

ARCHAEOLOGICAL EXCAVATIONS AT LEIGH PARK, NEAR HAVANT, HAMPSHIRE 1992

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ABSTRACT

Excavations were carried out on the extensive landscape gardens of Sir George Staunton at Leigh Park, near Havant. The results indicated an earlier beginning to elements of the designed landscape than previously considered. Walled gardens and other features already existed before an earlier owner, William Garrett's, time (c 1802-19). Both Garrett and Staunton (1802-59) added considerably to the landscape design. During this period, a hamlet with possible medieval, and earlier, origins was swept away. A good assemblage of seed remains from both the medieval and designed landscape phases was recovered that adds a further dimension to our knowledge of the site.

INTRODUCTION

Leigh Park, near Havant, Hampshire stands on the northern edge of the Leigh Park Housing Estate (NGR SU 721 086) (Fig. 1). The designed landscape is principally associated with Sir George Staunton, a former member of the British embassy to China. Staunton lived on the estate from 1820 until his death in 1859, and did much to develop the landscaped park into one of the best known in the area. After his death it went through a series of changes of ownership. In 1987 the Sir George Staunton Country Park was established under the joint management of Hampshire County Council, Portsmouth City Council, Havant Borough Council, East Hants. District Council, The Countryside Commission, The Forestry Commission, the Hampshire Gardens Trust and the Portsmouth Water Company (Gladwyn 1992, 170).

Archaeological excavations were undertaken by CKC Archaeology (Gardens Archaeology Project) between 28th September and 20th November 1992, as a preliminary to restoration of the Pleasure Grounds to the heyday of Sir George Staunton's development of the estate c 1850 (Fig. 2).

HISTORICAL BACKGROUND

The earlier landscape around Leigh Park had strong connections with medieval stock pasturing in Havant Thicket and the Royal Forest of Bere (Pile 1989, 13). It would appear that the gardener's cottage, the farm and Leigh House, plus other houses now vanished, formed the hamlet of West Leigh. This small settlement of approximately six separate houses is shown on an undated map which research has dated to c 1792-1800 (HRO 124M71 E/P1). These cottages were either incorporated into the estate by Staunton's time, or had been demolished.

The first mention of a house on the site of Leigh House dates from 1767 when a Charles Webber purchased the reversionary right to a messuage, barn and gateroom, together with nine acres of land from Francis Higgins of Middlesex, butcher. Higgins had come into the property on the death of his great grandfather, another Francis Higgins, who appears to have lived on the property (HRO 102M86/196). The family connection with butchery adds further possible links with the stock pasturing element of Leigh's past.

Through means not yet discovered the property passed to Samuel Harrison of Chichester, who surrendered it to Admiral Sir John Frederick in 1792 (HRO 102M86/167/1). Another document records 'the court of the house newly erected by Samuel Harrison' (HRO 102M86/167/4), suggesting that the house shown on the earliest map was Harrison's creation, although the exact date is at present unknown. From 1792 onwards the development of the property becomes much clearer.

The main landholder of West Leigh at this time was not Frederick, who only held about 20 acres, but Joseph Franklin, who appears to have lived in the farm, holding in total 220 acres. The

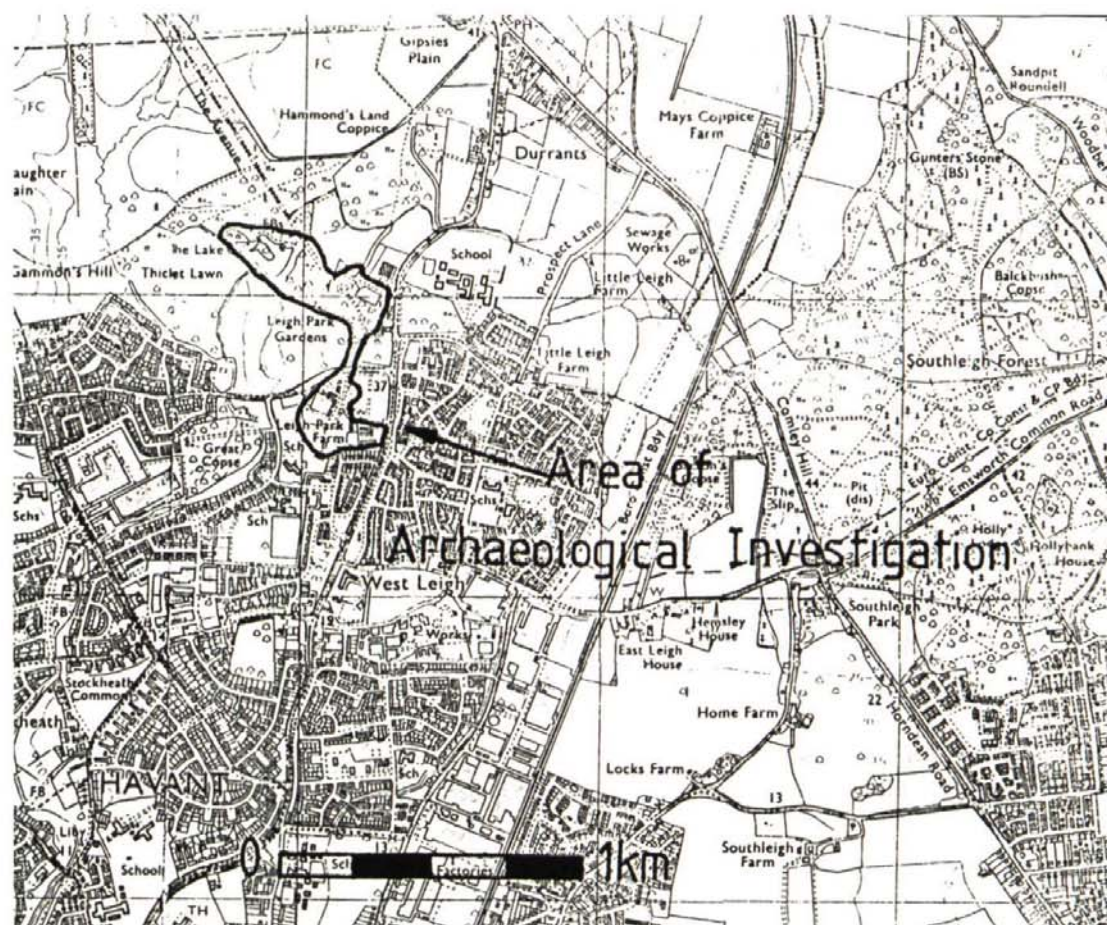


Fig. 1 Site Location Plan

details of these landholdings are shown on a map of c 1792–1800 (HRO 124M71 E/P1).

Sir John Frederick's widow, Ann, surrendered the 'mansion', together with nine acres of land, to William Garrett, a man of considerable local influence, in January 1800. This was followed in 1802 by the surrender of Franklin's lands at Leigh (HRO 102M86/275). According to Staunton (1836, 5) it was about 1802 that Garrett had Leigh House substantially rebuilt. In conjunction with this he made a number of land purchases, building the small estate of Frederick into one of the largest in the district. He also contributed to the

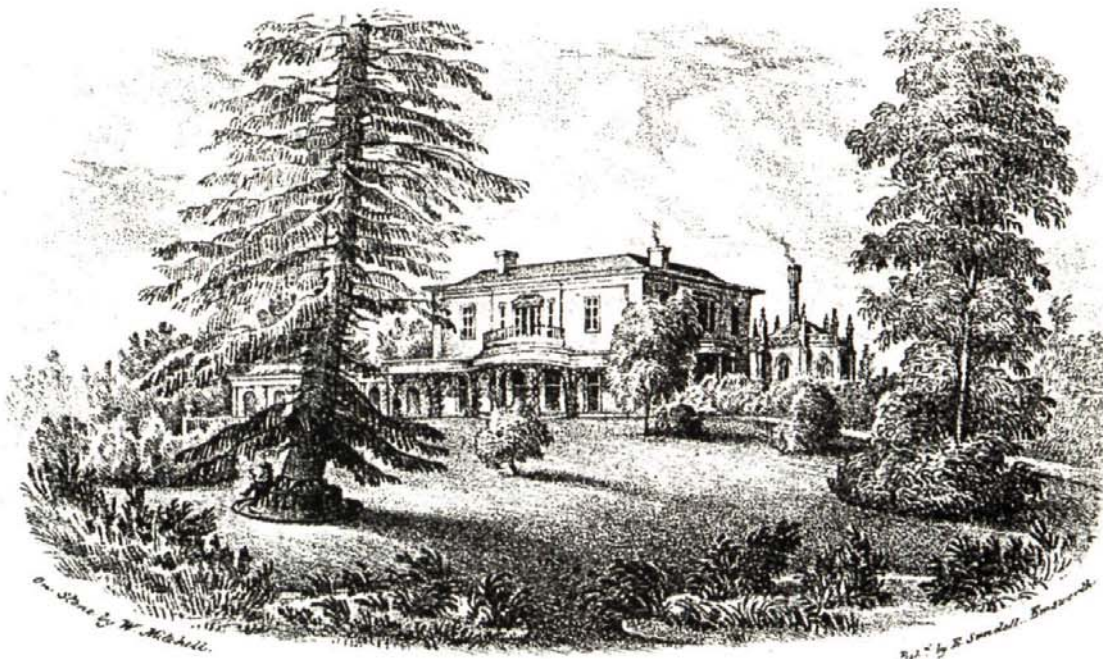
landscaping of the grounds around the house, extended the 'park' to 400 acres, and converted the farm into a *ferme ornée* (Butler 1817, 41–42). By the time of his sale to Sir George Staunton in 1820 the estate comprised 828 acres (Gladwyn 1992, 36).

Staunton continued to add to the estate by further land purchases, and the considerable expansion of the Pleasure Grounds. He purchased the enfranchisement of the manor from the Bishop of Winchester in 1827 (Longcroft 1856, 70). In 1828 he had the old road from Havant to Rowlands Castle moved eastwards, and shut up Middle Thicket Lane (Gladwyn





Fig. 3 Charles Lewis' plan of Leigh Park garden in 1842



LEIGH PARK HANTS
The Seat of
Sir G. T. Staunton Burt. M.P.

Fig. 4 Sir George Staunton's house at Leigh Park

1992, 54). The removal of these public routes through the heart of his estate enabled Staunton to expand his Pleasure Grounds considerably. The old cattle pond at the end of the former Middle Thicket Lane was converted into a substantial lake, further follies were put up, and a number of vistas cut through the surrounding copses. He continued to take great interest in improvements to the estate until just before his death in 1859.

The lake proved to be a great attraction to the subsequent owner, William Stone MP. He purchased the estate in 1861 from Sir George Staunton's relative, George Lynch-Staunton (HRO 102M86/265), and began plans to build a new house on the high ground overlooking the lake. This was completed in 1865 (Gladwyn 1992, 131–35), and it appears that the old house was demolished soon after.

Gladwyn (1992, 149) is of the opinion that much of Staunton's landscape, particularly his follies, were removed during Stone's time. In 1875 he sold the estate to Sir Frederick Fitzwygram, whose family lived there until the house was requisitioned by the Ministry of Defence in 1940 (Gladwyn 1992, 166). From here the estate passed to the Portsmouth City Corporation. The Stone house was demolished in 1959, and in 1987 the Sir George Staunton Country Park was established (Gladwyn 1992, 168–170).

THE EXCAVATIONS

The brief for this work was to locate the paths and basic layout of the Staunton landscape (Figs. 5, 6). Once these features were located they

were buried *in situ* without further excavation. The brief was only exceeded when it was considered that additional information would be useful to the interpretation of the evidence.

All sections of the excavated trenches are contained in Microfiche Plates 1 and 2.

THE NORTHERN PLEASURE GROUNDS

The Lake

The paths on the north side of the lake between the bridge over the stream inlet and the Chinese Bridge were all successfully identified, either through surface remains or by excavation. The paths were well laid, and consisted of cambered gravel surfaces approximately 2.0 m wide (6.5 feet). Invasive rhododendrons have grown out over many of the paths. The site of the Green Arbour appears to be beneath heavy undergrowth. No attempt was made to locate it precisely although its position could be determined to within a few feet.

Trench 1: lakeside pathway (4 m by 0.7 m) (Fig. 7)

A cambered gravel surface (02) was located near the edge of the lake, approximately 0.18 m below the turf. This was 2.1 m wide, and up to 0.23 m thick. A circular tile drain appeared to be incorporated on the north side of the gravel dump making up the surface. This was 0.11 m in diameter, and about 0.4 m below the turf.

This feature was interpreted as a gravel pathway, probably dating from the period of the construction of the lake in the 1830s.

Trench 2: near Green Arbour (5 m by 1 m) (Fig. 7)

No features were encountered within this trench.

Trench 3: lakeside pathway (3 m by 0.7 m) (Fig. 7)

A compacted gravel surface (08) was located 0.03 m below the surface. The full width of this feature was not excavated, nor was it further excavated once located.

This feature was interpreted as a gravel

pathway, probably dating from the period of the construction of the lake in the 1830s.

Trench 4: near lake inlet (4 m by 0.7 m) (Fig. 7)

No features were encountered within this trench.

Trench 5: the Look-out (4 m by 1 m) (Fig. 7)

No features were encountered within this trench. A layer of rubble (10), consisting mainly of brick, tile and mortar debris with a thickness of 0.1 m, was located 0.08 m below the turf. Cleaner soils (22) containing only occasional rubble fragments existed below this to a depth of 0.3 m below the surface.

This trench was excavated with a view to try to locate the Look-out, a feature of the Staunton garden. A map in the County Record Office (HRO 76M78 E/P6), dated to 1842, but with additions in the 1860s, clearly shows that the site of the Look-out was built over during the construction of William Stone's house in 1863–65 (Gladwyn 1992, 132–33). The rubble was interpreted as debris resulting from the demolition of the Stone house in 1959 (Gladwyn 1992, 168). No trace of any foundations were found in this trench.

THE SOUTHERN PLEASURE GROUNDS

Trench 6: the Walled Garden (8 m by 0.7 m) (Fig. 8)

A cambered, compacted gravel surface (12) 3 m wide was located 0.1 m beneath the present grass path. This surface had a foundation up to 0.3 m thick, comprising compacted layers of gravels of different sizes. An iron pipe was located on the west edge of the path at a depth of 0.44 m. The cut for this was dug into apparently undisturbed sub-soils, with the gravel layers mounded up over it. A second iron pipe, running parallel to the path, was found at a depth of 0.1 m below the present surface.

A sherd of creamware was located sealed beneath the gravel surface. As no later ceramics were found, this was taken to indicate that the path had been laid before 1830, but after c 1760.

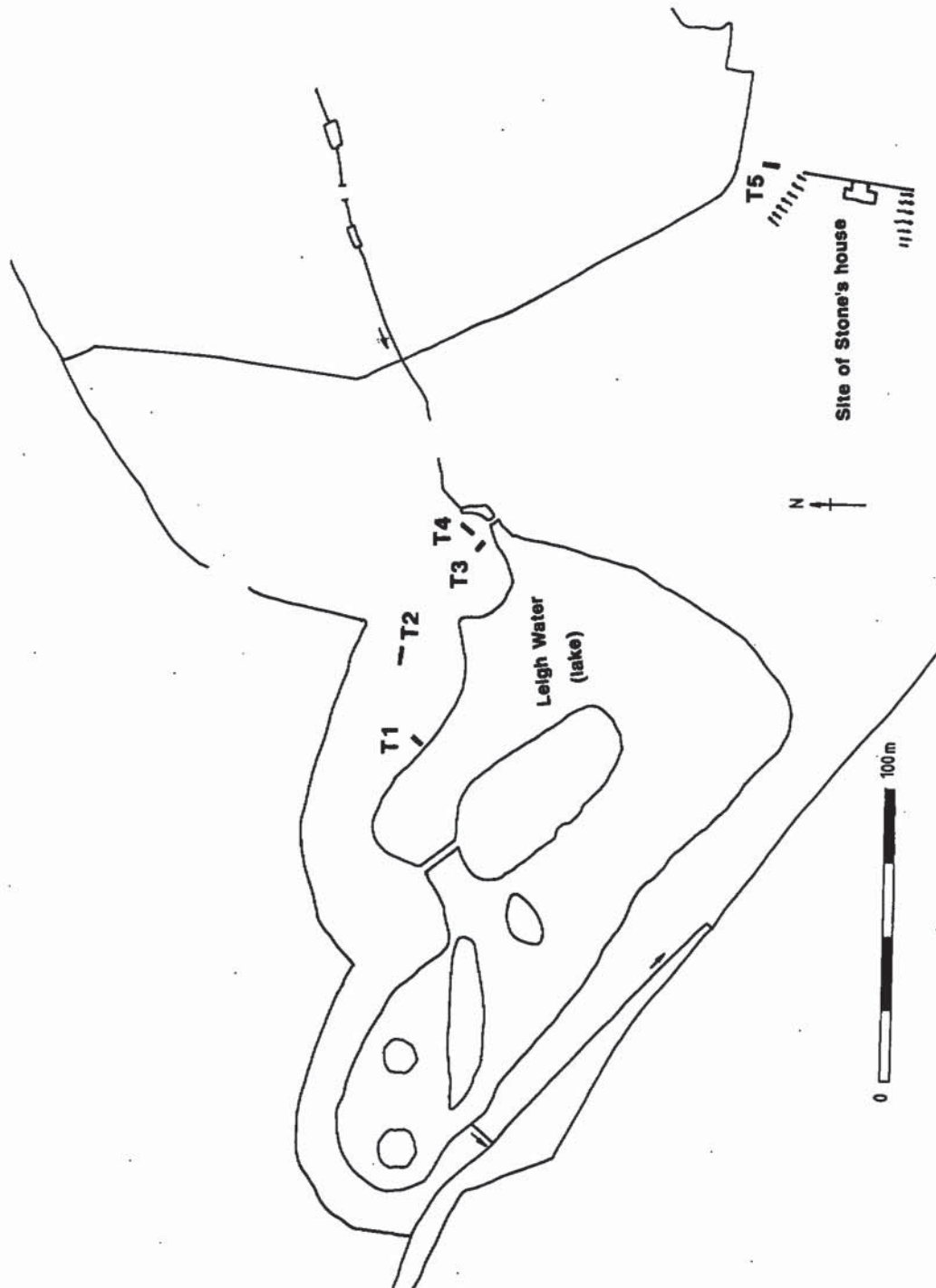


Fig. 5 Location of Trenches 1-5: the Northern Area, by the lake

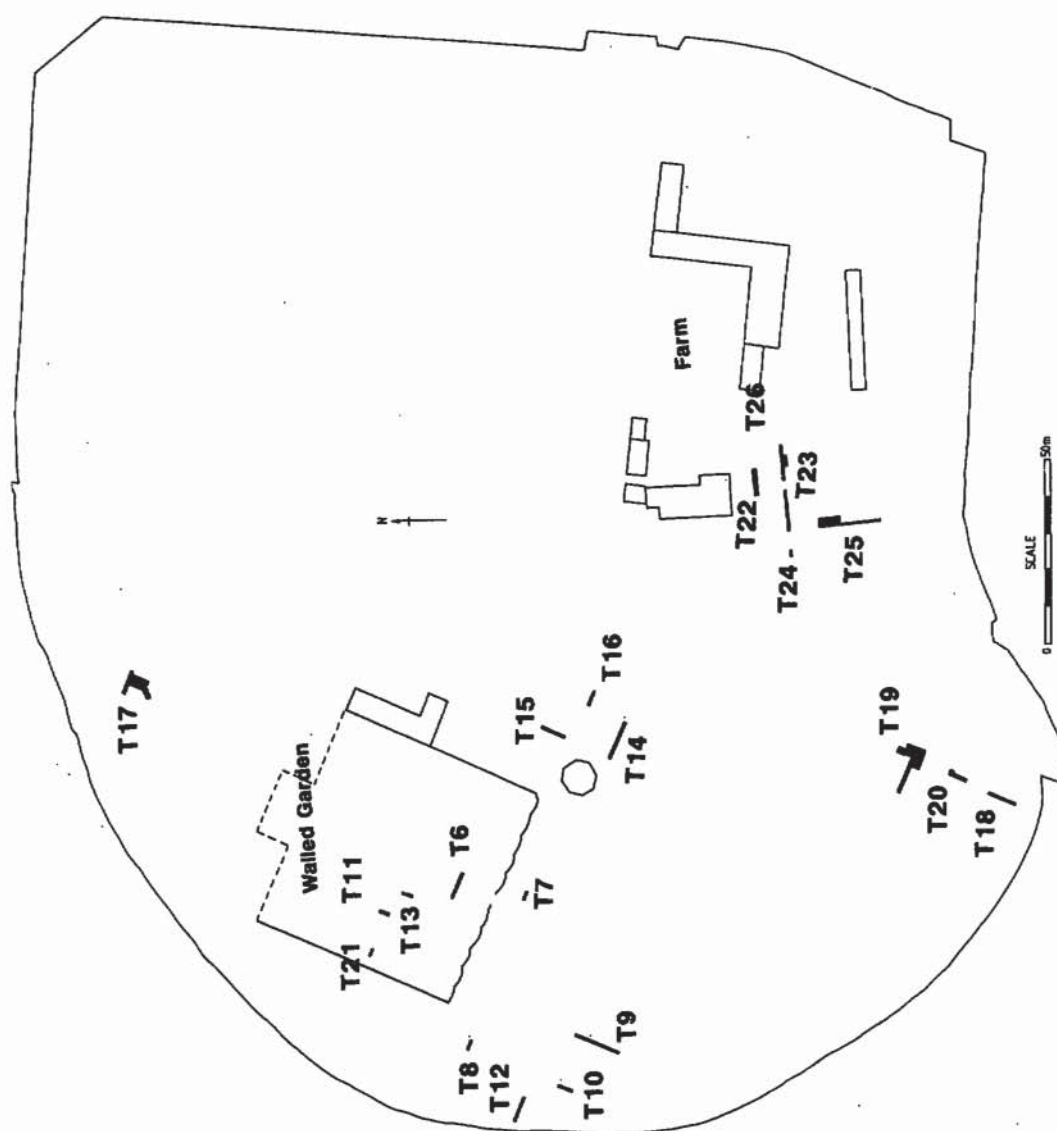


Fig. 6 Location of Trenches 6-26 in the Southern Area

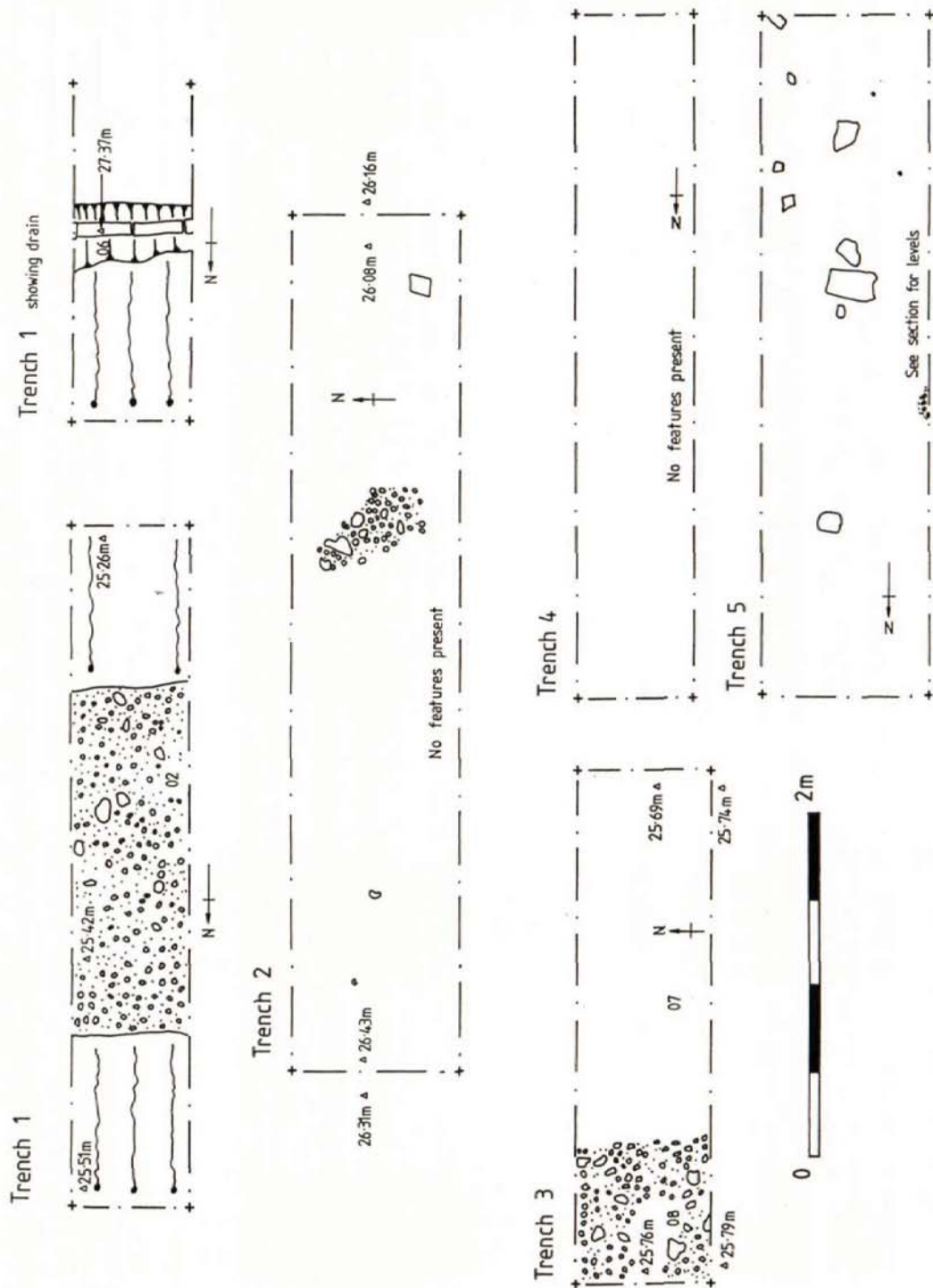


Fig. 7 Trenches 1-5



Fig 8 Trenches 6, 11, 13, 21

A path on a similar alignment to the surface found in this trench is shown on the earliest known map, dating to the end of the eighteenth century (HRO 124M71 E/P1), but it cannot be determined if this was made of gravel or grass.

Trench 7: south of Walled Garden (3 m by 0.7 m) (Fig. 8)

A gravel surface was located less than 0.08 m below the turf. The central part of this surface (15) was well made, of cambered, compacted gravel, and 1.5 m wide. It appears that additional gravel (16, 17) was added on either side of 15, extending the path width to 2.7 m. The east edge of the gravel was cut through by a modern pipe trench (19). Once the width of the gravel was determined, no further excavation was undertaken.

The above surface was interpreted as the path leading out of the Walled Garden to the south. It followed the expected line shown on an 1842 plan (HRO 76M78 E/P6), where it is generally wider than many of the other paths on the estate. There are suggestions that the path was widened before 1842, possibly by Staunton. The earlier, narrower path probably pre-dates 1820, although this is only conjectural as no firm dating evidence was recovered by archaeology.

Trench 8: near West Garden (3 m by 0.7 m)

No features were encountered within this trench.

Trench 9: the American Garden (12 m by 0.7 m) (Fig. 9)

Two linear surfaces were located in this trench. The most northerly of these was a compacted gravel surface (29) up to 2.2 m (7 feet) wide and 0.1 m thick with a pronounced camber. It overlay a dump of loamy soil (39) 0.1 m thick which was also cambered.

The more southerly surface (27) was very poorly made, being little more than a thin scatter of cinders in places. The full width was not excavated. Between the two surfaces, an area of dark soil (31) filled an area of earlier shallow root disturbance.

The surfaces uncovered were interpreted as paths leading to the site of the Staunton house

from the western edge of the Pleasure Grounds (known as the West Garden). The most northerly path was well made with compacted gravel, but the southern path was only a surface scatter of cinders in places. The area between the two paths was formerly known as the American Garden, and it is considered that the shallow root disturbance noted here was a remnant of shrub planting, probably undertaken in the first half of the nineteenth century.

Although the northern path was half-sectioned, the southern path was not excavated further once loamy earth was revealed beneath the cinders. However, such a poorly-made path does not accord with the paths put in by Garrett and Staunton. After this excavation was backfilled, a similar path was excavated in the Farmhouse Garden (Trench 25). Here there was an intervening layer between the original path and the poorly-made 'thin' path above. It is possible that something similar may have happened in the trench here under discussion. This may have been the result of a period of abandonment. Thus the loose cinder and pea-gravel paths found in various places in the Pleasure Grounds, may represent resurfacing after the earlier paths had been abandoned for a time, and in some cases, had been covered over by soil erosion.

It is possible that after the Staunton house was demolished in the 1860s, the Southern Pleasure Grounds were partly neglected, and many of the paths fell into disuse. It is possible that a later owner wanted to reinstate some of these walks, but was not prepared to expend much money on the project, and so employed cheap materials such as cinders and ash.

Trench 10: the American Garden (4 m by 0.7 m) (Fig. 10)

No garden features were encountered within this trench. A layer of burnt charcoal and modern rubbish (33) was found filling a slight hollow. This was interpreted as modern clearance following a severe storm in 1987 when many trees were blown down in the Park.



Fig. 9 Trenches 7-9

Trench 11: the Walled Garden (3 m by 0.7 m) (Fig. 8)

This trench was excavated within one of the four beds in the Walled Garden on an alignment associated with a bricked-up doorway in the west wall. The central east–west pathway appeared to leave through this door on a number of nineteenth century maps of the estate.

Enriched, dark soils were encountered to a depth of 0.8 m. A narrow linear cut (38) was found cutting the lighter soils beneath this. It contained a ceramic tile drain.

The tile drain was interpreted as a land drain, probably dating to the late eighteenth or first half of the nineteenth century. No pathway was found. The depth of the enriched soils suggest long-term horticulture in this area.

Trench 12: the western perimeter of the Southern Pleasure Grounds (7 m by 0.7 m) (Fig. 10)

Two gravel surfaces were located in this trench, with a slight scarp between them. The most westerly of these was up to 2.8 m (9 feet) wide in places. The inner path was 2.1 m wide. Both exhibited signs of being cambered. Once located, they were not excavated further.

The western perimeter path was located following the present perimeter a few metres inside the boundary fence. Its position in the West Garden was located by probing. Being a principal walkway around the estate, it was wider than some of the other paths found. The eastern path was probably the southern of those shown on the 1842 plan leading to the house (HRO 76M78 E/P6). As in Trench 9, this was of a poorer construction than some other paths, although it had not been resurfaced with cinders here.

Trench 13: the Walled Garden (2.5 m by 0.7 m) (Fig. 8)

This trench was placed across the present east–west grass walk in the Walled Garden to see if an earlier gravel path lay underneath. No traces of any features were found.

As the original east–west path was not found on any of the expected alignments, it is assumed that it was grass walk.

Trench 14: the east front of the Staunton House (11 m by 0.7 m) (Fig. 10)

This was located near the site of the east entrance to the Staunton house. A compacted gravel surface (47) was located. This was slightly more than 6 m wide where excavated. It was buried beneath over 0.4 m of sandy loam. The trench was not excavated further.

This trench hoped to locate where the main drive swung in towards the house. However, the drive was located to the east of the alignment previously suspected, and the area located was probably the extended gravel hard standing in front of the house, shown on the plan of 1842 (HRO 76M78 E/P6) and other maps. The situation in front of the house was complex, as can be seen from the map of c 1792–1800, which shows a drive parallel to the old road (HRO 124M71 E/P1) that was diverted eastwards in 1828 (Gladwyn 1992, 54). The alignment of the old road/drive was observed during pipe laying by other contractors some 30 m to the south of Trench 14.

Trench 15: the east front of the Staunton house (7 m by 0.7 m) (Fig. 11)

This trench was excavated to locate a path shown on nineteenth century maps leading north of the Gothic Library. The present bank in this area was shown to be a dump of modern materials comprising tin cans, plastic containers and building rubble. This was up to 0.7 m deep. A rough gravel surface was located at the southern end of the trench, beyond the dump, at a depth of 0.25 m. This appeared to be much disturbed, as was suggested by its irregular edges.

The path that went behind the library was found to be much disturbed. The raised area between the present site offices and the library was found to comprise recent demolition rubble, probably dating from after 1945. Despite the late origins of this substantial dump, no memory of its creation was found amongst site staff. This dump partly overlay the original pathway. Levels here seem to have been considerably altered since the demolition of the Staunton house in the 1860s.



Fig 10 Trenches 10, 12, 14

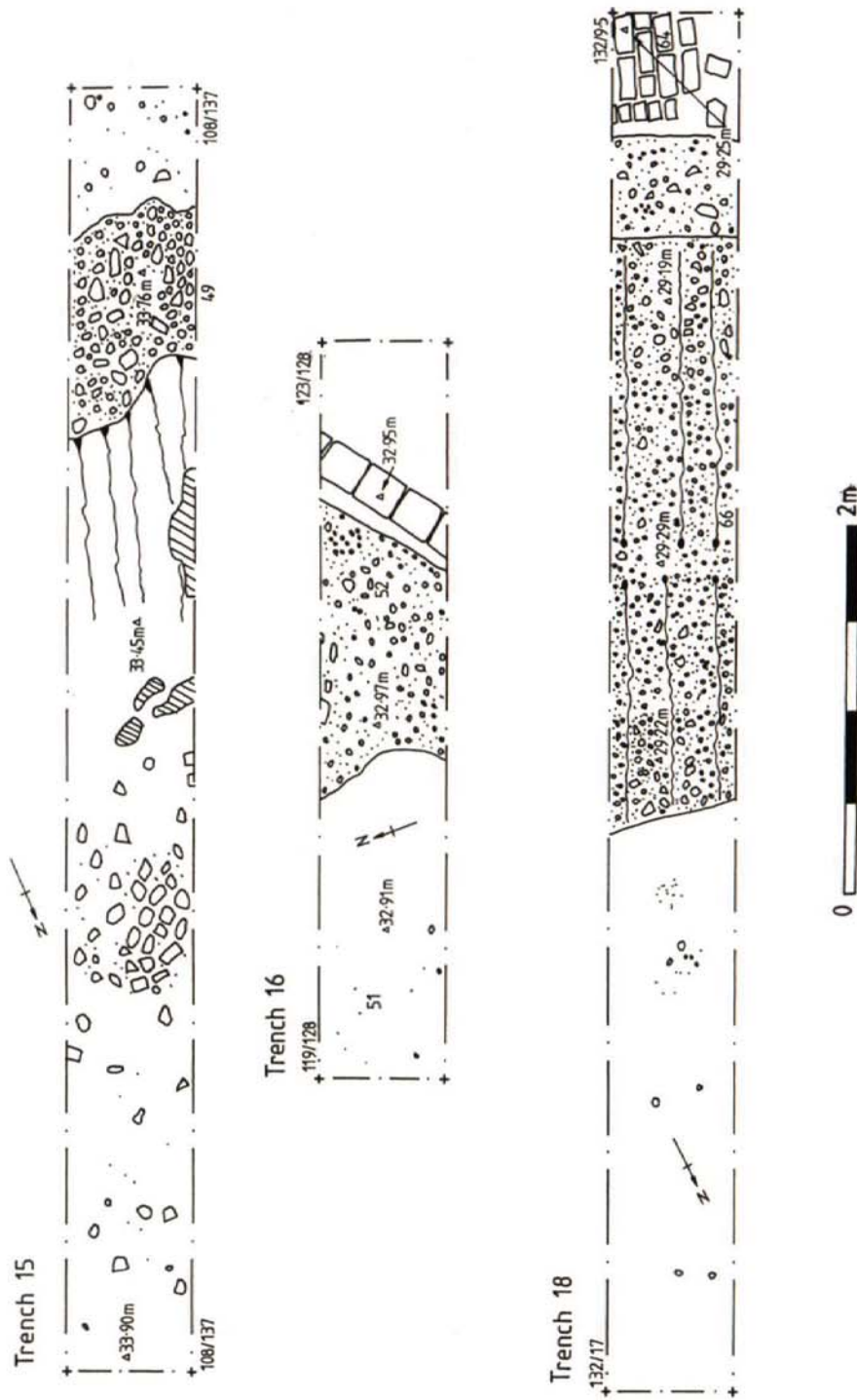


Fig 11 Trenches 15, 16, 18

Trench 16: the main drive (4 m by 0.7 m) (Fig. 11)

An apparently cambered gravel surface, about 1.8 m wide and over 0.3 m thick, was located 0.07 m below the turf. A ceramic tile drain was located along its east side. Both surface and drain were aligned approximately north-south. The western edge of the surface was irregular.

The main drive should have been encountered here, but instead a less substantial surface was found. It is thought that its east edge is original, because of the positioning of drains along the edge of paths elsewhere on the site. However, the irregular nature of the west edge suggests that it may have been disturbed. Evidence for disturbance in Trench 15 might be reflected here as the trenches are in reasonably close proximity to one another. It is possible part of the drive near the old house was dug up to provide ballast for paths elsewhere during or after the construction of the new house in 1863–65.

Trench 17: the Cone House (4.7 m by 2.7 m with extensions) (Fig. 12)

The site of the Cone House was thought to be on an artificial mound overlooking the North Garden. An irregular trench was dug to locate its position.

The earth mound was found to be a dump of sandy loam (61) up to 0.8 m above the original ground surface. Two previously unknown gravel surfaces were identified leading on to it from the north from the garden perimeter path. Evidence for a rockery mentioned in the site archives was observed alongside the more easterly of these paths. Excavation was not necessary to locate this feature as its remains are still visible on the surface.

The second gravel surface was excavated 0.06 m below the surface. There was evidence of considerable modern dumping, up to 0.2 m thick, over much of the east side of the mound. It was not possible to define the width of the gravel surface (56), as it was much disturbed by roots and human activity. Nevertheless it seemed to cover the entire apex of the mound and was at least 6 m in length. It is believed that its original

edges were located on its east side, beyond which the original edges were located on its east side, beyond which the original mound sloped away. Near its southern edge, a layer of ash (62) up to 0.1 m thick was found overlying it. On the south side the gravel may have been dug into, as there was much demolition material here (68). This was a considerable dump of brick with mortar, pebbles and ironwork scattered amongst it. Lumps of mortar with pebbles embedded within it were also found.

It is thought that the Cone House stood on the apex of the mound overlooking the North Garden. The mound had been much disturbed since the demolition of the structure, which seemed to have been very thorough. It may have been preceded by a fire, as there was a layer of burnt material overlying the path immediately outside the presumed site of the structure.

From the demolition material, it appears that the Cone House was made of brick. The 'Emsworth pebbles' (Staunton 1836, 18) used to line the inside of the house were found embedded in lumps of mortar. It appears that the floor was systematically broken up and the structure's foundations removed.

Trench 18: the Swiss Cottage (7.5 m by 0.7 m) (Fig. 11)

A cambered gravel surface (66), 3.1 m wide, was located at the south end of this trench. It was overlain by a layer of ash (63) up to 0.1 m thick. Immediately butting up against the gravel surface was another flat gravel surface (65), which, in turn butted against the corner of an apparent brick platform (64). Only a small part (0.5 m by 0.5 m) of the latter was uncovered. Contexts 63, 64 and 65 were all within 0.05 m of the present ground surface.

It is believed that the brick structure (64) was the foundations of the Swiss Cottage, 0.5 m south of the perimeter path at the south end of the former Dutch Garden. Only one corner was exposed, and this proved to be a brick platform on which the structure was probably sited. As this seems well-preserved, it would be possible to explore this building further at a later date if required. At present the greater bulk of the building is hidden just beneath the surface in heavy undergrowth.

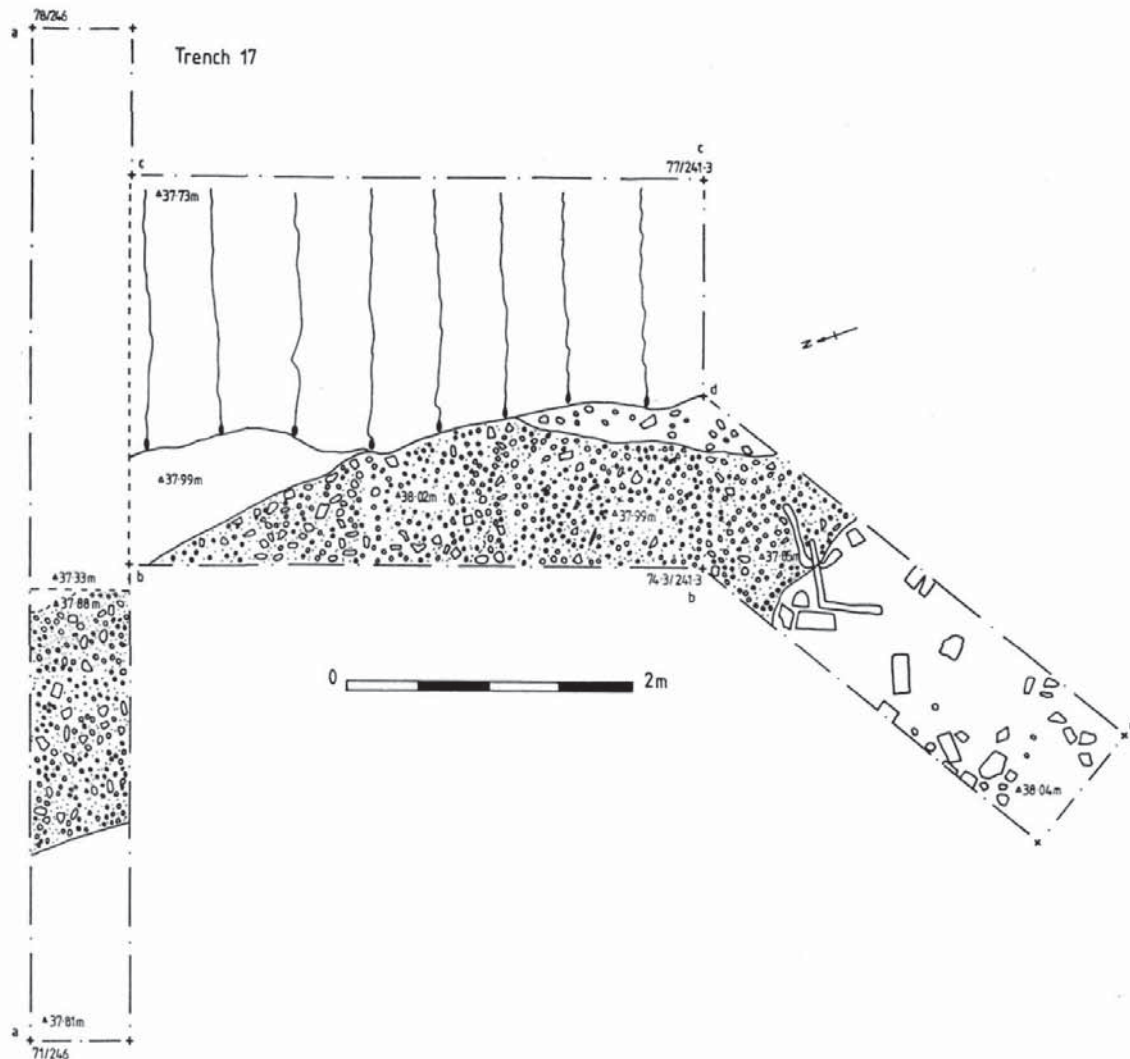


Fig. 12 Trench 17

Trench 19: the Dutch Garden (6 m by 2.7 m with extensions) (Fig. 13)

Apart from a tile drain 0.2 m below the surface, no features were located in the western extension of this trench. The scarp bank, thought to be the west edge of the area known as the Dutch Garden is thought to be natural.

Within the main trench a substantial drystone flint structure was located. This comprised a surface of knapped flint nodules (85), of which the south-west corner was found. The flints were less than 0.2 m below the surface, and showed signs of once having two courses, an upper smoother surface with coarser flints beneath. All but a few of the upper flints seem to have been removed.



Fig. 13 Trench 19

Probing suggested that the surface extended much further to the north and east. Fragments of creamware were the latest ceramics to be found associated with this feature. Set within this surface was a void, 0.3 m in diameter, thought to be a possible post-hole.

Extending southwards from 85 was a linear feature also made of knapped flint nodules (81), 3.2 m in length and 0.22 m wide. No mortar was found binding either this feature or 85. Extending east from the southern end of 81 was a line of further flint nodules (88). This feature had gaps within it, and was not as substantial as 81.

Abutting 81 and 88 was a rectangular linear cut (69), 0.2 m deep and filled with a rich dark loam. This feature extended beyond the northern limit of the excavation, but that area exposed was approximately 2 m in width.

The structure found here was thought to be a timber and flint, south-facing building with a lean-to veranda attached on the south side. This building appeared to be supported by large timber uprights surrounded by an internal floor of flint cobbles. It was not possible to excavate the entire building, but it would appear to be at least 3 m wide with an unknown length, and aligned east-west. A flint wall extended south from the western edge of the main building. This was either a flint foundation supporting a timber wall, or was entirely of flint. There was no sign of any mortar bonding, so the former is more probable. It is suggested that this wall was part of a south-facing veranda-type structure, giving views from the park out on to the Solent.

Associated with this building was an apparent plant bed butting up against its western edge. This was up to 2 m wide, and possibly comprised a flower border against the building.

Trench 20: the Dutch Garden (5 m by 0.7 m with extension 1 m by 0.5 m) (Fig. 14)

About 0.2 m below the surface, an apparent linear cut (77) 0.25 m deep was encountered. This appeared to be aligned north-south, although its entire width was not excavated so this remains conjectural. That part excavated showed the cut to be made into an artificial dump of sand (79). Under this sand was a further dump of

enriched dark gravelly soil that appears to have been formed into a bank up to 0.25 m high and at least 5 m wide. This overlay the original ground surface.

Interpretation of this evidence seems to indicate that about 20 m south of the structure found in Trench 19, an artificial bank was created facing the flint building. This was quite low, less than 0.3 m high, and could easily be seen over from the slightly elevated veranda. This bank consisted of what appears to have been an enhanced gravelly soil. It is suggested that it served as planting soil for gravel-loving bulbs or similar flowers, and would have added to the view southwards.

This bank was subsequently levelled up by dumping sandy soil over it. What appears to be a linear planting bed was then cut into this soil, and filled with a more enriched loam. It is thought that this latter phase represents part of the more formal Dutch Garden design shown on a plan of c. 1842 (HRO 76M78 E/P6).

There are a number of plans dating from the 1860s (HRO 102M86/265; HRO Photocopy 628/1/2; 76M78 E/P9) that fail to show the Dutch Garden, suggesting that it had fallen out of use after Staunton's death, when the focus of the estate moved northwards. However, the archaeological evidence outlined above indicates that a garden had been laid out here.

Trench 21: the Walled Garden (2.1 m by 0.5 m)

The perimeter paths around the Walled Garden were located (Trench 21). These were approximately under the present paths, but slightly narrower. They were made of cambered, compacted gravel, and were 1.9 m wide. This width included a strip of mortar along the outside edge of the path (i.e. on the wall side). This mortar was 0.14 m wide and contained fragments of brick. It was thought to represent the remains of a brick edging to the path.

Trench 22: the Farmhouse Garden (7 m by 1 m) (Fig. 15)

The earliest levels in this trench, just to the south of the present farmhouse, revealed irregular disturbance into undisturbed sub-soils. One large

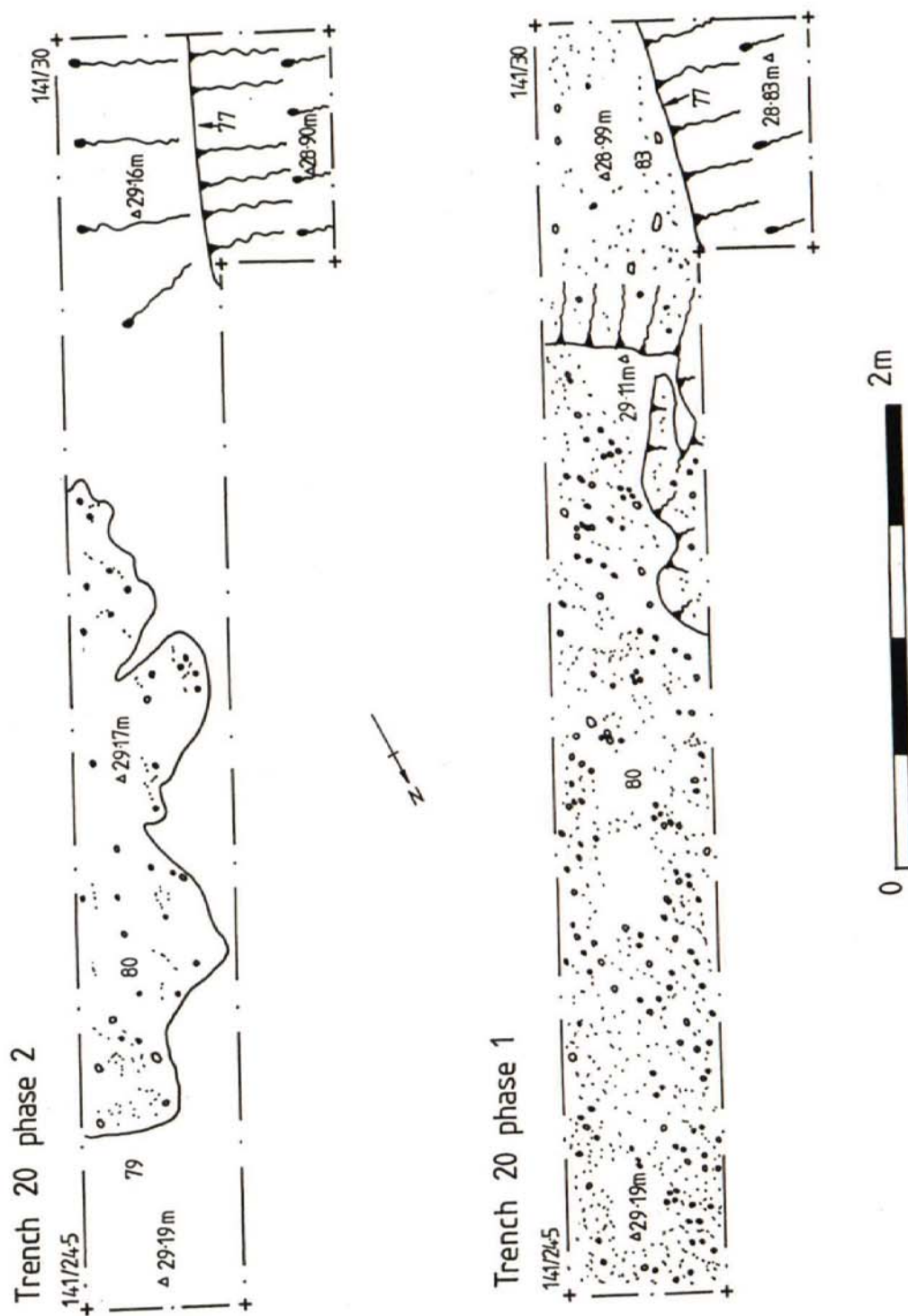


Fig 14 Trench 20

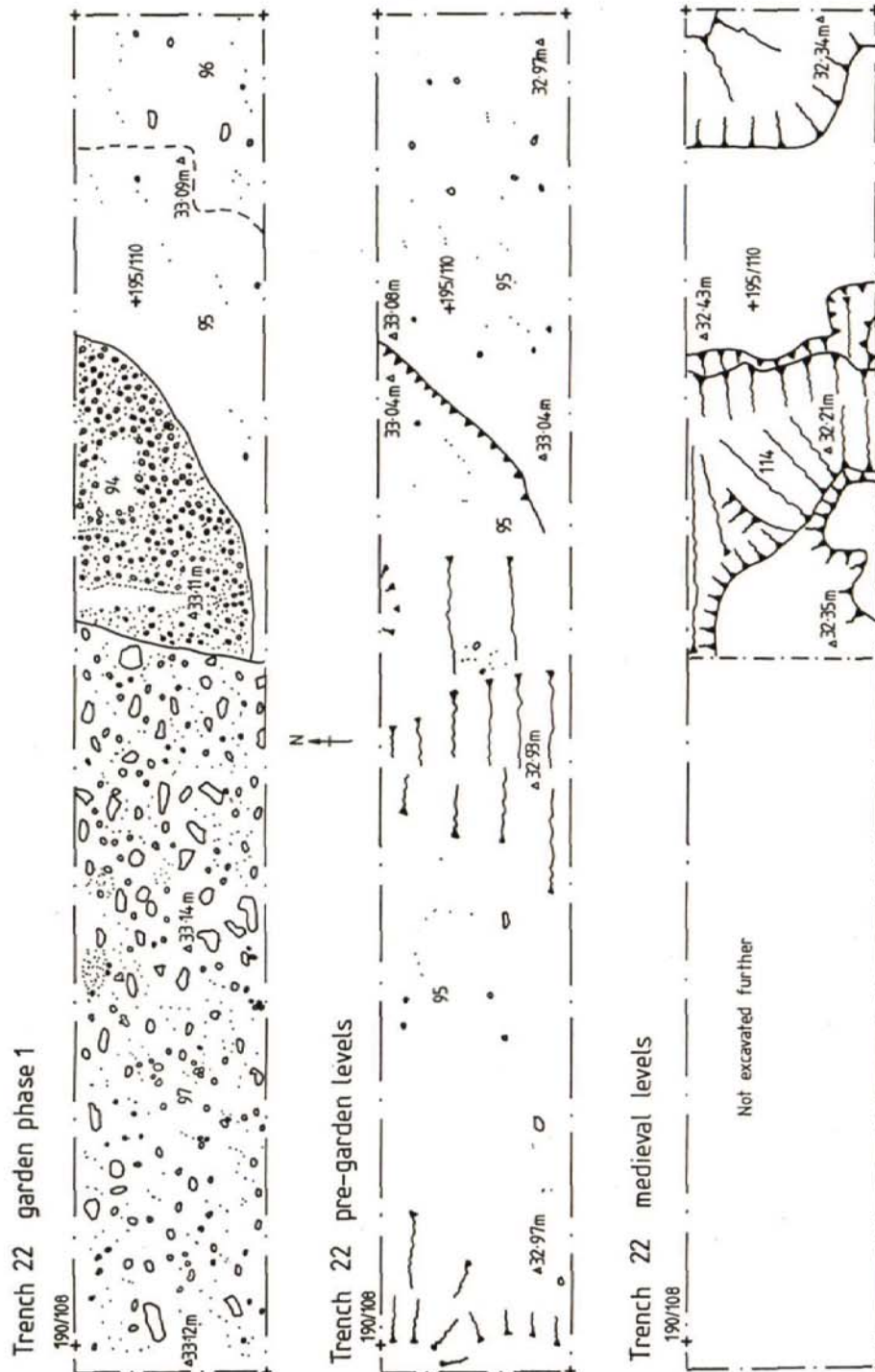


Fig. 15 Trench 22

irregular pit (114) was up to 1.4 m wide and 0.4 m deep. The unevenness of the edges of this feature suggested that the disturbance had been caused by the removal of a large root mass, probably belonging to a tree. Above this was a build-up of sandy loams (95), up to 0.42 m thick. The upper levels of this layer contained eighteenth-century ceramics, although there were medieval wares throughout.

Immediately above this was a dump of gravel (97), up to 0.2 m thick at the west end of the trench, but becoming less substantial towards its east end, where the individual stones were much smaller (96). This gravel was overlain by 0.25 m of topsoil.

The evidence suggests that at some time, possibly in the medieval period, tree roots were grubbed out of the area immediately in front of the present farmhouse. Between this period and the late eighteenth century, soil had accumulated with the possibility of some deliberate levelling. A combination of ceramic and documentary evidence suggests that this had occurred between c 1792 and 1833. A gravel area appears to be shown here on the plan of 1842 (HRO 76M78 E/P6).

Trench 23: the Farmhouse Garden (11 m by 1 m) (Fig. 16)

No features were recovered in this trench.

This trench was located in the centre of the area surrounded by the perimeter path shown on plans and maps between 1842 (HRO 76M78 E/P6) and 1908 (OS 25", 1908 ed, sheet LXXVI.3). As no traces of planting were found it was thought that this area may have been lawned.

Trench 24: the Farmhouse Garden (2.1 m by 0.5 m) (Fig. 16)

A cambered gravel surface (125) was located less than 0.05 m below the surface. This was 1.7 m wide, and was partly overlain by a thin spread of cinders.

The gravel surface was interpreted as the perimeter path shown on various plans and maps between 1842 and 1908. This path delimited the edges of the Farmhouse Garden in the shape of an oval. The cinders represented a crude resurfacing at a later date.

Trench 25: the Farmhouse Garden (6 m by 2.5 m with extension 9 m by 0.5 m to the south) (Fig. 17)

An earlier ground surface (122) was discovered 1.04 m below the present turf. This was overlain by a dump of soil (121, 105), up to 0.9 m thick. Cut into this dump were a number of roughly circular features (101, 103, 117, 118 and 120). Only one of these was excavated (101). This proved to have an irregular bottom, up to 0.35 m deep, and was filled by a dark brown soil.

At the far south end of the trench, a crude surface of pea gravel (104) was located less than 0.1 m below the turf. The full width was not excavated, but the width of that part uncovered was nearly 1.8 m. Beneath this was a layer of yellow sand (106) 0.07 m thick. This overlay a surface of large gravel stones (123). The excavated part of the latter was 1.1 m wide.

Environmental sampling has shown that a medieval settlement existed on the earliest surface that seems to have been producing arable crops. Just prior to the making of the Farmhouse Garden large quantities of soil were dumped to level the area out. Cut into this levelling a number of shallow planting pits, up to 0.35 m deep, were dug. These seem to have been filled with enriched soils, and from the nature of disturbance made by subsequent roots, were planted with shrubs. The spacing of the pits suggest that these were systematically, but not formally, spaced.

The surfaces at the south end of the trench were interpreted as the former perimeter path. The large stones of the lowest level, and the way sharp edges protruded, suggest that the original surface of this path had been robbed. It was subsequently decided to resurface the path with a scatter of pea gravel over a sand bedding. This was crudely done, and it appears that the material used was not uniform as the path in Trench 24 was found to be resurfaced in cinders.

Trench 26: the Farmhouse Garden (10.2 m by 0.5 m, with extension to south by 3 m by 1 m) (Fig. 16)

No features were found in this trench other than an irregular linear gravel feature (112) 0.15 m below the turf. This proved to be a gravel surface

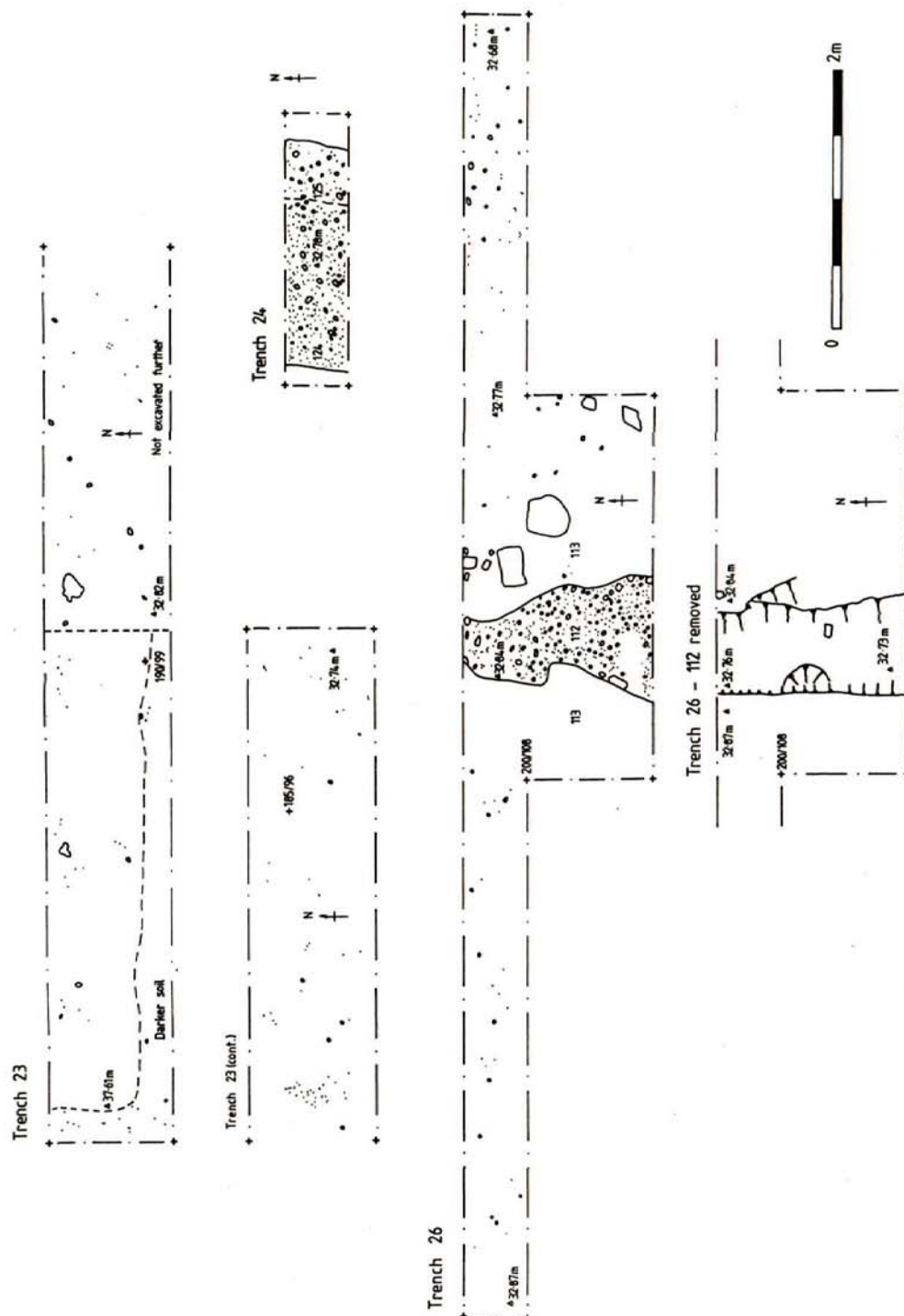


Fig 16 Trenches 23, 24, 26

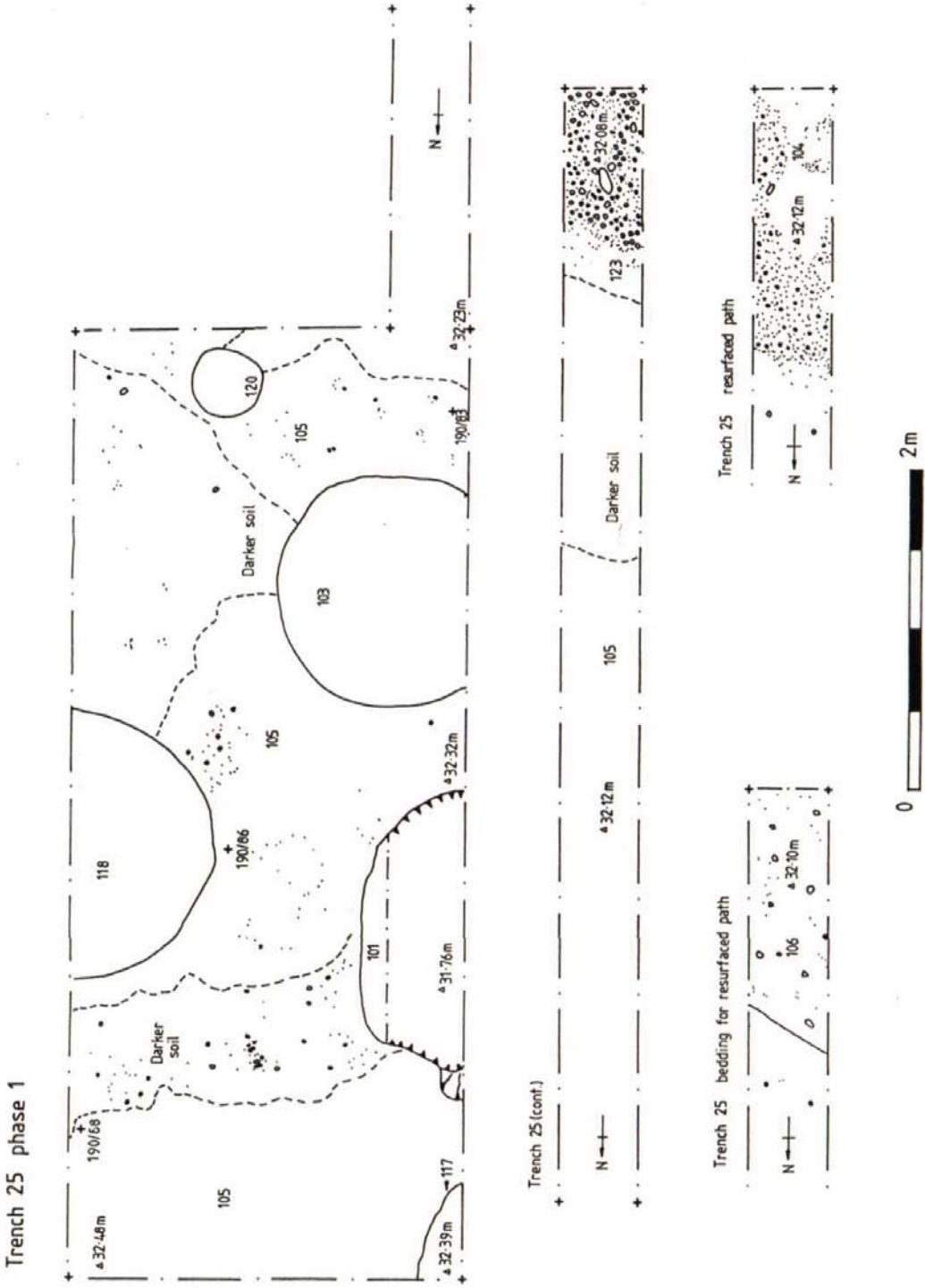


Fig. 17 Trench 25

laid into a shallow cut 0.1 m deep and 0.65 m wide. Although the cut itself was approximately regular, the gravel within it spread beyond its edges, forming an irregular surface up to 1 m wide. To the east of this feature were a number of large stone blocks and the base of a concrete pillar. Both to the east and west of 112 large quantities of iron nails (over 5 kilos were collected) were found scattered. No features were found associated with this material.

The surface (112) was thought to be the remains of the former perimeter path. This showed signs of being much disturbed, supporting the suggestion made by the evidence in Trench 25 that the path had been partly robbed at some time. There was no sign here of any attempt to resurface the path. Although no other features were found, the building debris, together with the very large quantity of iron nails recovered in a relatively small area, suggests that a temporary farm building may have been erected nearby after the path had fallen out of use.

DISCUSSION

The identification of a map of the Leigh Park area dated to between c 1792–1800 (HRO 124M71 E/P1) has shown that a number of features once thought to be creations of William Garrett and Sir George Staunton existed before their involvement with the estate. One feature of interest shown is the cattle pond, with a cottage next to it, on the site of the later lake, known as Leigh Water. This was thought by Staunton to have been made by Garrett (Staunton 1836, 28), but it can now be shown to have existed before 1800. It is thought that the cottage is the same building that was later incorporated into Cottage Island. Of further note are some later pencil additions to the map, made at a later date, that show plans to enlarge the pond. The outline shown bears similarities to the extent of the pond shown on a map of 1833 (HRO 11M64 (add) E/P2), but it is not exactly the same. It is not possible to say if these additions were made in Staunton's time, or earlier.

The locations and alignments of all the major paths within the Southern Pleasure Grounds were

identified. This evidence suggests that much of the main framework of the garden may have been a pre-1819 design built up by William Garrett and his predecessors. Many of the paths can be shown to have been poorly re-surfaced with cinders, and other inferior materials. It seems that some of the well-made paths date from Staunton's time, but it is possible that the workmanship may have declined towards the end of his life. However, it seems more likely that this resurfacing was the work of a later owner.

The estate plan of c 1792–1800 (HRO 124M71 E/P1) suggests that the Walled Garden was already in existence at this time. The archaeology dates the central north–south walkway to between 1760 and 1830. As this walk is shown on the earliest plan, it is quite likely that it dates from before 1800. It has been observed that the Staunton house appears to be aligned differently to the Walled Garden than the earlier pre-1800 house. Inspection of the plan of the house before 1800 and in 1842 (HRO 76M78 E/P6) seems to suggest that it had been rebuilt on a slightly different alignment between these dates. It would appear that this was done under William Garrett in 1802. Staunton (1836, 5) records that around this time Garrett had 'considerably enlarged, and indeed almost rebuilt' the house. However Staunton's (1836, 5) comment that the previous house was 'very small' is contradicted by the pre-1800 plan which shows a house not much smaller than the one that he must have occupied in 1820. This evidence, coupled with the archaeological evidence for the central path possibly dating to before 1800, suggests that it was the house that was realigned, and not the garden. However, this will require further archaeology to confirm this hypothesis.

Two of the major follies in the Southern Pleasure Grounds were located, the Cone House and the Swiss Cottage. It is thought that the Cone House was created by Garrett, although Gladwyn's (1992, 34) claim that he may have built the Dutch Garden and the Swiss Cottage is unlikely, as the Dutch Garden is not shown on the map of 1833 (HRO 11M64 (add) E/P2). The archaeology has shown that a previously unknown garden building, built of timber and flint, existed here. This was probably demolished

before the Dutch Garden was laid out, as its existence in conjunction with the Swiss Cottage would not have made much design sense. Dating evidence found associated with the flint building suggests it was built before 1830, but it is unlikely to pre-date the mid-eighteenth century. A building is shown on the 1833 plan, but it is not certain whether it is the flint structure or the Swiss Cottage. Changes in the southern boundary of the Pleasure Grounds between 1833 and 1842 have made exact identification difficult.

The environmental evidence suggests that the garden prior to the Dutch Garden may have been a cottage-type garden. Soil samples taken from suspected plant beds from this garden produced seeds of black mustard and strawberry, both types being commonly grown in cottage-type gardens. Also present were seeds of hornbeam and fragments of walnut shell. Neither survive in the immediate area today. It is possible the hornbeam may have formed a hedge or tree in the garden. It appears that a walnut tree also grew here at this time. Both the walnut and the hornbeam may have survived into the Dutch Garden phase, as their remains were also found in these levels.

The Cone House is shown on all plans dating from 1833 up until the late 1860s, but it is not shown on the 1908 Ordnance Survey plan (OS 25" 1908 ed., sheet LXXVI.3). Large deposits of ash on the site suggest that it may have burnt down between 1870 and 1908, and was subsequently thoroughly demolished. The Swiss Cottage appears to have survived until at least 1908.

Documentary research shows that the farmhouse was rebuilt on a new alignment between c 1792–1800 and 1833. The original farmhouse, as shown on the map of c 1792–1800, is on an east-west alignment. The building shown on all the maps and plans after 1833 is on a north-south alignment. Therefore, the garden shown on the c 1842 plan (HRO 76M78 E/P6) cannot have been created before 1800 as it is aligned on the later building. The farm out-buildings of c 1792–1800 are shown as they are today, with a few minor alterations.

The area to the south of the farmhouse was built up considerably and levelled, probably after 1800 when the new farm was built. This helps to

explain the uneven nature of the ground to the west. Before this there is evidence that trees had been grubbed out to create farmland where there had previously been trees. The archaeological evidence suggests this was in the medieval period. Relatively large quantities of medieval ceramics found here suggests that the hamlet of Leigh had medieval origins, and that a farm of some sort may have existed nearby since that time.

The archaeology of the garden indicates that the garden plan of c 1842 was relatively accurate. A gravel hard-standing was discovered in front of the farmhouse, of which the southern limits were identified. From this a perimeter path extended around the oval-shaped garden. This path was a cambered gravel construction, about 1.9 m (6 feet) wide. Internally there does not appear to have been much planting in the centre of the garden, which may have been lawn, although there was considerable activity around the western edge.

This activity seems to have consisted of the planting of shrubs or small trees. Although there was a vague pattern discerned in the spacing of these plants (they were approximately 2 m apart), it is probable that the overall impression was of informal planting. Alternatively, the spacing may suggest a Gardenesque-type planting scheme. This evidence supports the evidence shown on historic maps. At some time after 1859, the garden seems to have fallen out of use, although as late as 1908 the perimeter path is still shown on maps (OS 25" 1908 ed, LXXVI.3).

CONCLUSIONS

The excavations and accompanying documentary research has demonstrated a greater antiquity to Leigh Park than had previously been considered. It can now be shown that the enlargement of the estate by William Garrett and Sir George Staunton between 1800 and 1859 had removed traces of an earlier settlement that dated back to at least medieval times.

This appears to have been a roadside hamlet that grew up alongside a possible minor Roman road or track leading from Havant via a known Roman building at Wakeford's Copse (Henig

1974) towards Rowlands Castle. This road seems to have continued in use throughout the earlier medieval period. Possibly during the eighteenth century, a more substantial house developed on the west side of the road. By 1800 this had a walled garden, a number of outbuildings and a possible surrounding landscaped area of over five acres (2 hectares). This house was substantially rebuilt by Garrett in 1802, and Pleasure Grounds were extended around it. It would seem that about this time the main farm of the former hamlet was rebuilt as a *ferme ornée*. It is not certain if the garden to the south of the farmhouse was laid out at this time, or later by Staunton before 1842.

Sir George Staunton considerably expanded the estate in his lifetime, creating the Leigh Water and a considerable number of follies. With the building of a new house in the 1860s, the focus of the estate changed, and much of the area now known as the Southern Pleasure Grounds was neglected. This resulted in much of the archaeology here being left undisturbed.

SPECIALIST REPORTS

Building materials

Large quantities of building materials were collected from different parts of the Pleasure Grounds. These were mainly brick, tile and slate. They were mostly associated with demolition materials from the two former houses and the follies. Most of this material was of a fairly recent date, from c 1800 onwards. It was mainly examined on site, and discarded.

Frogged bricks were found amongst the demolition materials on the site of the Cone House. This was surprising as this folly appears to date from the early nineteenth century; frogged bricks did not generally become current until the later half of the nineteenth century (although local exceptions are known). This suggests that the Cone House may have been repaired in its later life. It is thought this folly was demolished between 1870 and 1908.

Pottery (Table 1)

The pottery assemblage was generally uninteresting, and very little of it was found in securely dated contexts. For the nineteenth century, flowerpots dominated the types found (45% by number, 55.3% by weight). These were generally ordinary orange-red earthenwares without glaze, maker's name stamps or any other distinguishing features. Those found were little different from those still used on the site today. At Castle Bromwich Hall, West Midlands, a variety of flowerpot types enabled contexts to be dated (Currie 1993, 177–8), but this was not possible at Leigh Park. It might therefore be concluded that the pots were of local manufacture, and made in a tradition that has little changed in the last two hundred years.

There seems to be a lack of better quality wares (pearlwares, porcelain etc.) found on the site. This was the case in the more prestigious garden areas at Castle Bromwich, and it can be concluded from this that garden management was of a reasonably high standard, in that domestic rubbish was kept out of the garden to a large extent.

Only a few clues to dating were found from the pottery. A sherd of salt-glazed stoneware (produced mainly between c 1720 and 1780) found together with a sherd of creamware under the central path in the Walled Garden suggests that the path was laid after c 1760–70, when creamware begins to appear, and possibly before 1830, when it largely fell out of use. It is possible both sherds are residual, but the dating is supported by the documentary evidence, which shows the garden in existence by the late 1790s. This suggests, on balance, that the path here was probably laid before Staunton's purchase of the estate in 1820.

There was also a general lack of pottery later than c 1830 in either phases in the Dutch Garden. Allowing for residuality, this confirms the documentary evidence that this area was largely neglected after Staunton's death in 1859.

Pottery also gave some clues to the date of origin of the Regency Farmhouse. There were sherds of later seventeenth and eighteenth century wares (tin glazed earthenwares, salt

Table 1. Pottery recovered by number of sherds and weight.

Fabric type	no. of sherds	% of total	weight (in grms.)	% of wt.
Medieval coarsewares	66	19.4%	513	14.8%
Medieval glazed	29	8.5%	202	5.8%
Flowerpot	153	45.0%	1917	55.3%
Unglazed earthenware	8	2.4%	63	1.8%
Glazed earthenware	17	5.0%	202	5.8%
Verwood	5	1.5%	103	2.9%
Black glazed earthenware	3	0.9%	26	0.8%
Ceramic drain	6	1.8%	203	5.9%
Midland Yellow type	1	0.3%	2	0.05%
Porcelain	3	0.9%	3	0.1%
Creamware	25	7.4%	94	2.7%
Pearlware	8	2.4%	18	0.5%
Nineteenth-century 'china' types	5	1.5%	22	0.6%
Tin glazed earthenware	3	0.9%	9	0.3%
Salt glazed stoneware	3	0.9%	13	0.4%
Bellarmino stoneware	1	0.3%	24	0.7%
Westerwald stoneware	1	0.3%	7	0.2%
Unknown stoneware (creamy fabric)	1	0.3%	35	1.0%
Possible Roman coarseware?	1	0.3%	5	0.1%

glazed stonewares and creamwares) beneath the gravel hard standing in front of the house. This feature appears to be shown on the map of c 1842. Cartographic evidence suggests that an earlier farmhouse had been demolished between the late 1790s and 1833, and a new one built on a new alignment associated with this gravel area. The pottery evidence suggests a date prior to 1830 for the laying of the gravel, and it is possible that this work also precedes Staunton's purchase.

Alongside the post-medieval wares were reasonable quantities of medieval wares. Apart from late post-medieval flowerpots, medieval wares were by far the most common ceramics found (27.9% by number, 20.6% by weight). This, together with other evidence, suggests that the farmhouse, perhaps even a hamlet at Leigh alongside the old road, had its origins in the medieval period. The environmental evidence (see below), suggests that this settlement was associated, at least in part, with arable husbandry. Later post-medieval farming was associated almost entirely with stock keeping, with cattle predominating.

Another feature of the assemblage is the relative lack of later nineteenth and twentieth century ceramics. Ceramics from the period c 1760–1830 outnumber later types in the more fine wares. Again allowing for residuality, this confirms the documentary archives. Following the demolition of Staunton's house in the 1860s, there was little activity in the Southern Pleasure Grounds outside of the Walled Garden.

Environmental Sampling by Claire de Rouffinac

Plant remains (Table 2)

All samples taken contained both charred and uncharred seed. Charred seeds occur as a result of deliberate or accidental exposure to fire. Crop seeds that have been dried may have been accidentally burnt in a drying oven. Domestic refuse and crop processing waste was often deliberately disposed of by burning. The residues were often spread on plant beds as a form of

enhancement, as appeared to be the case at Castle Bromwich Hall, West Midlands (Currie and Locock 1993, 195).

The greatest concentration of charred remains came from E16, a sample from a suspected medieval horizon beneath the Regency Farmhouse Garden. These included a number of weeds associated with agricultural crops, including *Agrostemma githago* (corncockle), *Polygonum cf. persicaria* (red shank), *Papaver rhoeas* (field poppy) and *Vicia/Lathyrus spp.* (beans/vetches). There were also fragments of unidentified cereal plants present, indicating that this assemblage probably represents residues from crop processing disposed of by burning.

Uncharred seeds are often difficult to interpret as the seed cases often remain intact, but the starchy interior is lost. This mode of preservation favours seeds with hard cases, and this will introduce an element of bias into an assemblage. It is likely that most of the seeds recovered at Leigh Park are not recent contamination, which can sometimes be a problem. Many of the species found were those commonly found in areas of human disturbance, such as *Sambucus nigra* (elder), *Stellaria media* (chickweed), and *Rubus fruticosus* agg. (bramble). However, there were seeds recovered that seem to suggest cultivated plants.

There were two seeds of *Rubus idaeus* (raspberry) from E14, a possible plant bed in the farmhouse garden. These may have been grown there, or were dropped by birds from a nearby part of the site.

A number of seeds from the Dutch Garden were of interest in identifying possible plants grown there. A plant bed, possibly associated with the flint and timber structure found in a pre-1842 phase, contained a number of seeds of *Brassica cf. nigra* (black mustard). Although a possible weed, this plant was commonly cultivated in gardens and other 'manured places' (Culpeper 1985, 200), and had many uses in cooking and medicine (McLean 1981, 188). Strawberry (*Fragaria sp.*) was also recovered from the same sample, possibly suggesting some sort of cottage garden type arrangement around the structure.

Both samples from this phase, and the later 1842 phase Dutch garden, contained seeds of *Carpinus betula* (hornbeam) and fragments of *Juglans regia* (walnut). Neither appear on the site of the garden today, and it would appear that they were part of the plantings in the earlier gardens.

The limited sample taken (six five-litre samples) has shown that there is considerable potential at Leigh Park for recovering information on past

Table 2. Plant remains recovered.

Species or type	Sample numbers					
	Number of seeds recovered					
	E6	E7	E10	E12	E14	E16
Caprifoliaceae						
<i>Sambucus nigra</i>	7	—	—	—	—	—
Caryophyllaceae						
<i>Agrostemma githago</i>	—	—	—	—	—	1
<i>Stellaria media</i>	1	—	—	1	—	—
Chenopodiaceae						
<i>Chenopodium album</i>	—	—	—	—	—	>100
<i>Chenopodium sp.</i>	—	—	—	—	1	—
Compositae						
Compositae	1	—	—	—	—	3

Species or type	Sample numbers Number of seeds recovered					
	E6	E7	E10	E12	E14	E16
Corylaceae						
<i>Carpinus betulu</i>	—	2	2	—	—	—
<i>Corylus avellana</i>	—	—	—	—	—	1
Cruciferae						
<i>Brassica</i> cf <i>nigra</i>	>50	—	—	—	—	—
Juglandaceae						
<i>Juglans regia</i>	—	1	4	—	—	—
Leguminosae						
<i>Vicia</i> / <i>Lathyrus</i> sp.	2	—	—	—	1	15
Papaveraceae						
<i>Papaver rhoeas</i>	—	—	—	—	—	1
Polygonaceae						
<i>Rumex acetosella</i>	—	1	—	—	—	—
<i>Rumex</i> sp.	2	—	—	—	3	—
<i>Polygonum</i> cf <i>persicaria</i>	—	—	—	—	—	5
<i>Polygonum</i> spp.	—	—	—	—	3	—
Rosaceae						
<i>Rubus idaeus</i>	—	—	—	—	2	—
<i>Rubus fruticosus</i> agg.	7	1	—	2	1	1
<i>Fragaria</i> sp.	1	—	—	—	—	—
Urticaceae						
<i>Urtica dioica</i>	—	—	2	—	—	—
Indeterminate seeds	1/1	1	—	—	1	—
Fungal spores						
<i>Cenococcum</i> sp.	9	—	—	—	—	—
Other plant remains						
Bud	—	—	1	—	—	—
Abscission scar	—	—	1	—	—	—
Cereal embryos	—	—	—	—	—	2
Cereal awn fragment	—	—	—	—	—	1
Total no. of seeds per context	85 +	6	10	3	13	130 +

Charred seeds in **bold** type

plant regimes to aid accurate planting during the restoration of the garden.

Soil analysis by C K Currie (Table 3)

The results of the soil analysis were not as conclusive as could be expected from work on other sites (Currie and Gray forthcoming). Nevertheless some indicators were obtained.

It was noted that both samples from the Walled Garden showed that the soil there was heavily enriched with phosphate and calcium, with moderate enrichment in magnesium. Although this was to be expected from the beds still in use (E/4), the high readings from the soils beneath the present grass path (E/3) would not normally be expected. The explanation here is probably that this path is a relatively recent creation, and the soils underneath were once in a plant bed. This seems to confirm that the blocked doorway in the west wall was once on the alignment of the east-west path, as shown on pre-1859 plans, and that the path has subsequently been moved to its present site. As the excavation on the original alignment (Trench 11) was inconclusive, this information takes on some significance.

Since these tests were carried out, a student of Bournemouth University, supervised by Dr. John Beavis, has taken a number of further samples

from the same source as sample numbers E/1, E/3 and E/4. These were analysed in the University's laboratory, and the results subjected to a number of sophisticated statistical tests. These have shown that the differences between these samples noted in the first analysis are significant (Yulle-Baddeley unpublished). It can be suggested therefore that the testing method adopted here appears to be able to differentiate between garden soil types on a scientific basis.

The only other results that indicated significant enrichment of soils was in the former Dutch Garden. All the plant beds sampled here had much higher analyses for calcium than the control sample (E/1) and the sand dumping level (E/9) in the garden itself. This suggests that the beds here were limed. The slightly higher reading for calcium in the plant bed in the American Garden also suggests some possible liming here, although the nature of the plants in this sort of garden might be expected to favour acid soils (rhododendrons etc).

It was surprising that although higher analyses for calcium were observed, there seem to be little significant increases, except in the Walled Garden, for inorganic phosphate and magnesium in suspected plant beds on the site. The phosphate readings were generally lower than expected for garden soils.

Table 3. Soil analyses.

Sample number	Context number	pH	inorganic PO ₄	Ca	Mg
E/1	28	6.60	141.7	293	504.3
E/2	31	6.03	142.1	765	438.2
E/3	41	7.09	1428.7	6419	707.3
E/4	41	7.11	1850.5	7829	769.5
E/5	70	7.11	173.9	1254	526.8
E/8	78	6.75	205.5	1372	576.6
E/9	79	6.95	152.7	733	468.0
E/11	80	6.81	300.0	1540	397.4
E/13	101	6.01	286.5	378	482.4
E/15	103	5.78	383.9	494	485.7
E/17	121	5.72	337.8	311	397.5

Sample E/1 should be treated as the control for the site when comparing analyses.

REFERENCES

- Original sources in the Hampshire Record Office (HRO):*
 11M64 (add) E/P2: Map of Havant, Warblington and Bedhampton by Charles Lewis, 1833.
 124M71 E/P1: Undated map of Leigh Park area. Dated by other research to c 1792–1800.
 76M78 E/P5: Map of Havant manor of 1842 by Charles Lewis with amendments of c 1860.
 76M78 E/P6: Map of Havant manor of c 1842 for Sir George Staunton by Charles Lewis.
 76M78 E/P9: Map of Havant manor adapted from 1st ed. OS 25" plan.
 69M83/14: Abstract of title to Sir George Staunton's estates in Havant.
 102M86/167/1–4: Surrender of Leigh House by Samuel Harrison, 1792, and related documents.
 102M86/196: Purchase of estate at Leigh by Charles Webber, 1767.
 102M86/265: Conveyance of Leigh estate to William Stone, 1861.
 102M86/275: Abstract declaring surrender Leigh Park and the adjoining farm to William Garrett, 1800–1802.
 Photocopy 628/1/1: Sale Particulars for Leigh estate, 1860.
 Photocopy 628/1/2: Map of estate, 1860 by Farebrother, Clark and Lye.
 Ordnance Survey 25" Plan LXXVI.3, dated 1908.
- Original Sources in print:*
 Staunton, Sir George, 1836 *Notices of the Leigh Park Estate*, London.
- Secondary Sources:*
- Butler, W, 1817 *Topographical Account of the Hundred of Bosmere*, Havant.
 Culpeper, N, 1985 *Culpeper's complete herbal*, London.
 Currie, C K, 1993, Pottery, 166–79, in Currie, C K and Locock, M, Excavations at Castle Bromwich Hall gardens, 1989–91, *Post-Medieval Archaeology*, **27**, 111–199.
 — and Gray, S, forthcoming, The application of soil analysis to the interpretation of historic gardens, *Proceedings of the Conference for Archaeological Sciences*, York, 1991, Szymanski, J ed.
 — and Locock, M, 1993, Excavations at Castle Bromwich Hall gardens, 1989–91, *Post-Medieval Archaeology*, **27**, 111–199.
 Gladwyn, D, 1992, *Leigh Park. A 19th century pleasure ground*, Midhurst.
 Henig, M, 1974, A Roman cameo from Wakefords Copse, Leigh Park, Havant, Hampshire, *Proc Hampshire Field Club Archaeol Soc*, **31**, 19–21.
 Landscape Implementation Group, n.d., *Leigh Park Gardens, Havant. Restoration master plan for the historic gardens*, Hampshire County Council, Winchester.
 Longcroft, C J, 1856, *A topographical account of the hundred of Bosmere*, London.
 McLean, T, 1981, *Medieval English gardens*, London.
 Pile, J, 1989, Havant Chase, *Hampshire Field Club Archaeol Soc Newsletter* new series **11**, 13.
 Yulle-Baddeley, D, unpublished, undergraduate thesis on garden soils, Department of Conservation Sciences, Bournemouth University, 1994.

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