue can be made out passing southward from the house front, as shown on contemporary plans. Other features surviving are the outline of the terrace on which the water gardens sat. Although this is badly disturbed, it seems to indicate that the Central Basin was an embanked feature on its southern sides. Elsewhere the walls of the gardens to the north of the house can be seen. These have been repaired on a number of occasions, but they essentially retain their pre-Halifax form.⁴²

The upper and lower pools, with the cascade still survive intact, despite being much altered. The RCHME survey⁴³ suggests brickwork behind the present revetment on

the south side of the cascade, and stone work on the north side, may be remnants of original work. The present concrete edging seems to be of 20th-century date.

After John Rocque's maps came Brinkley's plan of 1770.⁴⁴ This has only recently been discovered, and was not seen by the present author. According to Kathy White⁴⁵ (pers. comm.) this map shows the basin intact. When the next supposedly reliable plan is made in 1823, the pools seem to have become much decayed, losing much of their earlier formal shape. The Central Basin has gone altogether at this time. This supports the evidence of a possible engraving made in 1775.⁴⁶ If this engraving really is of Upper Lodge, the area to the front of the house seems to have been informalised between 1771 and 1775. This coincides with the ending of the Montagu family's tenure of Upper Lodge in 1771. It may reflect an opportune moment to have altered the immediate setting of the house in line with changing landscape fashion.

By the early 1850s alterations to the northern walled garden can be detected. A contemporary plan of Hampton Court no longer shows the north-south dividing wall within the walled garden. There is also a suggestion that the house itself has been rebuilt to take its present form (Fig. 7)⁴⁷. White and Foster⁴⁸ suggest that this must have been done around 1840, when it was occupied by the Earl of Denbigh as a Grace and Favour Residence. On the south, the informal front garden seems to have continued. By 1863-64, at the latest, two fountains are shown on the terrace.⁴⁹ One of these was in front of the house, as was confirmed by the present archaeological work. This was not shown on the 1897 OS 25" map (Fig. 8)⁵⁰, and so had gone by that date. Thereafter, there seems to have been little major aesthetic treatment to the grounds, and the house gradually moved into its institutional phase, first as a hospital in the First World War, then as a school before being taken over by the Ministry of Defence during the Second World War, and finally as an Admiralty Research Establishment. In 1994 the site reverted to the Crown Estate, and a redevelopment proposal is considering restoring Halifax's water gardens as part of the overall package.

The excavations 1997-99 (Figs 9-18)

A programme of archaeological work was carried out at Upper Lodge over four main phases between August 1997 and April 1999.⁵¹

This report concentrates on the second and final phases of the work. The first phase is only summarised here because much of the relevant archaeology was excavated again in the final phase. The strategy for the work is recorded in the project designs issued at each of the phases outlined above (see archive).⁵²

The results of the excavations

Summary of the 1997 evaluation results (Trenches 1-5)

Only a summary of the results of the first evaluation is given here. Much of this work was re-excavated in 1999 (trenches 18-22). Readers requiring more information are referred to the archive.

On the lawned area in front of the house, the archaeological stratigraphy was well preserved. The earliest feature found was probably a brick garden wall. Ceramic

evidence associated with it suggests it pre-dates the water gardens. Its position approximately matches that of a wall shown extending into the area on a pre-1709 Gough plan (Fig. 2). The position of this wall enables us to date the subsequent layers above it with some confidence.

After this wall was demolished, a succession of build-up layers was dumped over it, making a possible increased height of over 1m in places. The uppermost of these layers were truncated by a sloping feature. This suggests that there may have been either a hollow feature present on the site, or an artificial terrace that was dumped against later to make a further terrace level. The good cartographic evidence for the site suggests that this hollow was likely to be the remains of the Central Basin.

This conjectured hollow may be all that remains of the Central Basin in front of the house. Although its southern edge appears to have been levelled, possible contemporary brick drains suggest that the edge of the pond may have been further to the north than these features. This conjectured position fits well with cartographic evidence for the siting of the southern edge, even if the other remains appear to have been robbed out. The stratigraphy that follows seems to suggest that the 'hollow' area was infilled, and a concrete fountain basin made around the middle years of the 19th century. This existed in the 1860s, and was apparently destroyed by 1893-94. The remains of this fountain basin have been found in a good state of preservation, with the lead pipe supplying it with water still intact.

The overall evidence suggests that a Central Basin may have existed at some time between *c.* 1709 and 1775. The fountain was probably added soon after the house was rebuilt. This latter event was thought to have occurred *c.* 1840.

After the 19th-century fountain had been destroyed, an area of alternating gravel hard standing and soil areas was laid down. This may have formed a design of gravel paths and informal planted areas. This was replaced, in turn, by a hard standing area of cinders, probably around the time of the First World War (1914-18). Subsequently, topsoil has been dumped on the site, making up the present lawn level. This latter increase has varied from about 0.3m near the house, to 0.7m farther south, indicating a substantial change in levels in relatively recent times.

A cutting made through the eastern terrace of the water gardens proved to be heavily disturbed by 20th-century activity. This destroyed much of the earlier terrace line, giving few clues to its original appearance. Nevertheless, the approximate line of the undisturbed ground surface may be conjectured from the surviving lower levels.

In the park, a trench was cut to try to recover the outline of a pond at the end of the eastern canal. It is thought that an edge of a water feature was found, although it is not clear at this stage whether this was an edge of the terminal pond, or the adjoining canal. Retrospective interpretation given in the geophysical report suggests this might be the canal rather than the pond.

The 1998 evaluations (Trenches 6-17; Figs 9-13)

The trenches excavated on the north side of the house (trenches 6-9) were all found to have been heavily disturbed by MOD activity after 1945. No archaeological levels of

any significance were found. The reader is referred to the site archive for further details. The following results come from an evaluation of the area around the Upper and Lower Pools carried out in September 1998 (trenches 10-17; Fig. 9).

Trench 10 (Fig. 10)

This trench, 10m by 1m, was excavated to the east of the revetment wall on the north side of the dam between the Upper and Lower Pools. It was hoped that excavation here might reveal evidence for original structures believed to have existed here in the early 18th century.

Four layers of soil were removed to expose the revetment wall further. The first was a dark brown loam that formed topsoil [128]. This was up to 0.3m deep. At the north end of the trench it overlay a layer of about 95% coal in a loam matrix [172]. This layer was up to 0.3m thick at the north end of the trench, but it had petered out to nothing about halfway along the trench's length. Beneath the coal layer was a silty clay loam [129]. This was also much thicker at the north end of the trench, up to 0.6m, but gradually reduced in thickness until it was only about 0.1m thick at the south end of the trench. It contained moderate quantities of largely 19th-century ceramics, mainly willow-pattern types. This layer became increasingly wet as it got deeper or nearer to the pool edge. It overlay a dark silt that was waterlogged [130]. This layer also contained later 18th- and 19th-century ceramics. As water began to seep into the trench at this level, the trench was not excavated further.

The removal of these layers enabled the remains associated with the revetment wall to the dam to be recorded. This wall could be seen above the ground for the first 5.5m of the trench. At this point, there was a built end to the above ground masonry. However, excavation showed that the original wall had once continued for a further 3.5m, but had been buried beneath later layers.

Part of the section of wall above ground showed signs of having been rebuilt. These levels comprised yellow-brown bricks [137], identical to those used in the revetment wall on the south side of the cascade. Elsewhere, the revetment wall comprised red bricks [132]. This part was assumed to have been the original wall. It continued in one apparent build down to the bottom of the trench, making it a minimum of 1.7m high. The bonding pattern was an irregular version of English Bond (alternate courses of headers and stretchers).

A number of features were recorded that had been associated with this original wall. At the southern end of the trench was a projecting stone buttress-like structure [131]. This comprised four large stones, projecting about 0.2m from the wall. The two lowest stones were large single blocks one beneath the other, with two smaller blocks sitting on top of the uppermost large block. The whole structure appeared to be bonded into the wall as part of the original construction.

The lowest block had been dislodged from its original position by tree roots applying pressure from behind. Its southern side was also reduced in size, probably by demolition damage. Despite this, it was possible to conjecture that a channel cut into the uppermost surface of the block was originally central. If this was the case, it would seem that this block was once wider than the block above it. Its minimum

dimensions appear to have been 0.7m wide by 0.4m high, although the full height was not exposed because of the waterlogging of the trench. The channel was about 0.11m high and 0.15m wide. Roots had penetrated along its length, but when these were partially removed, it was possible to feel that the channel extended back through the wall behind.

The next block up was approximately 0.55m wide and 0.5m high. It had also suffered damage, with the northern uppermost corner having been broken off. There was considerable evidence for tooling on the facade surface. Approximately central to the stone on its upper side was a semi-circular channel. This was about 0.08m in diameter, but had been mutilated, and deliberately blocked by tile fragments and mortar. On its south side was a small rectangular notch, about 0.05m wide and 0.03m deep. This may have formed a lesser channel. It was assumed that there had been a symmetrical counterpart on the other side, but this corner of the stone had been removed. Overlying this stone was two squarish blocks of stone, about 0.3m square. The southern block was damaged, having its uppermost southern corner removed.

About 4.65m from the southern end of the trench, a short brick stub wall [133] was found at right angles to the revetment wall. The surviving fragment was 0.4m wide, and extended out from the revetment by 0.42m. The wall survived to a height of 0.52m above the bottom of the excavated trench, although the bottom of the wall was not reached because of waterlogging. This wall did not appear to be bonded into the revetment wall. Where it was first exposed, there was a gap of about 0.05m suggesting that it was partly freestanding. Nevertheless, on the revetment wall there were traces of mortar in a vertical line contiguous with the south side of the stub wall, suggesting that the wall may have been mortared onto the main wall at one time. Also evident on the revetment wall, but starting about 0.08m north of the north side of the stub wall, was another vertical line. The revetment wall to the north of this line showed traces of render on it [136].

The survival of this render was fragmentary in places. Enough survived to determine that there were two distinct layers; a cream-coloured mortar overlain by a greyish render. The latter was formed by adding fragments of a darker material to the original mortar. This material appeared to be either charcoal or crushed coal. These inclusions were sufficient to make it appear dark grey at a distance, although close up it was a light grey with abundant black inclusions. The render continued for about 2.93m to within 0.15m of a second stub wall [134].

The rendered section of the revetment wall was almost entirely buried beneath later dumping [128-130 and 172]. It survived to a height of 1.35m above the bottom of the trench. There were two features of interest along this section. The first was a large irregular hole about midway along the section, and extending to within 0.1m of the surviving top of the wall. The maximum dimensions of the hole were 0.55m by 0.47m. There was no evidence to suggest it had been a deliberate feature of the wall, its irregular nature suggesting that it was damage caused during demolition.

The second item of interest was a roughly semi-circular brick buttress-like structure [138] bonded into the base of the wall. This was 0.3m wide, and extended 0.15m out from the wall. The surviving fragment extended to a height of 0.25m from the bottom of the trench.

Also found at the bottom of the trench within the area between the two stub walls was a large stone slab [139]. This was a large piece of flat limestone, 0.75m long and extending out from the revetment wall by 0.55m. It was not bonded into the wall, as there was a slight gap of about 10mm between it and the wall. It appeared to butt up against the wall [134], but mortared rubble on the south face of this wall prevented the excavator from seeing if the stone was bonded into the stub wall, or merely butting against it.

The rendered wall ended 0.15m before a second stub wall [134]. Between the vertical line marking the end of the render and the south face of the stub wall there was a filling of roughly mortared rubble. The stub wall itself had maximum dimensions of 0.55m wide, projecting 0.55m from the revetment wall. The south face of the wall extended to a height of 0.94m above the bottom of the trench. It also seemed to be solidly built that the other stub wall [133]. It was not clear if it butted hard against the revetment wall or was bonded with it. This stub wall was at a slight angle to the revetment wall, and not a right angle. The wall appeared to be set slightly towards the south of a right-angle.

From the northern edge of the rendered section of wall, the brickwork took up an unrendered English Bond again. This only extended about 0.25m beyond the north side of the stub wall [134]. The jagged edge of the brickwork suggested that it was not the original end, but that the wall had been demolished beyond this point. This coincided with a layer of thick concrete just below the surface. This concrete butted directly into the jagged north edge of the wall. The eastern edge of the concrete coincided with the line of the revetment wall. It was only seen in section, presumably extending further westward away from the excavated trench.

Trench 11 (Fig. 11)

This trench, 4.6m by 1.6m, was excavated to the east of the revetment wall on the south side of the dam between the Upper and Lower Pools. Although the face of this wall had clearly been rebuilt in more recent times, it was hoped that excavation might reveal the remains of earlier features butting against the original wall.

No remains of any importance were discovered here. Any early archaeology seemed to have been destroyed by more recent work.

Trenches 12, 13, 15, 16 & 17 (Figs 11-13)

These trenches were linear trenches cut to examine the edges of the Upper and Lower Pools. No evidence for any earlier revetment was found. Trench 12 contained evidence for a compacted clay core to the dam between the two ponds. Full details of these trenches can be found in the site archive.

Trench 14 (Fig. 12)

This irregular trench had maximum dimensions of 3.2m by 1m. It was excavated against the west side of the revetment wall on the south side of the dam between the Upper and Lower Pools. Following the unsuccessful excavation on the other side of

this wall, it was considered that digging behind the wall might reveal evidence for the survival of the original wall behind its more modern counterpart.

Before excavation, traces of the original red brick wall could be found at the end of the present revetment. On removal of between 0.1 and 0.2m of loamy topsoil [152], it was revealed that the back course of the original wall [153] survived for 1.35m south of the present revetment [157]. The north part of this surviving section had some mortared flint and stone rubble [154] behind (to the west) it. For the rest of the trench, it seemed that the old wall had survived reasonably well, and had been encased in the newer wall. Just 0.3m north of the end of the newer revetment, the old wall was backed by a substantial brick buttress [155]. This was 0.72m N-S and 0.55m E-W, but did not appear to survive to its original full height. North of the buttress, the original brick wall was backed by further mortared stone and rubble [156].

Discussion of trenches 10-17 (Figs 10-13)

Old documents tracing the evolution of the gardens at Upper Lodge do not help much in disentangling the original outline of the two upper pools. The exact shape of the pools is very much open to question. Although many of the earliest plans show the Upper Pool as octagonal, and the Lower Pool in a more elaborate floral shape⁵³, there is little true consistency of depiction. Rocque's map of ten miles around London (1741-45) shows the Upper Pool in a more circular shape, with the lower as a three-leafed clover shape. General Roy's 1784 baseline map for the later one inch OS map shows both pools in the three-leafed clover form, and from Warren's 1823 map⁵⁴ onwards they are shown in various sub-circular shapes.

Supposedly contemporary illustrations, by Switzer and Bogdani, are also contradictory. A drawing by Switzer of 1729 shows an irregular octagon as the Upper Pool, and a form of the three-leafed clover, but with decidedly restrained 'leaves', making it little more than a rectangle with slightly curving sides. A similar shape, but with the curves slightly more pronounced is shown by the Bogdani⁵⁵ and 'Figures in the Garden' paintings.⁵⁶ A further 18th-century engraving⁵⁷, reputedly by Bernard Lens III, seems to be based on Switzer's drawing, but with more voluptuous curves on the pool sides. Such complex forms make it difficult to find the original edges of the pools, even if they existed. There are further inconsistencies in the number of steps to the cascade; Bogdani showing five, the others show four steps.

Perspective in these drawings is also a problem. The Bogdani painting seems to show the grottoes were only a few metres out from the edges of the cascades. The other drawings are little better, although the apparent narrowness of the cascade itself in relation to the overall picture can be seen, on retrospect, to suggest a greater distance between cascade edge and grotto than previously suspected. It would seem that the Lower Pool was originally larger than that surviving today. The overall size of the Upper Pool may not have changed radically, although the archaeological evidence seems to suggest sloping sides. These would have made the maintenance of any elaborate shape, such as an octagon or three-leafed clover, difficult to sustain as the edges would have been in a constant battle against erosion.

The ornamentation either side of the cascade (Fig. 10)

The excavations in trench 10 gave a good indication of where the grotto on the north side of the cascade was in relation to other features. It may be assumed that the two brick stub walls found in this trench at right angles to the original revetment wall were the two side walls of the grotto. As they were excavated, they may have only extended a maximum of 0.55m out from the revetment walls. It is not certain if this was the full extent of the stub walls, although the evidence of the more extant wall [134] might suggest that this might be the case. On initial impression this could seem rather shallow for a feature that had received high praise in its day. However, one should consider that the brick stub walls were probably faced with stone, possibly giving additional depth and body to the structure. This was possibly removed for re-use when the structures were demolished.

It would seem that the grottoes were highly contrived, as is evident from a contemporary description by Samuel Molyneux quoted above. He describes how the grottoes had paintings of caves inside them to make them seem more elaborate than they really were.⁵⁸

The archaeology would seem to confirm Molyneux's description. One would imagine that the stub walls supported an arch or roof over what was little more than an alcove. If paintings were placed against the back wall to give the impression of a cave, it is likely that from a distance a very credible grotto could have been achieved, even though it was largely an illusion.

There are other clues in the recorded archaeology to show how the grotto was further decorated. It was noted that there was a gap between the inner edge of both stub walls and the plaster on the back wall. This was about 0.1m on the south side and just over 0.15m on the north. On the north side this gap is filled up with rubble deliberately mortared against the brick face of the wall. Although there is nothing presently against the south wall, it is reasonable to assume both walls were treated similarly. Although the rubble was very roughly executed, it would seem that the area around the grotto had been very seriously disturbed either during or after its demolition. Therefore any roughness has probably been heightened by demolition, possibly removing or damaging the final finish to this face. Despite this, it would seem that the rubble was deliberately added to the brick face to create the effect of a 'rocky' cave. Pieces of a tufa-like stone were found nearby. None was found *in situ*, but it is highly likely that these shelly materials were used as part of the decoration to the grotto.

The render on the back wall of the conjectured grotto was also of a type that was consistent with making the illusion of a cave from an otherwise shallow alcove. This material comprised a white mortar overlain by a darker material that included abundant flecks of charcoal or coal (the exact inclusions await more detailed analysis). The demolition of the structure had removed much of this material from the wall, but even so the fragments remaining considerably darkened this section of wall. The effect of the fully *in situ* render would have been to darken the back wall of the alcove, again giving a 'cave' like illusion from a distance. This was no doubt done so that when the paintings of the caves were removed in winter, the grotto would still appear like a 'cave' from a distance.

The alcove was clearly more elaborate than the structure implied from the above. There were two more features of note that may have further enhanced its effect. The first of these was the large stone slab remaining at the base of the excavated trench. This may have been part of a stone floor. There were tentative indications of other stone present from much smaller broken fragments adjacent to the slab.

At present the water table is above the level of this slab, but it is possible that this may have represented the floor of the grotto. There is some evidence to suggest that the level of the current Lower Pool has been raised, as the lowest step of the present cascade is now submerged. Furthermore, much of the water that seeped into the excavated trench at this level could be seen coming through the revetment wall where roots of the large chestnut trees on the dam had penetrated it. It is universally recognised by pond builders that trees should not be allowed to grow on dams as their roots caused water to leak through the banks along the lines of the roots.

Attached to the rendered back wall near the bottom of the trench was a small semi-circular brick plinth. It is not known what this was for, although one of the (two) supports of a seat might be a possibility. If it was a seat, it is possible that it might have obscured the painting, and made the cave look odd. Consequently it may have served some other purpose, such as supporting the painting above the damp ground. The large hole near the top of the back wall was probably caused during the destruction of the grotto, rather than a deliberate feature.

The dimensions of the grotto in relation to the cascade can only be given from the existing structures. It is not known if the present cascade was of the same dimensions as the 18th-century version. The internal width of the grotto was about 2.93m, excluding the gaps immediately inside the stub walls. The surviving portion of the south wall was 0.4m thick. The distance from the edge of the present cascade to the outer edge of the south wall of the grotto is 8.29m. The present edge of the Lower Pool starts at 2.72m from the cascade edge on the north side and 3.2m on the south side. All three contemporary illustrations of the cascade show the water's edge coming up to edge of the grotto. This would mean that the present water's edge is approximately 5.57m closer to the cascade than in the 18th century.

This reduction in size is supported by the evidence of the stone buttress on the pool side of the grotto. This has a channel in the upper edge of the lowest stone that seems to extend through the dam. This strongly suggests that water could have passed through it. If this is the case, it must have flowed into the Lower Pool, otherwise it would have ruined the paths and other attendant ornamentation around the pool. It seems, therefore, that the buttress itself was within the Lower Pool.

The purpose of the channel was possibly to act, at least partly, as a drain for the Upper Pool in times of emergency. On the Upper Pool side there would have been a control device to allow water to pass along this channel. For most of the time this may have been closed, as the main flow of the water would have been over the cascade. However, if the Upper Pool or the cascade was in need of maintenance or repair, it may have been necessary to drain the pool. The stone channel here discussed would have helped in this.

Clearly the stone channel was not wide enough on its own to take the full flow of water over the cascade. Other measures would have been required to help. It is known that water could be taken from the Upper Pool southwards instead of over the cascade if required. Although there is no evidence to show if the Upper Pool could have been completely drained by this method, a combination of diverting the water southwards, together with the opening up of these channels, may have allowed the water level of the upper pool to be reduced sufficiently to allow work to be carried out on the cascade.

The channel may have also served partly as an ornamental effect, allowing a small cascade of water to be discharged some way out into the Lower Pool by the pressure of water in the Upper Pool. If it is correct that the stone slab discussed above represents the floor of the grotto, then this channel would have been at least 0.25m above the 18th-century level of the Lower Pool. A spout of water could possibly have been thrown about 1.5m into the lower pool by this device.

A central groove in the second stone of the buttress may have been a smaller water channel creating a similar, but reduced effect of water cascading out of the wall. There is pictorial representation to support this idea. All three contemporary pictures of the cascade seem to show stone basins either side of the cascade at about the height of this second channel. It would seem that water may have filled these basins through the upper channel, and then overflowed the basin in an ornamental effect. The pictorial evidence on this point is not absolutely clear, but it does seem that this was intended.

The evidence for a grotto and other ornaments on the revetment wall face seem to have been removed by the complete rebuilding of the wall on the south side of the cascade. Excavation here showed that nothing original had survived to the east of the revetment wall. Excavation behind the wall revealed that the older wall had partly survived within the core of the newer wall, but that it had been demolished south of the ash tree. Taking dimensions from the north side of the cascade, and assuming both sides to be symmetrical, it would appear that the grotto would have fallen into the area of disturbance. The farthest edge of the grotto would have probably been roughly where the ash tree is today, making it unlikely for anything to remain further south.

For comparison, the distance from the cascade edge to the end of the upstanding revetment wall on the south side is 11.45m. The distance from the cascade edge to the far (north) side of the grotto on the north side is 12.44m. This would suggest that the remains at the back of the ash tree are probably in close relation to the original end of the north revetment wall. The remains here ended 12.9m from the cascade edge. When considering any discrepancy between overall length of the revetment wall of each side of the cascade, the reader should consider that on neither side was an original end definitely found. In both cases, the end of the original wall had been destroyed.

It might be assumed, from the evidence of the north side of the cascade, that trench 14 (Fig. 12) had been located roughly behind the site of the south grotto. It would seem that the brick revetment wall had been given considerable additional support here. A rubble backing to the brick wall was found. This may have acted as a 'breathing wall' to absorb the pressure of the clay dam. The latter could have made the revetment wall

bow out and eventually collapse. Today modern engineers put fine gravel immediately behind structures in clay banks to absorb the pressures caused by the expansion and contraction of this soil type during extremes of hot and cold weather. The rubble work here could have been a similar solution to this problem. If so, this is an early example demonstrating an understanding of the more complex principles of dam engineering. Despite having worked on numerous historic water features before, this author has not previously noted such sophistication before the 20th century.⁵⁹

Also found behind the revetment wall at this point was a large brick buttress. It is not understood exactly how this would help support the revetment wall against pressures from the earth behind. Although support of the wall may have had some part in its function, it is more likely that this buttress was in some way connected with the vanished grotto. Contemporary pictures show an elaborate roof covering to this structure, possibly more so than could be adequately supported on the short stub walls. It is therefore possible that the roof or arch was set back behind the revetment, and supported by this buttress.

A final point about the ornamentation of the cascade deals with the apparent surface of the walls, not only of the grotto, but of the revetment wall itself. All three contemporary pictures seem to show some rather porous and pitted surface to the wall faces. Nowhere does the surface seem to have been the brick found during the excavation. Apart from the back wall of the north grotto, there is no evidence of any type of render on the rest of the revetment wall. Small quantities of tufa-like stone found near both grotto sites was originally thought to be associated specifically with the ornamentation of the grottoes. Nevertheless, it is not impossible that such decoration occurred elsewhere as well.

The destruction of the grottoes

There is very little evidence to say what the sequence of destruction and rebuilding of the revetment wall was on the south side of the cascade. Nearly all the evidence has been removed here. The new wall was built of yellow-brown bricks, on top of a very modern looking concrete. One would suggest that this new wall had been built during the 20th century, but there is no way to tell if the grotto had survived up to this time. Unfortunately there are few details of the later history of these pools, leaving one to suggest that these changes are most likely to have occurred since the last war. It is perhaps worth noting, however, that the bricks are similar to those used in the present Upper Lodge mansion, built c. 1840.

The evidence on the north side of the cascade gives a clearer picture, but even here it is not conclusive. Pictures dating from the 18th century all show the bank sloping upwards from the far side of the grotto. The present bank has been brought forward to cover the site of the grotto. It now extends to the present edge of the pool. As argued above, this edge is some 4m plus inside the original edge. Although evidence to suggest more than one phase in the present bank was difficult to find, it is suggested that it may have been a two phase operation. This is indicated by the thick layer of coal found in trenches 10 and 17. Although it is not impossible that this was dumped before the 20th century, one would have expected wastage of this valuable fuel to have occurred relatively late.

If this is the case, the bank currently hiding the grotto ruins was once less sharp in its profile. As the large chestnut trees grow from the later level, the coal was probably dumped before they were planted. This could mean the coal layer is quite old in itself, perhaps 100 years or more? This tends to contradict the expectation that the layer is relatively modern. The only evidence available comes from willow-pattern and other 'china' types found in trenches 10 and 17 below the coal. The more recent of these layers contain pottery that one would expect in the 19th century. There is little evidence for obviously 20th-century wares, although willow-pattern wares after 1830 are notorious difficult to date without maker's marks. From the pottery seen, there are both pre- and post-1830 types in these layers. Pearlware and mocha wares are present, but creamware is rare. The mocha wares suggest that a date before *c.* 1790 is unlikely. The post-1830 wares suggest that the deposit is unlikely to pre-date 1830. No closer dating is available, so these layers probably date from between 1830 and 1900.

This evidence seems to suggest destruction and burial of the grotto between 1830 and 1900? It is possible that the ornamentation around the cascade had been seriously neglected before this, although there was very little pottery dating from before about 1790 anywhere around the pools to indicate any intermediate phases between building *c.* 1710 and destruction, possibly after 1830.

Discussion of pool size and shape

As noted in section 5.1, the archaeological evidence seems to suggest the Upper Pool, at least, had sloping sides. These would have made the maintenance of any elaborate shape, such as the octagon or three-leafed clover shown on early plans, difficult to sustain as the edges would have been constantly eroded.

On the present evidence, it seems that the edges of the Upper Pool were once about a metre behind the present concrete revetment. However, there are two alternate suggestions that can be made based on the same evidence. The first is that the present sides were made by building the concrete revetment inside the original pool edge, and then filling in behind with soil. Alternatively, the pools could have been recut before the new sides were put in. Although it is not possible to argue which is correct, the evidence tends to favour the former as there is no sign of a later recut.

Trench 13 (Figs 11, 13) showed evidence for an original clay core to the bank near the dam. One would expect this wherever the pool needed to be embanked against the natural fall of the land. In medieval times there was a tendency to create dams by ramming in successive layers of clay to make a very solid earthwork.⁶⁰ From at least the 18th century, the clay core dam became more common. A published example can be seen at North Stoneham, Hampshire⁶¹, dating from *c.* 1818, although they are known from a number of earlier lakes built by Capability Brown. In this case the clay core tends to be buried in the centre of an earthwork with less clayey soils making a dump of soil at the front and back of the dam. Such dams were less prone to the clay drying out in hot weather, as it was protected behind soils less susceptible to temperature change. The discovery of such a dam at Upper Lodge, dating from *c.* 1710, makes it one of the earliest dated examples of its type, although the author suspects that earlier examples are highly probable. It was surprising that the clay core did not seem to continue along the south bank of the pool to trench 15 (Figs 12-3), as this bank supports the pool against lower ground to the south. It is possible that the

core could be more deeply buried than was excavated. No clay core would have been required on the north side of the pool, as the ground slopes slightly upwards on this side.

In suggesting that the original pool edge was one metre behind the present revetment, it is necessary to consider the necessity for proper 'freeboard' for the water. This is needed on all ponds to give sufficient space between the top of the water and the top of the banks. If water is allowed too close to the top of the banks, particularly damming banks, they are susceptible to overflowing during flash floods. Modern reservoir engineers recommend a 'freeboard' of at least one metre, although old ponds often make do with a foot (0.33m). Therefore, in calculating the original edge of the pool, that the water is unlikely to have come closer than one foot from the top of the bank needs to be considered. Where sloping banks are used, this will cause the edge to drop back in direct relation to the steepness of the slope. At a rough estimate, this would mean that the original edge of the water would not have been far off the present revetment, making the pool only slightly larger than at present (possibly as little as 0.1m from the present edge).

The evidence of the grottoes (see above) shows that the Lower Pool was once larger than at present. The edge would have come up to the edge of the grottoes on the north and south sides, although the eastern edge may not have been much different from that at present. All evidence of an earlier pool edge had been destroyed on the north side, although a clay layer on the south side [trench 16, context 164] may represent a deliberate waterproofing layer around the edge of the pond (Fig. 12). This layer lines up with the estimated position of where the water would have been against the grotto, and so might be considered a good indication of where the pool edge might be. There was a slightly stony soil south of this clay. This could have been the ephemeral remains of a path, although such an interpretation should be considered tentative at best. A similar stony soil was found behind the clay wall in trench 12 [146], to which the same tentative interpretation might be applied (Figs 11, 13).

The Central Basin excavations, 1999 (Trenches 18-22; Figs 9, 14-18)

These excavations were all undertaken in the former lawned area to the south of Upper Lodge. This had been the site of the Central Basin, and was one of the few areas within the former MOD compound where the archaeology had survived largely undisturbed. For ease of understanding, the five trenches excavated here are discussed under a phasing scheme. Ten phases of archaeological alteration were observed in this area. They were as follows:

Phase 1: first phase of brick structures *c.* 1550-1650

Phase 2: second phase of brick structures *c.* 1550-1650

Phase 3: demolition and terrace build-up *c.* 1685-1710

Phase 4: further terrace build-up *c.* 1685-1710

Phase 5: Halifax Water Garden *c.* 1710

Phase 6: destruction of Central Basin and creation of informal design *c.* 1775-1823

Phase 7: Concrete fountain *c.* 1850-94

Phase 8: destruction of fountain and more terrace build up *c.* 1864-1894

Phase 9: gravel and cinder surfaces laid down, after 1871, but probably early 20th century

Phase 10: final terrace build-up levels in mid 20th century.

Trench 18 (Fig. 14, 17)

This trench was the largest excavated on the site. It was essentially an L-shaped trench, with minor slot trenches cut to investigate features found near its edges. It covered the central portion of the conjectured Central Basin. Its original purpose was to examine the full extent of the mid-19th-century concrete fountain basin, to confirm the north edge of the early 18th-century Central Basin, and to examine the extent of earlier walls found in the 1997 evaluation trenches 2 and 5.

It should be noted that the phasing given here is a broad range based on the archaeological evidence. This is refined in the discussion section following by documentary evidence. For instance, the demolition of the earliest buildings is dated by archaeological evidence to after *c.* 1650, but before 1700. The documentary evidence suggests this may have occurred in the 1680s.

Phase 1 and 2

Excavation continued down to the level of some early brick structures, but did not attempt to go beyond these levels. At the north end of the trench, a brick wall [287] was recovered on the line of a wall found in 1997. This extended for 4.2m in a SSE direction, and was separated from a right-angled return wall [288] by a gap of 0.68m. It was not known if this represented a door or more thorough robbing. Both walls were 0.34m wide on average and built in English Bond. The wall [288] was aligned on a rough W-E alignment, and was found to continue in trench 20 to the east. Within the structure formed by [287/288] was what appeared to be the badly robbed remains of an internal wall [186]. Only a few bricks of this remain *in situ*, but they were sufficiently aligned to suggest they were probably the remains of a wall.

To the west of the wall [287], near the NW corner of the trench, was a circular brick feature [286], approximately 1.4m in diameter. The encircling wall was an average of 0.22m wide. There was a succession of gravelly dumps within the feature. Only two levels [184] and [185] were excavated to support the suspicion that the feature was a well. The remainder were left *in situ*. Layer [185] contained some sherds of post-medieval coarse earthenwares. These were not datable beyond the broad range of 16th-18th century. However, three body sherds of white Borderware, plus other stratigraphic information, suggested that the feature was probably infilled before 1700.

To the south of the wall [288] was a curving brick feature [289]. This comprised two outer lines of bricks, with a void between of 0.22m width. The total width of the feature was 0.34m, and the excavated length about 1.4m. On removing the fill from the void, a brick base or floor was uncovered, leading to the interpretation that the structure had been a brick drain. It seemed to end abruptly outside the gap between the walls [287] and [288]. It could not be said if this was deliberate or not.

At the south end of this trench further brick features were found that were considered to be roughly contemporary with those found at the north end. These comprised one E-W wall [227], 10.4m in length, with two squarish brick bases [247] and [248] near

the west end of the trench. The wall [227] was an average of 0.39m wide, with four short sections about 0.5m long each where the wall had been apparently robbed out. At the west end of the wall was a squarish brick base [247], about 0.92m W-E and 0.8m N-S. There was then a gap of 1.14m and then another slightly larger brick base [248], 0.91m E-W and 0.94m N-S.

A large brick arched conduit [224] was found under the wall [227], extending in a NW direction towards the west end of the present lodge. To the north of [227], a shallow cut had been made down to the level of the conduit. This formed a feature [262] 2m wide, and up to 0.4m deep. The cut did not seem to extend beyond the levels of the next phase, and was filled by a compact gravel [263]. No obvious explanation could be made for this cut, other than it may have been made to repair the conduit. However, there was no obvious trace that this had been done.

7.4m eastwards from the brick base [247] along the wall [227] there was another wall [246]. This was at right angles to [227] and about 0.32m wide. Only a short section was exposed by the excavations. At a point 10.5m east of brick base [247], wall [227] met another wall [267] with a straight joint. The wall [267] continued the line of [227], but was 0.46m wide, about 0.07m wider than wall [227]. The exposed section of [267] was 3.38m in length, but seemed to continue eastwards beyond the excavated trench.

None of the brick structures found in these phases seemed to be made of early thin bricks. The author has seen structures reputed to be late 16th century with thicker bricks than the standard 'Tudor' type, and it is suggested that the earliest structures may date from the Elizabethan period, although it is equally possible they could be early Stuart.

Phase 3

The structures found in trench 18 seem to have been deliberately destroyed, with much evidence of robbing and random truncation of features. Immediately overlaying the remaining foundations was a dirty sandy loam layer [257] containing moderate quantities of rubble, charcoal and other debris. This contained pottery dating mainly from the 16th and 17th centuries, with no distinctly 18th-century wares such as salt glaze stonewares amongst it. Overlaying this debris level was a thin, but more concentrated, layer of brick rubble debris [226] with similar dating materials within it.

Immediately above the rubble was a series of gravel layers [277, 279 & 280]. These extended from the north end of the trench for 7.8m before ending in a sharp downward slope. Their total height was about 0.35m. At the bottom of the drop off was another thin gravel layer [225] overlaying the rest of the rubble layers to the south. The drop off was interpreted as the edge of a garden terrace laid out over the former buildings in the north part of the trench. South of the drop off, a thin layer of gravel was deposited to cover over the rubble layers south of this conjectured terrace.

Phase 4

A dark sandy loam layer [224] was then laid down over layer [225], bringing the ground level up to that of the top of the conjecture terrace. This extended to the

southern edge of the trench, suggesting that in this phase, the terrace level was extended across the whole area, to make the ground flat again at between 15.20m AOD at the north end of the trench and 14.84m near the south end.

Phase 5

Further terrace dumping is visible at the north end of the trench. Two gravelly layers [278/284 & 281] increased the level of the area by a further 0.5m, bringing the conjectured ground level up to about 15.7m AOD. It is notable that this upper level drops sharply 4.1m from the north end of the trench to about 15.0m AOD. This drop off is similar to that in phase 3, and could be construed as a terrace edge if it were not for the strong documentary evidence for a pond here in the early 18th century.

Phase 6

This phase is characterised by a thick dump of sandy clay [223] across the trench from the edge of the levels made by layers [278/284] and [281] to the southern edge of the trench. This overlays a thin, often intermittent layer of brick rubble [276]. Layer 223 is between 0.3 and 0.45m thick, and brings the ground level up to roughly that of the top of [281] in the previous phase, bearing in mind that all phases drop gradually to the south with the natural fall of the land. This layer is the only one (apart from [229] - see below) found on this present site to contain any reasonable percentage of clayey soil within its make up.

It was interpreted that the soil in layer [223] had previously made up the banks required to dam the Halifax pond against the lower ground to the south. When this pond was destroyed, the soil in the banks was pushed into the void (pond) to level the terrace. The thin rubble layer beneath it was interpreted as being the remains of structural elements of the pond, possibly the edging or a structural floor, that were robbed out before the pond was infilled.

Another feature that seems to date from this phase, or soon after it, is a large, possibly linear cut to the north of the old edge formed by [278/284] and [281]. This feature seems to be a substantial cut [282], up to 1.9m wide and 0.45m deep. It was filled by a silty clay loam soil [283]. It was interpreted as a large plant bed cut into the terrace level, possibly after the destruction of the pond, and the levelling of the terrace. This might have created a large shrubbery-like bed of the type popular in the later Georgian/Regency period. Although a broad phase dating has been given above, based on the archaeological evidence, it is thought that the pond was destroyed *c.* 1775, and an informal layout executed thereafter.

Phase 7

At some time after 1850, but before 1871, a concrete fountain basin [228] was cut into the dump layer [223]. This was laid into a circular cut [230]. This cut was approximately 4m in diameter, and was initially filled with a dark brown clay contaminated with brick rubble [229]. The concrete basin was served by a lead pipe (previously identified in 1997) coming from the NW. The concrete basin itself was about 0.3m thick. It comprised four layers of clay tile, set in and separated by concrete. The exact height of the basin is not known. The highest surviving fragment

was 0.33m above the flat base of the basin. The bottom of the concrete basin was at a level 15.14m AOD. The estimated ground level at this point was probably no more than 15.6m AOD, giving a possible maximum height for the sides of the basin.

Phase 8

The basin was subsequently destroyed by smashing the concrete rim, and pushing the rubble into the basin hollow itself. Map evidence shows that this had been done by 1894 at the latest. A layer of brown loam [222] was then added to the terrace, apparently covering feature [282], and thereby removing it from the garden layout. It is possible this feature had been removed earlier when the fountain was made.

Phase 9

There may have been a number of levelling phases carried out in this phase. They are associated with the laying down of successive cinder and gravel layers. In this trench there is a distinctive cinder layer [221] sandwiched between two gravel layers of varying thickness. In trenches elsewhere two cinder layers can be recognised. Also associated with this phase was a feature created by an edging of brick [194] within the cinder surface. This is thought to be a plant bed. The cinder and gravel layers are thought to be hard-standing areas. They may have been decorative, or purely functional for vehicle parking. They do not appear to belong to the type of landscaping typical of a gentleman's house, and so it is thought they are probably associated with the lodge's 20th-century institutional phase, either as a military establishment in World War I (1914-18), or afterwards as a school.

Phase 10

This phase is associated with a thick layer of topsoil-like loam [220] dumped across the present site. This varies in depth from 0.2m at the north end of the trench to 0.55m at the south end. In places it represents a major piece of terrace levelling, giving a false picture of what previous levels would have been, and thereby causing a number of incorrect assumptions about levels to be made about the site. It is probable that this dumping occurred during the latest military occupations of the site, either during World War II or during Ministry of Defence tenure thereafter.

Trench 19 (Figs. 15, 18)

This trench was excavated across the end of the 1997 evaluation trench 5 to examine further brick drains found in this vicinity. The alignment of these features resulted in another L-shaped trench being dug. It should be noted that the phasing of this trench was difficult, as the levels in other trenches did not correspond exactly with those in this trench.

Phase 5 or earlier?

A series of brick drains was cut into a cleanish gravel level [213]. These drains comprised rectangular voids created by setting unmortared bricks around it, and capping the whole with bricks laid lengthways across the hollow created. The full

construction method was examined in 1997. Only the top of the brick cappings was exposed on this occasion.

On the east side of the trench, the continuation of the brick drain [216] excavated in 1997 was examined. A section 5m long, on a N-S alignment, was uncovered. It continued beyond the south edge of the trench towards the open parkland. Excavations carried out in 1997 had shown that the drain began about 1.15m north of this current trench.

Another drain [217] was connected into drain [216] at a rough right angle. This headed in a WNW direction towards the surviving ponds on the west side of the site. A length measuring 9.7m was uncovered. A further drain [218] was found to leave 217 at a point 7.7m west of drain [216]. This drain was roughly parallel to drain [216], on a N-S alignment. Where drains [217] and [218] met, the capping was made of two whole roof tiles. It was possible that these were an extra support under the brick capping. However, root disturbance (which was extensive throughout this trench) was particularly heavy here, and a major tree root had partly dislodged the capping bricks, and had dislocated the first half metre or so of bricks in drain [218].

Offset a further 0.6m west of the junction of drains [217] and [218] was a stone capping roughly 0.4m square, with an iron grill 0.18m square in the centre. On lifting, this was found to be set on a short brick 'tower'. The whole was located about 6cms north of drain [217], with the drain beneath the capping leading into drain [217]. No drain extending northwards was seen, the north side of this drain being a short blind brick wall.

What was considered unusual about this drain capping was that it was set at approximately the level of the cappings of drain [217]. The height of the top of the capstone was 14.68m AOD. That a grill was present in what appeared to be an *in situ* structure suggested that at one time this capstone was at ground level, and the tops of the brick drains were barely buried, if at all. This was approximately the level of the phase 1 and 2 buildings found in trench 18. This seems to indicate that the area in front of the present lodge was approximately level at one time, and that the subsequent increase in level has occurred from subsequent dumpings after that time. This is largely confirmed by the stratigraphic phasing of trench 18, but it suggests that a number of the dumping phases did not extend this far south.

The brick types used in the construction of these drains are similar to those found in the phase 1/2 buildings. It should be noted, however, that these bricks are not distinctive enough to be accorded anything but the broadest late 16th to early 18th-century date range.

The function of these drains can not be fully explained. If they were from phase 1/2, why are they outside the conjectured garden walls [227/267] and gates [247/248]? Does this suggest that there were further early features beyond these walls? What are they supposed to be draining? Alternatively they may belong to a later phase, such as phase 3 or 4, or even to Halifax's scheme. Although the latter is possible, one has to wonder why they appear to be at a lower level than the pond, or why they should be, apparently, beyond the bank, rather than within it.

Phase 6 or 7?

The drains appear to have fallen out of use when a thick layer of dirty gravel [212] was dumped over them. This was up to 0.35m deep. A similar layer in the 1997 trench 5 seemed to be beneath the pond levelling layer ([223] in trench 18) of the later 18th century. It was not possible to determine exactly how this layer related to the good succession of layers visible in the other trenches excavated in this current exercise. It is possible that it was the remnant of a terrace dump level to the south of the retaining bank of the 1709 pond, thereby making it part of Halifax's landscaping. It is equally possible that it was laid down as a terrace dump after the pond was infilled. The only relationship that can be equated with it is the dumping of a phase 8 layer immediately over it (see below).

Phase 8

This is the earliest phase that can be readily equated with levels elsewhere on the site. In this phase a loamy soil is dumped over the trench [211]. It is reasonably certain that this level is a continuation of layer [222] from trench 18.

Phase 9

This phase is equated with the remnants of a cinder layer [210] found on the east side of this trench. It did not seem to extend further west than the line of the 1997 trench 5.

Phase 10

A deep topsoil like loam layer [209] was dumped over the trench. This was up to 0.25m deep in places.

Trench 20 (Figs 15, 17)

This was a linear trench excavated on an E-W alignment to find a wing wall on the east side of the house as shown on 18th-century plans. This wall was parallel to part of the northern curve of the Central Basin. The ephemeral nature of the remains of the Central Basin suggested that the discovery of these walls might act as a reference point for determining the shape of the basin without more positive evidence. This wing wall was not located within this trench.

Phase 1 and 2

At the west end of this trench at least two phases of brick structures were uncovered. These are thought to be continuation of structures [287/88] found in trench 18. The earliest structure is a substantial brick foundation [244]. This is 0.9m wide, with an apparent terminal just on the southern edge of the trench. The excavated length was just over 1m, with the north edge of the trench obscuring its continuation in that direction.

This feature was directly overlain by a thinner wall [243], 0.32m wide, set on the thicker foundation. Abutting this wall, by an apparent straight joint, was another wall [242] at right angles to it. By its SW-NE alignment, it would seem that wall [242]

extended into trench 18 to become wall [288]. Thus, the walls [242, 243, 287 & 288] seemed to form the three outside walls of a rectangular structure approximately 5.8m wide internally. Its length was not fully excavated, but from that excavated, it was at least 4.8m internally.

Within this structure was a single line of bricks [271], parallel with wall [243]. To the east of this line was a single *in situ* plain floor tile [270], set on a sandy mortar bed (268), traces of which could be identified with the structure between walls [270] and [243]. The above layers and structures were buried beneath a rubble layer [241].

To the east of walls [243/244] was another structure [245]. This comprised two parallel lines of bricks with a loamy fill between. The distance between the two brick alignments was 0.2m. When the soil between was cleaned out, no brick base was found underneath, as there had been in similar structure [289] in trench 18. However, for the want of a better alternative, it was considered that [245] was a drain, just like [289]. It was noted that they were of slightly different construction to the brick drains in trench 19, suggesting they may have been of a different, possibly earlier, date.

A cut feature [206] was found excavated into the levels associated with the construction of the structures in this trench. This was 2.1m wide and 0.5m deep in the part sectioned. It contained a sandy clay loam fill, with some moderate fragments of rubble within. It was overlain by a rubble layer [205] that signified the demolition of the structures within these phases.

Phases 3 and 4

These phases were presented by the dumping of gravelly layers [204, 291, 292] over the demolition rubble of phases 1/2. Layer [291] can be matched up with layer [279] in trench 18.

Phase 5

More dumping of gravelly layers in this phase. The lowest of these layers contained moderate amounts of rubble [203], with the thicker upper layer [202] also containing occasional rubble. It is thought that these levels represented terrace dumping into which the pond was shaped. There were no traces of the pond, or pond levelling layers in this trench. It was assumed that the pond did not extend into this area. This matches up with the discoveries in trench 18.

Phase 6

The above dumping levels were cut through by a loam-filled cut [275]. This did not appear to extend into layer [204]. If it did, it seems only to have cut the top few centimetres. Both layers [203] and [204] were cut by it. There were two fills, the lowest being sandy loam [274], followed by a loamy clay [290]. The latter layer had similarities to the fill of cut [282] in trench 18. This feature was thought to be a continuation of [282], and was interpreted as late 18th- or 19th-century shrubbery bed.

Phase 10

The final layer within this trench was a thick dump of loamy soil [201], up to 0.35m deep, making up the present topsoil. There were no traces of the intervening phases 7-9 in this trench.

Trench 21 (Figs. 16, 18)

This was originally another linear trench on an E-W alignment designed to try to find the second wing wall on the west side of the house. The line of the trench was obstructed by a modern manhole, causing the trench to be dog-legged to allow it to continue westwards. It is not thought that the excavation here extended much deeper than phase 4 or 5.

Phase 5 or earlier

It is uncertain exactly what phase the lowest excavated levels in this trench began at as direct correlation with other excavated areas were not available from the earliest phases. The earliest levels were a series of rubbly loams [layers 250 & 251]. These may pre-date phase 5, as they are cut through by the construction cut [260] of a large stone rubble foundation [261], overlain by brick and mortar rubble [253]. This latter feature was thought to be a wing wall shown on post-1709 plans as part of the Halifax garden design. These walls seem to have survived the central pond, as they still appear to be shown on a print of 1775, when the pond had been removed.

There were other features cut into these levels. These included a shallow cut [191] filled by a soil heavily contaminated with charcoal [189], and two large mortary lenses [190 & 192]. What these layers represented is uncertain as the trench was not excavated into these levels to any extent. Apparently just above these levels was an extensive, but thin, spread of mortar [237] that extended over much of the east end of the trench.

The disturbance to the phase 5 levels was such that it was not certain what had gone on in this area. The rubble stone foundation appears to match up with the line of the wing wall. The brick dump overlying this may have been the remains of the wing wall. If so, was the stone foundation an earlier wall, or merely a foundation to a brick wall? It is possible that the thin mortar layer [237] was contemporary with the wall, and may represent the bedding of a stone flagged path. A path of sorts appears to be shown on contemporary plans. Possibly the layers [250/251] between [237] and the foundation were remnants of plant beds, but considering the extensive dumping all across this site, any such interpretation must be viewed cautiously. It seems the only fixed point in this trench is that there is a reasonable chance that the rubble foundation is associated with the wing wall.

Phases 6 and 7

This seems to be represented by a thick gravel dump layer [235], which overlies the destruction of the wing wall. This must have occurred a little after the destruction of the pond as the wing wall still seems to be present on the print of 1775, after the pond had gone. The wall had gone by 1823, suggesting that the dumping was probably a

later part of phase 6. Another dumping level [198] was dumped over [235] in the SW part of this trench. It is not known if this was part of the later phase 6 episode or a separate dump carried out in phase 7.

At some time after the dumping phase, but before phase 8, a deep cut [238] was excavated through all the levels exposed in this trench at its east end. This was backfilled by a dirty gravel loam [239]. It was at least 0.7m deep, its full extent not being excavated. Its irregular outline suggests it might have been a planting pit of some sort, or an excavation for the removal of a large tree.

Phase 8

The loam dump [234], equivalent to layer [222] in trench 18, was found immediately over dumps [198] and [235]. Curiously, this overlays a thin layer of cinders [296] at the far west end of the trench, suggesting the possibility of this phase being slightly later than the evidence from the other trenches suggested.

Phase 9

This phase is represented by another thin layer of cinders [197] overlain by a much thicker layer of gravel. The latter contained much yellow brick rubble [233]. This is overlain by yet another thin cinder layer [232].

Phase 10

Topsoil [231] dumping over the former cinder levels is about 0.2m deep in this area.

Trench 22 (Figs 16, 18)

This was a linear trench cut on a N-S alignment between trenches 18 and 19 to try to recover the southern edge of the Central Basin. This had been attempted in trench 5 in 1997 without clear success. However, to determine if the absence of a southern edge in trench 5 was merely a local phenomenon, this further trench was excavated as a check. The phasing in this trench was relatively simple, it comprising nothing more complex than ten layers one on top of each other.

Phase 1/2

This is represented by a gravelly layer [180], overlying a dark loamy layer [181]. The gravel layer appears to be a dump, but the loamy layer has the appearance of being an original topsoil, possibly the original surface onto which the late 16th-/early 17th-century arrangement was laid out. The thin gravel layer lay outside the conjectured perimeter wall of phase 1/2, and may have been a contemporary levelling layer. A demolition spread [179] probably represents the destruction levels of these phases being spread out to level the area. This is equivalent of layer [226] in trench 18.

Phase 3

A dump of gravel [178] overlies the demolition levels, representing a terrace level phase. This is the equivalent of layer [225] in trench 18.

Phase 4

The topsoil-like loam [177] dumped in this phase to level an earlier stepped terrace overlay the phase 3 gravel. This is the equivalent of layer [224] in trench 18.

Phases 5 and 6

A clayey dump layer [176] overlay the phase 4 levels. This is thought to represent the pushing of the retaining banks of the phase 5 pond into the ensuing void to level the site in phase 6. There is a slight rise in this level about mid way through this trench that might tentatively be put forward as the line of the bank of that pond. That is, the north edge of this rise could be cautiously interpreted as the southern edge of the pond.

Phases 7 and 8

Phase 7 is not represented in this trench. The loam layer [175] overlying the clayey dump is thought to be a levelling dump brought on to the site after the destruction of the phase 7 fountain. It is equivalent to layer [222] in trench 18, and is the phase 8 terrace level.

Phase 9

This is represented by a thin remnant of a cinder layer [174] overlying the loam layer [175] at the north end of this trench. The cinders are overlain by a thin layer of gravel [173]. Neither layers extend very far south in this trench.

Phase 10

The final phase in this trench is a deep layer of topsoil loam [299], up to 0.5m thick.

Discussion of trenches 18-22

The excavation results in the Central Basin area revealed that the development of the Upper Lodge site was more complex than could have been envisaged from the documentary evidence alone. Prior to this excavation, it was generally considered that the site was of relatively minor importance until the creation of the Halifax water gardens c. 1709-15. The present excavation has shown that the site was of some complexity at an earlier date, and that there would appear to have been at least four phases of building and landscaping prior to the creation of the water gardens.

The earliest phase seems to have been associated with a brick building associated with at least two walled garden compartments, and possibly a complex series of drains indicating an involved system of water management before Halifax began work on the site. It can not be said at this stage if these drains were involved in the use of water for obviously ornamental purposes, but the system does suggest a high degree of integration into the ornament of the lodge.

The most important question would seem to be the date of the main phases of the excavated brick structures. This is not an easy question to answer. The excavated pottery from the demolition layers above the structures comprises mainly Border Wares and ubiquitous course earthenwares. The latter are notoriously difficult to date, remaining in the same form from the 16th through to the 19th century. The Border Wares are more useful in this respect. These consist mainly body sherds of an unexceptional nature. Although they can be given a fairly broad date range, from the early 16th through to the 17th century, it is unlikely that many fall outside the period 1550-1660. This date is supported by occasional sherds of stoneware of mainly 16th- and early 17th-century date, and clay pipe bowls that are unlikely to date much beyond c. 1660. This evidence suggests that the structures could have been demolished at some time after the mid 17th century.

If we can suggest a date for the end of this phase, the brick types in the structures themselves may help to date the construction. Judging a building by brick thickness alone can be unreliable, but the absence of thin 'Tudor' bricks both in the structures, and residually in demolition layers seems to suggest that the buildings may not be of early 16th century date. The brick thicknesses are of a type more normally associated with the 17th century, although the second half of the 16th century is feasible. On the basis of brick evidence alone, the structures seem to date from c. 1550-1660. The stratigraphy overlying the structures suggests that the latter date is less likely. This makes the structures most likely to be later Tudor or early Stuart.⁶²

Records for work on structures in the park survive, but these do not give any conclusive information concerning the earliest lodge buildings. In 1537 Thomas Gadsbe was paid for gathering white thorn for quicksets (hedges) for 'the new perke next unto hampton towne'.⁶³ This appears to relate to the creation of a new park centred on Upper Lodge. This had formerly been arable land, and was also called 'Ffylds Park' after John Field, who occupied the land at the time of its emparkment. He appears to have gone on to become the park keeper. This new park was attached to the much larger 'Great' or 'Upper Park' to the east.⁶⁴ In 1538 an 'olde barne' was set up in Field's Park by Willi Gyrdler, a carpenter, after it had been dismantled and transported from Merton Abbey.⁶⁵ On this occasion it is recorded that the barn is transported to 'fylds lodge besyd hampton town', suggesting that a lodge house had been built by this date. The name Bushy Park does not seem to have been used until c. 1605.

About 1616 John Hipplesley was created under-keeper at Bushy Park with Upper Lodge as his apparent residence there.⁶⁶ A survey of 1653 records 'the messuage or dwelling house in the tenure of Sir John Hipplesley, commonly called the Greater Lodge, consisting of a hall, a faire parlor, a kitchen, a pantry, and other convenient Roomes below stayres, seven Lodging roomes above stayres, with a large Barne, Stable and other outhouses, belonging to the same...'.⁶⁷ This building is probably the one partly recovered by the excavations, demonstrating that it existed by this date.

By the 1670s John Lightfoot had the custody of the park. In 1674 it is recorded that timber was cut for 'Mr Leightfootes Conduit House'. In 1676 foundations were dug for 'brickeworke under the banqueting house at Mr Lightfoots', and 'at the Conduit by Mr Lightfoots'. Further records include carpenters 'making a Centre to turne the Arch at the Conduit in Bushy Parke', bricklayers 'washing, stoping and whiteing the

banqueting house in Mr Lightfoots Parke', and 'underpinning the Railes at the Banqueting house at Bushy Park and working a draine there' in 1678.⁶⁸ None of these structures were necessarily at the lodge site, but they show Lightfoot to have been an active keeper.

By 1685 Henry Savile had been made Keeper. In this year he presented a petition to the Treasury for money to repair Upper Lodge, stating that it was in serious disrepair. He claimed to be 'finding everything in such disorder by the several hands it had beene in that most of the particulars here annexed will bee necessary to put it in such a condition as is fitt for your Mtes Service'. The underkeeper's lodge is here assessed as being 'very old & almost past repayre..'.⁶⁹

On account of this petition, John Fisher seems to have visited the place for the Surveyor General. His report states that:

'There was formerly a Garden at ye East side of ye Cheif [sic] Lodge, walled in, part of which wall is now taken down and another built in ye stead and some other part leans so much as it can hardly be kept up but must be pull'd down and rebuilt, and there was a large old Orchard at ye north side of ye house formerly fenced with an old pale, but is now adioined to ye Garden and allmost all walled in with good brick wall of two brick thick at bottom and a brick and a half to ye top, full 9 foot above the ground, which for all materials and workmanship and severall gates is agreed as I am informed at £5 a rod square and is computed when finished to conteyn 50 rod wch as set down in ye Estimate will amount to £250'.⁷⁰

This reference suggests that the walled compartments discovered by excavation were in a ruinous condition in 1685. Where they removed around this time? It is tempting to date these brick structures in the long keepership of Sir John Hippesley (c. 1616-55). However, the discovery of high status tin glazed tiles amongst the demolition layers might make a slightly earlier date for the elaboration of the lodge site possible. Further references to Lightfoot's work in the 1670s indicate that work was still being carried out in the area at this date. This may suggest that the complaints made in 1685 on the condition of the site were exaggerated to get more money out of the crown for refurbishment.

The most confusing element of the subsequent sequence is the Gough map of c. 1701-09 (Fig. 2). Interpretation made prior to the present excavations seem to show a house to the east of the present site with a turning circle off-centre to the SW.⁷¹ This is difficult to fit into the sequence as given by the archaeology and the other documentary evidence. There was no sign of a turning circle during the excavations, or a layout approximating to that shown. The archaeological sequence seems to show two possible phases of landscaping between the demolition of the buildings and the creation of Halifax's water garden. It is not impossible that these phases could have been preparation works by Halifax himself to bring the site to the required level, but the documents for 1685 suggest that a major restructuring was at least proposed at this date, if not carried out.

There are a number of possible explanations. One is that the 1701-09 plan was very short-lived. The earlier structures could have been demolished in 1685, and a new layout carried out, and then this, in turn, was destroyed c. 1710. The second is that the

1701-09 layout was a proposal that was never fully implemented. The third is that it has been misinterpreted. A drawing of c. 1710 seems to show Halifax's design superimposed over the Gough plan, with only what appear to be minor buildings on the conjectured site of the lodge.⁷² Could it be that the so-called lodge building offset from the circular feature was not the lodge at all, but just some of the many outhouses mentioned in the 17th century? This could put the lodge site, or what was left of it, back nearer the centre of the design, at the head of the turning circle. The 1701-09 plan is not in any way clear as to where the lodge was sited. A fourth explanation might be that the pre-1700 lodge was very extensive, and only a part was demolished c. 1685, leaving the bulk of the building standing, even though it appears to be some distance from the site of the brick building found by the present excavations.

Around 1700 there seem to have been further works carried out on the lodge. At this time Lord Macclesfield had the care of the site. In October 1700 Henry Wise, the royal gardener, is recorded as planting a walk with 110 large elm trees leading to the site. He also records that:

'the piece of ground at ye North End that is on ye Park Side between ye new wall and ye Cutt of water or Canal last made in levelling ye ground must remove 400 solid yards....Digging and Working it into Bedds and borders 1555 solid yds...'⁷³

The 'canal' is probably the Longford River, an artificial watercourse that was later used to feed Halifax's water garden. The area between the new wall and the canal is probably located somewhere near the lodge. Even if it is not within the area of archaeological excavation, it demonstrates that substantial landscaping was carried out at this time. This could fit in with the phase 3/4 archaeological episodes.⁷⁴

When Halifax took over the keepership of the park early in 1709 it is recorded that the lodge has been 'for many years uninhabited and very rotten' and the buildings 'so crippled by the great storm [of November 1703?] that they can not be repaired but must be rebuilt with new ripping the Great Lodge...'.⁷⁵ By 1710 works had progressed sufficiently for it to be recorded that a Matthew Banks had made 'Bayes to keep the Water back while the Cascade was putte down in Bushy Parke...'.⁷⁶

There were only ephemeral trace's of Halifax's Central Basin found during these excavations. Like the ponds around the cascade, 'bayes' or banks would have had to be constructed to hold the water against the lower ground to the south. The remains of these banks, it is believed, can be found in layer [223]. Only the slope upwards of the surrounding terrace on the north side can be traced in the surviving stratigraphy. Elsewhere, the banks must have been pushed inwards to fill the void formed by the pond after it was decided to remove it. This would account for the complete lack of remains on the south, east and west sides of the former pond.

The archaeological evidence did not refine the date for the destruction of the pond any further. A print of 1775 shows the Central Basin gone, but the wing walls still in place, although General Roy's Ordnance Survey baseline map of 1784 seems to show a pond still in place. It is generally thought that the latter may have included anachronistic features, and so can not be relied upon for accuracy. John Rocque's normally accurate maps show the Central Basin still intact in 1754, indicating that its destruction was probably shortly before the 1775 print was made.

Little is known about the informal garden that succeeded the formal water garden. This is shown on Warren's plan of 1823.⁷⁷ It is possible that the conjectured large bed [282] laid out to the north of the pond may have been dug as part of this layout. The wing walls are gone, suggesting they must have been destroyed between 1775 and 1823, thereby removing these vestiges of formality. The terrace was built up further. It is possible that a fashionable Regency shrubbery-type garden existed during this phase, although it may have undergone a number of alterations within its life span. This basic plan continued until after 1850, by which time the house seems to have been rebuilt with three bay windows at the front (Fig. 7).

By 1863-64, when the first edition 25" OS map was surveyed, a fountain had been laid out in front of the house.⁷⁸ This is clearly indicated by the archaeological remains as feature [228]. The 1897 OS 25" map (Fig. 8) shows it has been removed.⁷⁹ This was surveyed in 1893-94, indicating that this feature had been destroyed by this date. This destruction was followed by further terrace levelling, possibly to form another informal design. Following this a number of gravel and cinder surfaces were laid down. These can not be accurately dated, but it is suspected that at least some of them belong to one of the lodge's institutional phases in the early 20th century. Further terrace levelling was carried out over the top of these levels in the mid 20th century. This was probably a way of getting rid of surplus earth excavated during the massive changes carried out following Ministry of Defence requisition in the Second World War and after.

Conclusions

Despite heavy disturbance around the Upper and Lower Pools at Upper Lodge, sufficient information was recovered to give an approximate picture of their original layout. On the north side of the cascade, the foundations of a structure, described in 18th-century documents as a grotto, were found. Originally there was one of these either side of the cascade in symmetrical positions. The archaeological evidence showed them to be spaced further apart than had been expected.

The remains of the northern grotto appeared to be little more than a shallow alcove against the brick revetment wall of the pond dam. It had an internal width of about 3.2m, and a depth of little more than 0.5m. The remaining structure was built of red brick. There was evidence that the back wall was rendered with a dark plaster or mortar. The sides seem to have been covered in rubble stone, possibly including a porous tufa-like stone, to give the structure the appearance of a rocky cave. It appears to have been highly contrived, requiring a painting to be placed against its back wall to give it artificial depth. This was removed in the winter, leaving the darkened plaster to perpetuate the illusion.

There was additional evidence on the north of the cascade for structures built to increase the water display. Two water channels, at differing levels in a stone buttress protruding from the revetment wall of the dam, may have caused spouts of water to fall into the Lower Pool. The upper channel may have filled an ornamental stone basin that was attached to the buttress. This basin then overflowed into the Lower Pool. The lower channel may have used increased water pressure to force a spout of

water further out into the pool. The lower channel could also have been used to help partly drain the Upper Pool, when the cascade was in need of repair.

It appears that the grottoes were buried after 1830, but they may have been derelict for some time before this. On the south side of the cascade, they were completely removed when a new revetment wall was erected in yellow-brown brick. Excavation behind the south revetment wall revealed that the original wall had partly survived encased in the later structure. This work also revealed mortared stone rubble behind the original wall, and a substantial brick buttress. The former may have acted as a 'breathing' wall, allowing the pressures of the dam bank behind to be absorbed. The buttress was thought to be a back support for a roof to the grotto. Contemporary illustrations show this roof to have been an elaborate domed feature.

Further excavation suggested that both pools were variously larger than at present, although the difference in size between the original and present Upper Pool may have been marginal. The Upper Pool seems to have had a 'clay core' type dam, a construction type that differs from most 'layered clay' medieval dams. This type of dam is well known from the mid-18th century, although it is suspected from earlier. The construction date of the Upper Lodge pools of c. 1710 makes this example one of the earliest of its type to be recorded.

The excavations on the site of the Central Basin demonstrated that the archaeological survival to the south of the present mansion is of excellent quality. Although the water garden period is only modestly represented, there is a relatively clear picture of a number of other phases. At least ten phases were identified. These range from the well-preserved remains of a 16th-/early 17th-century hunting lodge, with attendant walled garden compartments, through to 20th-century Ministry of Defence terrace build-up.

The 16th-/17th-century structural remains include part of the hunting lodge. This was probably a brick extension to an earlier timber lodge, with the discovery of high status tin-glazed tiles depicting hunting scenes, suggesting an elevation in status in the later 16th or early 17th century. It is possible that further elaboration, including the creation and extension of complex walled gardens, continued into the first half of the 17th century in the long keepership of Sir John Hippenley (c. 1616-55). The documentary evidence suggests that the early structures were demolished in the later 17th or very early 18th century, possibly as part of the restructuring of the site by the Earl of Halifax in 1709. However, it is not impossible that some demolition may have occurred before this date.

Only the northern edge of Halifax's Central Basin was discovered. Elsewhere, it seems that the clay retaining banks of the pond were pushed into the pond hollow, following the Basin's destruction at some time between 1754-75. Hereafter, an informal layout existed to the south of the mansion, which probably evolved into a Regency-type shrubbery garden fashionable in the early 19th century.

After 1850 a concrete fountain was built in front of the house, but this was relatively short lived. It had gone by 1893-94, and another informal layout in front of the house seems to have been created. Terrace build-up continued into the 20th century,

culminating in further heightening of the ground levels under the Ministry of Defence c. 1950.

Specialist Reports

Only the main categories of finds are discussed here. Further details can be found in the site archive.

Worked flint

Six pieces of worked flint were recovered from demolition and terrace dumping levels. This material was clearly residual, having been brought on to the site from outside. However, it might be suggested that they had not travelled far, and had originated in the park. The pieces recovered were generally of a high standard of workmanship, some possibly of Neolithic date. They indicate a prehistoric presence in the park, but were not of sufficient quantity to make any further comment.

Stone

Fragments of tufa-like stone were found in the vicinity of the remains of the grotto in trench 10. Two larger pieces were retained for the archive. The stone can be described as a porous rock composed of calcium carbonate, with many voids within it. It can not be said if it is true tufa (which is found around mineral springs) or a coral-like rock imported from foreign lands. It was probably used to decorate the exterior of the grotto.

Tin glazed tile (Fig. 19 & plates)

62 sherds of tin glazed tile were recovered from context 257, a demolition level associated with early post-medieval structures on the site. They were not cleaned, but removed straight from site to the British Museum, who arranged for one of their staff to undertake the conservation work as a private contract. Many of these fragments were subsequently linked together by Maria Barlow, who carried out the conservation work. This included the creation of an entire tile whose existence was not immediately apparent from the excavated assemblage

About 85% of this assemblage was found within a discrete area of about one square metre to the SSW of the conjectured early lodge building. With only one exception they had been deposited face down, and appear to have been thrown down with some force, as the glaze was invariably cracked. Some of the damage may have been modern, caused by pressure on the delicate fabric from the machine bucket removing soils immediately overlaying the tiles.

Catalogue of tiles:

1. Complete tin-glazed tile, 140mm by 138mm by 17mm thick. Creamy off white slightly sandy fabric, with occasional black hematite inclusions. Fabric developing pink tinge towards outer edges of tile. Long-legged dog, possibly greyhound, in grassland landscape within roundel. Roundel comprises five concentric rings, two

- outer blue rings either side of central brown ring. Colours used are blue, white, brown, yellow and green.
2. Tin-glazed tile, with lower right corner missing, 140mm by 135mm by 18mm thick. Creamy off white slightly sandy fabric, with occasional black hematite inclusions. Fabric developing pink tinge towards outer edges of tile. Four-legged animal, possibly a hare running, with head looking back, possibly at pursuers. Set in grassland landscape with post and rail fence in background. Surrounded by roundel of five concentric rings, the two outer blue rings either side of central yellow ring. Colours used are blue, white, yellow and green.
 3. Top right quarter of tin-glazed tile showing man with hunting horn. Surviving piece 89mm by 67mm by 19mm. Creamy off white slightly sandy fabric, with rare black hematite inclusions. Surrounded by roundel of five concentric rings, the two outer blue rings either side of central yellow ring. Colours used are blue, white, yellow and green.
 4. Bottom left quarter of tin-glazed tile showing running animal. Surviving fragment 92mm by 85mm by 16mm thick. Creamy off white slightly sandy fabric, with occasional red hematite inclusions. Fabric developing pink tinge towards outer edges of tile. Similar to (2), but using yellow-brown instead of yellow for animal and post and rail fence. Post and rail fence also notably thicker. Surrounded by roundel of five concentric rings, the two outer blue rings either side of central yellow-brown ring. Colours used are blue, white, yellow-brown and green.
 5. Top left corner of tin-glazed tile showing head of horned animal, possibly young deer. Surviving fragment 81mm by 58mm by 18mm thick. Pink slightly sandy fabric, with rare flint and red hematite inclusions. Fabric developing pink tinge towards outer edges of tile. Surrounded by roundel of five concentric rings, the two outer blue rings either side of central brown ring. Colours used are blue, white, brown and green.
 6. Bottom half of badly damaged tile with about 40% of surviving area devoid of glazing. Surviving fragment 139mm by 61mm by 18mm thick. Shows leg of animal in grassland landscape. Creamy off white slightly sandy fabric, with frequent black and red hematite inclusions. Fabric developing pink tinge towards outer edges of tile. Surrounded by roundel of five concentric rings, the two outer blue rings either side of central yellow-brown ring. Colours used are blue, white, yellow-brown and green.

Also recovered were two large tile corner fragments (60mm by 68mm by 15mm thick and 72mm by 68mm by 17mm thick respectively) without any part of the inner design surviving. There were also eight other fragments ranging from 75mm by 38mm down to 20mm by 20mm. A number of these showed parts of the roundel pattern shown on pieces 1-6, and some showed what appeared to be parts of animals, but none were clearly identifiable

Provisional opinion suggests that these tiles originated from the Low Countries, and seem to be depicting hunting scenes. It is possible that they were a specially commissioned set, dating from the later 16th or early 17th centuries.

Tin-glazed tiles are known from the low countries from the early 16th century. One of the earliest known pavements in the UK is at The Vyne, Hampshire, dated to c. 1520. The colour range of these early tiles is blue, green, orange-brown and yellow⁸⁰, the same colours used in the Upper Lodge examples. This might suggest an early origin

of the set. However, the incorporation of the picture within a roundel is generally later. Designs with the concentric-ringed roundel, with a pattern of three leaves in each corner, can be found surrounded portrait tiles occur as early as 1587⁸¹. Both the roundel type and the use of animals in the design demonstrate an Italian influence, although the general lighter tone of the blues suggest a Flemish rather than a northern Netherlandish origin.⁸² The Upper Lodge examples have no known direct parallels, but the style of the animals can be seen in a tableau of lozenge-shaped tiles in The Hague, possibly of early 17th century date. There is even an exact depiction shown here of the three-piece fence shown in the Upper lodge examples.⁸³

The Upper Lodge examples might possibly be dated more closely by a researcher with deeper knowledge of tin-glazed tiles than the present author. At present only a general date can be offered. The colours might suggest a pre-1600 origin, and possibly a Flemish source, but the stylistic features in the designs seem to range from the later decades of the 16th or first half of the 17th century, which seems to tie in with other evidence for dating the brick structures.

Pottery (Fig. 20)

The pottery assemblage was largely of poor quality, with coarse red earthenwares making up the majority of the wares (45.1% by sherd count; 66.6% by weight). Coupled with other types of coarse earthenwares (a further 6.9% by sherd count; 8% by weight), they were, by far, the most common wares on the site. The types found were of the types found throughout most of the post-medieval period, and they did little to refine the dating of the site.

The next most common ware on the site was white Borderwares (25.5% by sherd count; 11.2% by weight). These were mainly green glazed types, with a number of sherds being of 16th-century date, although some of the lighter green glazes were also known in the 17th century. Only three sherds of 16th-/17th-century stoneware were found, and a small assemblage of mainly 17th-century tin glazed earthenwares (6.9% by sherd count; 1.6% by weight). The only other sherd of any note was a small rim sherd of a Cistercian ware jug, possibly of 16th-century date.

The majority of the assemblage comprised undiagnostic body sherds. Only a few rims and bases suitable for illustration were recovered.

Catalogue⁸⁴:

1. Globular jar with everted rim and thumb-impressed decoration in exterior angle of rim. Oxidised coarse earthenware with grey core. Green glazed interior. Unglazed exterior, although large splash of glaze on decoration. Slightly sandy fabric with occasional small voids, occasional small calcareous inclusions and rare black hematite. [257] 220mm diameter, 5%.
2. Jar with straight rim, with flange at right angles to rim for lid seating. Oxidised coarse earthenware with iron-rich clear internal glaze. Unglazed exterior, although splashes of glaze visible. Sandy fabric with occasional small calcareous inclusions and rare black hematite. [226] 100mm diameter, 16%.

3. Plate or shallow dish in oxidised coarse earthenware. Clear internal glaze. Unglazed exterior. Sandy fabric with occasional calcareous inclusions and black hematite. [257] 340mm diameter, 15%.
4. Jar with everted rim. Buff sandy Borderware fabric with occasional black hematite. Internal yellow-green glaze. Unglazed exterior with splashes of glaze. [226] 140mm diameter, 10%.
5. Straight hollowed handle of Borderware pipkin. Green glazed interior. Unglazed handle but with splashes of glaze of exterior. Buff sandy fabric with moderate black hematite. [226] 200mm diameter, 8%.
6. Foot of Borderware pipkin or small cauldron. Green internal glaze, splashes of glaze on exterior. Buff sandy fabric with rare black hematite. [257] 100mm diameter, 12%.
7. Slightly concave base of acute-angled Borderware vessel with stepped side. Thick internal light green glaze. Unglazed exterior. Buff sandy fabric with rare small calcareous inclusion and rare black hematite. [257] 140mm diameter, 13%.
8. Tin-glazed earthenware vessel with concave base and straight sides. Blue and white concentric rings decorating exterior glaze. Plain blue-white internal glaze. Buff slightly sandy earthenware with occasional voids and black hematite. [226] 60mm diameter, 15%.
9. Base of coarse earthenware vessel, possibly pan or large jar. Oxidised sandy fabric with occasional voids and calcareous inclusions and rare black and red hematite. Brown internal glaze and unglazed exterior. [257] 160mm diameter, 10%.
10. Base of coarse earthenware vessel, with thumbed press frilling around bottom of vessel. Fingerprints clearly visible on frilling. Oxidised sandy fabric with grey core. Moderate black hematite and rare calcareous inclusions. [257] 180mm diameter, 10%.

Nearly all the finds came from demolition levels overlying the early brick structures. There was a notable absence of any distinctively 18th-century wares, such as salt-glazed stonewares or late tin glazed earthenwares. Those pottery finds made were mainly of later 16th- or 17th-century date. The presence of wares from the first half of the 17th century would suggest that the buildings were unlikely to have been demolished until after 1600, but how far into that century is difficult to say. Certainly some of the Borderwares and tin-glazed sherds could have been found in the second half of the century. However, as there are two phases of terrace dumping between the demolition of the buildings and the creation of Halifax's water garden, it would seem unlikely that the demolition phase was later than *c.* 1700.

One aspect of the assemblage that is somewhat surprising is the apparent scarcity of high status wares. Although occasional sherds of higher status wares such as stonewares and tin glazed wares were recovered, these were heavily outnumbered by coarse earthenwares. The apparent low status of the assemblage could be biased by the small sample recovered.

Animal bone

By Martin Locock BA MIFA

A small quantity of bone was recovered, comprising 94 pieces from eight 17th- or early 18th-century contexts. The small size of the assemblage precluded statistical

analysis. It comprised mainly sheep/goat and cow, although rabbit/hare, pig, fallow deer and horse were also present, as was domestic fowl. The bone is probably from primary butchery, and represents a relative diverse (and thus high status) diet, drawn mainly from immature animals. Further details can be found in the archive⁷⁵.

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The excavations were carried out by C K Currie (all phases), Neil FitzPatrick BA PIFA (phases 1 & 4), Derek Fox BA MA (Department of History & Archaeology, King Alfred's College, Winchester; phase 4), John Hutchinson BA (phase 1), Neil Rushton BA MA (Trinity College, Cambridge; phases 1-4 inclusive), Trevor Steptoe BA (phases 1 & 3), Mark Stewart BA MPhil (phase 4), and Marion White BA (phase 1). Geophysical survey (phase 1) was carried out by Stratscan, of Upton-upon-Severn, Worcestershire. Maria Barlow carried out the conservation work on the tin-glazed tiles. John Allen of Exeter Museum advised the author on bibliographic sources relating to the tiles. Martin Locock carried out work on the animal bone. Plant was supplied by Coyne Construction Ltd, New Malden, Surrey.

Notes

¹ White, K. & Foster, P. 1997, *Bushy Park. Royals, rangers and rogues*, East Molesey: Foundry, 18-28.

² Royal Commission on the Historic Monuments of England (RCHME) 1996, *Upper Lodge, Bushy Park, London Borough of Richmond upon Thames. An archaeological survey*, unpublished RCHME report.

³ op cit in note 1.

⁴ op cit in note 1, 18. The exact date of the park's creation is uncertain. John Field was already living in a house on the Upper Lodge site in 1536, and the land may have been emparked around him. His house was repaired at a cost of 16s 10d, but he is not listed amongst the king's men paid wages at this time (PRO SC6/HenryVIII/2102).

⁵ op cit in note 1, 19.

⁶ op cit in note 1, 22.

⁷The earliest plan of the site showing the water garden dates from c.1709-13 (PRO Works 32/313B). The plan is dated by the inclusion of Mr Proger at the Lower Lodge. He had died by 1713. Halifax is given here at Upper Lodge, a building he did not hold until 1709. There is another plan that may be earlier (PRO Works 32/313A), but this shows the ponds superimposed over the Gough plan, and appears to be a proposal.

⁸Harris, J. 2000, 'Water glittered everywhere', *Country Life*, January 6th 2000, 44-47.

⁹Switzer, S. 1729, *An introduction to a general system of hydrostaticks and hydraulicks, philosophical and practical*, London.

¹⁰ op cit in note 1, fig. 19, p. 27.

¹¹ op cit in note 9.

¹² Swift, J. 1710, *Journal to Stella*, London.

¹³ Hunt, J. D. & Willis, P. (eds) 1989, *The genius of the place: the English landscape garden, 1620-1820*, London:MIT, 148-49.

¹⁴ op cit in note 9, 130.

¹⁵ cf. photographs in Currie, C. K. & Locock, M. 1997, 'The development of garden archaeology', *Institute of Field Archaeologists Yearbook and Directory of members 1997*, Manchester: Institute of Field Archaeologists, 23-25, 22; Segre, A. 1993, 'L'archeologia dei giardini', *Il giardino fiorito*, LIX.11, 58-65, 59.

¹⁶ cf. Currie, C. K. & Locock, M. 1993, 'Excavations at Castle Bromwich Hall gardens 1989-91' *Post-Medieval Archaeology*, 27, 111-99; Hayden, P. (with comment by Currie, C. K.), 'Castle Bromwich Hall gardens: an alternative date', *Post-medieval archaeology* 27, 201-04.

¹⁷ Godwin Arnold, H. 1975, 'Shaw House, Newbury', *Garden History*, 5.3, 35-39; Currie, C. K. forthcoming, 'An assessment of historic garden features at Shaw House, Berkshire', *Proceedings of the Newbury and District Field Club & Archaeological Society*.

¹⁸ Langley, B. 1728, *New principles of gardening*, London (facsimile reprint 1982 ed. Hunt, J. D., New York: Garland), 200.

¹⁹ (Dubravus 1599, Taverner 1600, North 1713) Dubravus, J. 1599, *A new book of good husbandry*, London, 1599 (original published in 1563); Taverner, J. 1600, *Certaine experiments with fishe and fruite*, London; North, R. 1713, *A discourse of fish and fishponds*, London.

²⁰ P Goode, P. & D Wood, D. 1986, 'Water in the landscape', Goode, P. & Lancaster, M. (eds.), *The Oxford Companion to Gardens*, Oxford: Oxford University Press, 598-99, 599.

²¹ Currie, C. K. & Locock, M. 1995, 'The formal cascade at The Gnoll', *Welsh Historic Gardens Trust newsletter*, 8, 72-79, 77-78.

²² ibid.

²³ James, J. 1712, *The theory and practice of gardening*, London, 204-05.

²⁴ Currie, C. K. 1990a, 'The excavation of an 18th-century garden pond: the West Pond, Castle Bromwich Hall, West Midlands', *Post-Medieval Archaeology* 24, 93-123.

²⁵ op cit in note 23, 204.

²⁶ quoted in Currie, C. K. 1990b, 'Fishponds as garden features c. 1550-1750', *Garden History*, 18.1 (1990b), 22-46, 28; from Morton, J. 1712, *Natural history of Northamptonshire*, London.

²⁷ PRO MR 1454. This plan shows information not shown on the slightly earlier 1709-13 plan (Fig. 3). For example, avenues of trees are shown north of Upper Lodge, and the walled gardens seem to have enclosures on both their east and west sides, not shown on the 1709-13 plan. Oddly, however, the eastern canal does not extend as far in the later plan as it does in the 1709-13 plan.

²⁸ PRO Works/32/313A.

²⁹ Currie, C. K. 1997, *Archaeological recording during reinstatement of ornamental water features at Court of Noke, Pembridge, Herefordshire*, unpublished report (copy held by National Monuments Record Centre, Swindon, Wiltshire).

³⁰ Switzer, S. 1718, *Ichnographia Rustica: or the nobleman, gentleman and gardener's recreation*, London (facsimile reprint 1982, ed. Hunt, J. D., New York: Garland), 305

³¹ op cit in note 18, 202.

³² Walpole, H. 1876, 'A history of modern taste in gardening', *Anecdotes of painting in England*, London (ed. R N Wornum), 97.

³³Bateson, F. W. (ed.), 1951, 'Epistle to Burlington', *Epistles to several persons* by Alexander Pope, London, 130-51, 138-44.

³⁴ op cit in note 1, 24-25; figs 15-6; op cit in note 8.

³⁵ op cit in note 13.

³⁶ op cit in note 30, 305.

³⁷ op cit in note 9, 130.

³⁸ op cit in note 23, 205-11; op cit in note 24, 34, figs 1-3.

³⁹ op cit in note 2, 3.

⁴⁰ John Rocque published a number of maps that show Upper Lodge and its gardens. The earliest shows the countryside ten miles around London, and is dated between 1741-45. Both his county maps of Middlesex (1754) and Surrey (published posthumously c. 1770) show the Halifax water gardens largely as built.

⁴¹ op cit in note 2.

⁴² op cit in note 2, 7

⁴³ op cit in note 2, 9-10

⁴⁴ reference?

⁴⁵ pers. comm.

⁴⁶ op cit in note 1, 27, fig. 19

⁴⁷ Plan of Hampton Court Parks, 1851. The copy here was obtained by Peter Foster in the late 1960s from Mr Fisher, the ex-Superintendent of Hampton Court Gardens and Parks. It has not been possible to trace the original. A similar layout is shown on Driver's map of Hampton parish, 1850 (PRO IR/30/21/25).

⁴⁸ op cit in note 1, 27.

⁴⁹ OS 25" plan (1st ed, 1870, sheet xxv.7).

⁵⁰ OS 25" plan (2nd ed, 1897, sheet xxv.7).

⁵¹ The excavations were funded from a number of different sources. Initially an evaluation (phase 1) was instigated by the Bushy Park Water Gardens Trust. This was requested by the National Lottery Fund as part of an assessment on the suitability of the site for a grant. This work was carried out between August and September 1997, and involved the excavation of five trial trenches (trenches 1-5) and a geophysical survey over the area of an infilled canal terminal outside of the former Ministry of Defence compound. This work involved the evaluation of the Central Basin area in front of the lodge, and that part of the water gardens' site to the east of the Basin. The second phase of work involved an archaeological evaluation of the former walled gardens to the north of the lodge. Four more trenches (trenches 6-9) were excavated in this area, but, as they revealed that the archaeology here had been largely destroyed by later Ministry of Defence activity here, they are not reported on here. This work was carried out in April 1998, and was funded by Priestmere Properties Ltd, the property developer. In September 1998 the Crown Estate funded a further evaluation according to the proposal in the Master Plan of the Bushy Park Water Gardens Trust (phase 3) of two surviving ponds from Halifax's garden at the west end of the site. Eight trenches were excavated in this area (trenches 10-17). Apart from a minor watching brief on levelling operations to the south of the lodge in November 1998 (not recorded here), the next phase (phase 4) of the work was an excavation of the Central Basin area prior to the reinstatement of the Basin. This work was funded by Priestmere Properties Ltd. Five trenches (trenches 18-22) were excavated during this phase.

⁵² The strategy for the work was based largely on English Heritage's Greater London Archaeology Advisory Service's *Archaeological Guidance* Papers (1998 revision),

and the Institute of Field Archaeologists' *Standard and Guidance...* papers for the various stages of the work.

⁵³ eg PRO MR 1454.

⁵⁴ PRO Works 32/653.

⁵⁵ op cit in note 1, 25, Fig. 16.

⁵⁶ op cit in note 8.

⁵⁷ op cit in note 1, 24, Fig. 15.

⁵⁸ op cit in note 13, 148-49.

⁵⁹ pers. ob.; also see bibliography in Currie 1990a.

⁶⁰ op cit in note 26.

⁶¹ Currie, C. K. 1991, 'Recent discoveries at North Stoneham Park', *Hampshire Field Club & Archaeological Society newsletter*, new series no. 15, 11-12, 12, Fig 3.

⁶² Peter Foster has measured the bricks in the Tudor walls by the road leading from Hampton Court to Hampton Wick. These were built in 1537-38. The bricklayer was Thomas Clement of Hampton Wick and the brickmakers were William Hamond and Richard Rydgedale of the Wick. Many of the bricks were made from brickearth dug in the Home Park (PRO E36/236-39, 244-45). The bricks in the walls mentioned above average 2x4x8.5 inches, and are generally smaller than those used in the structures at Upper Lodge.

⁶³ PRO E36/254, pp. 227-29.

⁶⁴ op cit in note 1, 15-18.

⁶⁵ PRO E36/239, p. 623.

⁶⁶ op cit in note 1, 18-19).

⁶⁷ PRO E317/Middlesex/32.

⁶⁸ PRO Works 5.

⁶⁹ PRO T27/9 p.233.

⁷⁰ PRO CRES/6/15.

⁷¹ Bodleian Library, Gough Drawings a.4, folio 62; interpreted thus in note 2, 5.

⁷² PRO Works 32/313A.

⁷³ Wren Society vol. IV.

⁷⁴ Peter Foster considers that the area referred to here was south of the lodge, close to where the excavations took place. He explains the reference to the 'North End' as being the north end of the avenue leading to the lodge site. By his interpretation phases 3 and 4 represent the landscaping that created the circular feature shown on the Gough map of 1701-09.

⁷⁵ Calendar of Treasury Books 1708-09.

⁷⁶ PRO A01/2447/144.

⁷⁷ PRO Works 32/653.

⁷⁸ op cit in note 49.

⁷⁹ op cit in note 50.

⁸⁰ de Jonge, C. H. 1971, *Dutch tiles*, London: Pall Mall, 6

⁸¹ *ibid*, 17; plate 9.

⁸² Berendsen, A., Keezer, M. B., Schoubye, S., dos Santos Simoes, J. M., & Tichelaar, J. 1973, *Tiles. A general history*, Cirencester: Collector's Book Club (1st edition, Germany, 1964), 118-9.

⁸³ op cit in note 80, 18-9; plate 11.

⁸⁴ terminology is based on Medieval Pottery Research Group 1998, *A guide to the classification of medieval ceramic forms*, Medieval Pottery Research Group Occasional Paper 1, 2 vols.

⁸⁵Locock, M. 2000, *Upper Lodge, Bushy Park, Richmond, Greater London: animal bone*, unpublished archive report. The full archive for the site will be deposited with London Museum (accession no. BHY97). Copies of the individual reports on the various phases of the work that are available for public inspection were deposited with the Planning Department of London Borough of Richmond, the Libraries Department of London Borough of Richmond, English Heritage, RCHME, the Museum of London Sites and Monuments Record (SMR), and the National Monuments Record in Swindon, Wiltshire.

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John Rocque's plan of the London area c. 1741-45.

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