

12N 45242

Report on the Double Walled Garden 2000



The Double Walled Garden

at

THE NATIONAL BOTANIC GARDEN OF WALES

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February 2000

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1.0 Introduction and brief

This report aims to evaluate the importance of the double walled garden at Middleton both as part of the late eighteenth century estate and also in its capacity as a particular form of kitchen garden among national and British examples. In this context the value of restoring the garden must be measured against the heritage of such landscapes and in this particular case the value of a structure which conveys enormous insight into social and practical life in the eighteenth century, although it was primarily created for utilitarian reasons rather than aesthetic purposes.

The question which is implicit in this report asks what is the significant value to our heritage in restoring this walled garden rather than any other. What is the case for restoration? With this in mind and the time available this report has concentrated on three specific tasks. The first was to assess the evidence of what is still in place at Middleton, to look at primary documentation and then consider these in the context of a number of recent research studies which in their various ways have contributed to our knowledge of the garden. The second was to evaluate the walled garden against contemporary horticultural literature to assess how its situation, construction and use could be correlated with the views of the leading horticulturists of that time. Thirdly within the constraints of time and travel to look at other similar gardens to make a comparative study which bears directly on the individual value of the example at Middleton and the case for restoring the garden for our national heritage. For obvious reasons within the two months allotted for this study no attempt has been made to carry out further primary research into archives, record offices and libraries which might in the future still yield important material which will add to our knowledge of the history which surrounds the construction of this garden.

2.0 Historical background to the Middleton Estate

The history of the Estate has been covered in a number of reports leading up to and subsequent to the establishment of the National Botanic Garden of Wales. It is the intention here to make a summary from these reports of the main features of the Estate's history to provide a context for the walled garden.

Willem Kuiters in his biography of William Paxton (1744-1824) records that Paxton bought the Middleton Estate in 1789 (other sources suggest a date as early as 1785) where 'He intended to develop the estate into a seat that would do credit both to his taste and his fortune.' (Kuiters, 1998 unpublished). Paxton employed the architect Samuel Pepys Cockerell (1753-1827) to design and build a new mansion at Middleton between 1793 and 1795, but there is no certainty over who redesigned the landscape around the mansion. Willem Kuiters says that Samuel Lapidge (d.1806) a former assistant of Lancelot Brown was responsible. Other people who also no doubt played a part in the formation of the landscape include Paxton's estate manager, James Grier (d.1814) who was an engineer and probably carried out the technical management of the water features at Middleton. He may also have had a hand with other aspects including the walled garden. It has been suggested that other landscape gardeners including William Emes (1730-1803) may also have had a part in the planning of the new landscape.

The Horner paintings of 1815 (illus 1) shows a maturing picturesque scene with the walled garden situated less than a quarter of a mile from the mansion. At the present time no information has been found concerning exactly when the construction of the walled garden began or who was responsible for the design. When Paxton died in 1824 his entire estate was sold and the sale particulars provide a full description of it together with the walled garden at that time. Some small changes were made to this garden during the nineteenth century (see below) but the major part of the walls as built by 1815 survive albeit in a pitifully derelict state.

3.0 The situation of the walled garden in the historical and cultural landscape

In the eighteenth century there were two main aspects which influenced the choice of a suitable site for a walled kitchen garden. The first related to the contemporary fashion for the so called 'natural

landscape' and the second was the choice of site which would take maximum advantage of the nature of the land to provide the practical necessities for horticulture.

3.1 The situation with regard to the mansion

Lancelot Brown had died in 1783 and Samuel Lapidge was charged with completing his commissions. If Lapidge came to work at Middleton after Paxton bought the estate in 1789 it is reasonable to assume that Lapidge would have brought with him the dominant fashion for landscape design at the time as exemplified by Brown. Whereas in the seventeenth century and earlier, walled gardens were mostly developed as an extension to the house (see appendix 10.1), by the middle of the eighteenth century the typical new Palladian house sat amidst its parkland and all the services which included stabling and walled gardens were screened from view. Frequently then the walled garden which had been used for practical horticulture was removed to some distance from the house (see the example of Wimpole Hall in the Appendix 10.3). This 'kitchen garden' as it had become, no longer formed part of the adjoining amenities which would have been integrated with the design of a seventeenth century house and its out-buildings. The site of the old house (pre-Paxton) at Middleton is not definite but most likely the walled gardens of this house would have been adjacent. When the decision was taken by William Paxton to build his new mansion in the prominent position to the north of the hill now occupied by the glasshouse, a site for a new kitchen garden would have had to be found. The site which was chosen within the landscape partially reflects the fashion for banishing such gardens out of view of the mansion. The sale particulars for the disposal of Middleton in 1824 mention 'walks through the plantation to a capital kitchen garden walled round' which suggests that the walled garden was indeed screened from view of the mansion. However a close study of the Horner painting of 1815 and the estate map of 1824 (illus 2) indicate that the garden could have been visible from at least some rooms on the south front of the mansion; at least no plantations stood immediately in the way although depending exactly how the mansion was positioned it is possible the garden was hidden by the lie of the land. It is clear from the painting that planting had been skillfully done to close off certain views and open up others. Even though it is true that the best wide views are over the lakes to the north and east of the mansion, the plantations to the west on their own would in no way have completely obscured the view of the kitchen garden, only a quarter of a mile from the house. Undoubtedly if it had been thought necessary to completely hide the kitchen garden from observation within the environs of the house further planting would have been done between house and garden. The assumption here is that Horner accurately depicted the plantations that were there but the situation might have changed by the time of

the sale in 1824 although the estate map of that date shows close similarity. The siting of the walled kitchen garden then does not entirely fit the predominant view that by the end of the eighteenth century walled gardens were to be absolutely taken away from the proximity of the mansion (This today is the generally quoted view of the aesthetics of landscape design at the end of the eighteenth century). A contemporary of Lapidge was Humphry Repton (1752-1818) who although at the beginning of his career in the 1780s very much took on the style of Brown, by the time he wrote his *Fragments* (1816), had distanced himself enormously from Brown's followers and indeed some of Brown's practices, accusing him of banishing the kitchen garden 'where it might no longer be an unsightly object' (p.557). With regard to the situation of the kitchen garden Repton had already come to the view that it should be conveniently situated near the house in his *Theory and Practice* (1803):

The many interesting circumstances that lead us into a *kitchen-garden*, the many inconveniences which I have witnessed from the removal of old gardens to a distance, and the many instances in which I have been desired to bring them back to their original situations, have led me to conclude, that a kitchen-garden cannot be too near, if it be not seen from the house. (p278)

A recent study by Tom Williamson (1998) on garden design in Norfolk, c.1680-1840 suggests also that the fashion for removing kitchen gardens from view was by no means universal:

... attention should also be drawn to the development of the kitchen garden in the second half of the eighteenth century. The conventional view widely repeated in books on garden history, is that when landscape park became fashionable and walled gardens were removed from the vicinity of the mansion, kitchen gardens were regarded as unsightly if necessary features which had to be banished to some distant recess of the park, and screened behind plantations or shrubberies. Systematic survey suggests that such a view requires some modification. In reality, even at the highest social levels truly isolated kitchen gardens were by no means universal, and where they did exist they often came into existence in the *first*, rather than in the second, half of the century. (p162)

He adds that in a significant number of cases the planting of the pleasure grounds was such as actually to conduct visitors towards the kitchen garden suggesting that the kitchen garden was part of the circuit of the estate (p164).

The Tithe survey of Middleton 1847 (illus 3) shows that some of the plantations to the south of the mansion had been removed, thus possibly opening up a better view of the garden. However by 1886 the OS map (illus 4) shows more continuous woodland to the south which would almost definitely have concealed the kitchen garden from this direction, while views to the north have been kept wide open.

Apart from Repton many other garden writers at the time seemed to favour placing kitchen gardens at a considerable distance from the mansion, apparently among the followers of Brown. William Forsyth

(1806) indicates that the garden should not be seen from the house and Charles McIntosh (1828) is in no doubt:

...the kitchen garden should be placed at such a distance from the mansion as to be concealed from view...In a princely residence, the culinary garden may be at the distance of a quarter, or a half, or even a mile from the mansion... (p2 & 3)

Possibly J.C.Loudon writing in 1822 (*Encyclopaedia of Gardening*) offers an intermediate position: 'The situation... should be as near the mansion and the stable-offices, as is consistent with beauty, convenience, and other arrangements.' (p724). However he goes on to quote Nicol 'the walls [should] be screened by shrubbery from the immediate view of the public rooms' (p726)

The OS map of 1886 (illus 4) would seem to reflect the continuing fashion to screen the kitchen garden from view and certainly contemporary with this later period Robert Thompson's *The Gardener's Assistant* (Rev. ed. 1878) has this to say about the situation:

...the garden should be so near to the mansion as to be conveniently accessible on foot, probably within little more than a quarter of a mile; while it should be so distant as to avoid the possibility of offence arising from the necessary gardening operations, and the resort of workmen...Wherever it be placed it should be so masked by evergreen shrubs, and by trees, as not to be visible from the principal lawn, or from the walks in the shrubbery and flower-garden. (p.101)

How ever one considers the situation of the walled gardens at Middleton it is clear from Horner's painting that the situation of the garden was seen as one of paramount importance and I doubt very much that it was the intention during the time of Paxton to entirely hide the garden from view. The focus of the plantations in 1815 leaves views of the kitchen garden clearly visible from areas near the house and moreover the garden could well have been part of the circuit for visitors. Later in the nineteenth century there was arguably a desire at Middleton to screen the kitchen garden from view which would have been in keeping with the views that appear to have prevailed at that time. If restoring the cultural landscape of the late eighteenth century in the time of Paxton is seen as the aim then the walled garden must play its part and be seen as a dominant and striking feature in the heart of the National Botanic Garden.

3.2 The situation of the walled garden with regard to its aspect for horticulture

From a very wide survey of contemporary sources between c. 1750-1850 there is remarkable agreement on the most advantageous site for a walled kitchen garden:

For example Walter Nicol (1809):

The happiest situation for a garden is a gently elevated hill, having a south, south-east, or south-west aspect, encompassed on all sides with plantations at the distance of about one hundred yards from its walls. (p215)

and William Forsyth (1806):

A garden, if possible, should be on a gentle declivity towards the south, a little inclined to the East to receive the benefit of the morning sun. (p312)

Nicol is also particularly of the opinion that the situation is paramount even if the soil is not the best. He observes that the soil can be improved whereas the situation once selected cannot easily be changed.

At Middleton the situation seems to fit all of these criteria - the aspect is south inclined towards the east to take advantage of the early morning sun. There is a slight slope from north to south and behind the north-west wall there is sharply rising ground forming a bank which protects the garden from the north and the west. The other aspects, according to the Horner painting, the north and south-west, are protected by plantations. The north-west bank of rising ground is also planted to give additional protection. Only the south-east is left open and this to some extent is protected by gently rising ground.

From all aspects of this assessment of situation it should now be evident that the walled garden is an integral part of the historic landscape of Middleton; it is just as much part of the planned landscape as features such as Paxton's tower and the lakes. It would be no argument to consider it to be of less value because of its utilitarian nature. Historically the kitchen garden, as we have seen, is the subject of close scrutiny in contemporary literature, and as part of the landscape at Middleton the walled structure should be preserved with this context in mind, and its status should be restored along with its plantations to present the view that was once so convincingly depicted by Horner.

4.0 Surviving structures

4.1 A designed entity

It cannot be stressed strongly enough how important it is to consider the walled garden as a designed entity surviving from the Paxton landscape. From all the available evidence and the assessment of its

situation the garden was developed on a new site. It was not part of continuing development from an earlier phase of building in that position. It is most probable that the earlier kitchen garden would have been closer to the old pre-Paxton mansion which is generally thought to have been built at a considerable distance to the north-east of the present walled garden. Surveys of comparable kitchen gardens in other parts of the country generally show that they were part of a phased development, for example at Penrhyn Castle in Wales and Wimpole Hall in England (see Appendix 10.3). It is unusual for such a complete structure as exists at Middleton to be built in its entirety with little subsequent modification. The only area of doubt as to the possibility of a built structure being on the site of the walled garden before 1800 centres on the small portion of stone wall which survives today as part of the inner brick wall at the point in the west wall where the peach house was constructed. It is possible that an earlier small building existed at this point and that its walls were incorporated into the inner wall to make a stove house behind the peach house which appears on the Horner painting. With this exception the design and implementation of the double walled structure which appears in the Horner painting must have been completed as an entity by c.1800. Some changes to the garden were inevitable, some even before the death of Paxton in 1824. On the Estate Map of 1824 (illus 2) the north wall of the garden is missing and the area immediately to the north of the garden has been enclosed by walls which link up with the outer walls which appear in the Horner view. Apart from this change and two divisions in the slip gardens which appear in the tithe map of 1847 [illus 3] no other changes appear to have been made to the garden walls during the first half of the century. At the time the OS map was published in 1886 [illus 4] there were further small changes to the south west corner: two new entrance gates had been constructed and a small enclosed area outside the slip garden - possibly the melon ground [see 4.4 below]. After this date although deterioration of the walls has slowly taken place no significant structural alterations have been made to the walled garden.

Essentially therefore the integrity of the original design concept has been preserved and apart from all other considerations this factor must place an extremely high value on the structure that has survived. It is an example of a double walled garden of this period which has no equal in Britain.

4.2 The inner wall

[Materials, thickness, bond, heating flues, height, corners, shape, copings]

The inner wall is entirely made of brick, using Flemish bond, and is approximately 350m in length. By at least the middle of the eighteenth century the thermal properties of brick (as opposed to stone) were recognised as being extremely advantageous for the growing of wall fruits. All the horticultural treatises of this period recognise this.[see appendix 10.2] For example Abercrombie (1789) says brick is best of all and Forsyth (1806) says:

When bricks can be had, I will advise never to build garden walls of stone, as it is by no means so favourable to the ripening of fruit as brick... (p325)

And Nicol (1809):

Brick is certainly the best material for the construction of garden walls, as being both better adapted to training, and of a more kindly nature for the trees, than stone. (p.215)

Note here that Nicol is also recommending brick for the ease of training trees as of course bricks are of a regular size and laid in courses enabling nails and other fixings to be applied more regularly and easily to the walls.

It is not surprising therefore that where-ever kitchen gardens were built in the nineteenth century, particularly for the growing of wall fruits, brick was invariably used. However in a great many of the gardens in Wales where stone is often the dominant building material (cheap and available) kitchen garden walls were more often faced with brick, that is stone on the outside and brick on the inside. For example at Glynlyfon in Gwyneth the enormous outside walls are only faced with brick [see appendix 10.3]. Also economies were frequently introduced by only making the south facing fruit walls of brick whereas the other surrounding walls were made of stone. Middleton is outstanding in its completeness: the entire inner wall (with the small exception of the short stone section by the peach house) is made of brick.

In height it very much conforms to the recommended heights for the time: Forsyth (1806) and Nicol (1809) recommend walls from ten to fourteen feet high.

However in thickness Middleton is extremely unusual. William Forsyth (1806) says:

... the foundation should be two bricks or two bricks and a half thick... and the wall should then set off a brick and a half thick. If the walls are long, it will be necessary to strengthen them with piers from forty to sixty feet apart; and these piers should not project above half a brick beyond the wall. (p324)

This is the advice which is generally followed in the construction of kitchen garden walls. At Middleton though, the thickness of the wall is eighteen inches (0.45m) which is the thickness made with two bricks placed end to end (In spite of the thick walls there is no indication to date of a general flue heating system within the walls). Forsyth only recommends this thickness (above) for the foundation. The evident reason for the increased width at Middleton is for strength so that the wall does not need to be supported by piers which Forsyth has referred to. Piers were recognized as being a hindrance for the training of fruit trees. McIntosh (1828) observes:

It is better to build them of a sufficient thickness, in order to render them secure, than to erect them of a smaller dimension and have recourse to piers to support them; for, notwithstanding the benefit of such supports, they have an unseemly effect and are very inconvenient for the operation of training. (p24)

Another key feature of the inner wall at Middleton is its lack of right angled corners. Changes of direction at the corners to join up the four sides of the rhomboid have all been effected with curves - opposite corners having the same angle to preserve the symmetry and parallel lines of the opposing walls. Curved walls are sometimes found in sections of kitchen gardens but by far and away the most general plan or outline is a rectangular structure with right angled corners.

The regular rhomboid shape is also very rare. There is one significant and much quoted reference to the use of rhomboid shapes as being suitable for a kitchen garden. Charles McIntosh (1828) provides a useful summary of current notions about form:

Various forms have been recommended by practical men, particularly for that part of the culinary garden which is surrounded by walls. Some have recommended a square figure. Abercrombie recommended an oblong, with the angles cut off, to give a greater portion of the walls behind an equal degree of aspect with those on the garden side. Hitt recommended a geometrical square or rhomboid, so placed that each wall might derive as much benefit from the sun as possible. (p10)

This reference to the recommendation of a rhomboid is not apparent in Hitt's published works of 1755 and 1771 (see Sources 9.0). In his *Treatise* (1755) on fruit trees he writes: 'As to the figure of a garden, I think none is more proper than a geometrical square, or an oblong'. In the *Modern Gardener* (1771) he is more general in his view:

It may be expected that more might be said with regard to the designs for modern gardens; but as the limits of a Preface are already trespassed upon, and as designs of this sort are innumerable (different situations and views requiring particular plans) it is hoped the reader will be satisfied with the general sketches already described, which may be varied into a multitude of other forms, as taste, fancy, or whim may direct. (preface)

Although this quotation gives virtually unlimited scope for different forms , it remains unclear where McIntosh obtained his reference to the recommendation for a rhomboid form. No other primary references in early nineteenth century horticultural literature recommending the use of the rhomboid have been found, so its appearance at Middleton is arguably without precedent. The use of regular shapes other than rectangles is sometimes encountered in the late eighteenth century and the architect Sloane may have been responsible for the octagonal kitchen garden at Tyringham (c. 1800). Luffness in Scotland has an inner walled garden of a hexagonal shape [For Luffness and Tyringham see Appendix 10.3]

Later nineteenth century horticultural literature continues to pay great attention to the form of the kitchen garden. For example Thompson's *Gardener's Assistant* (1878) considers the aspect in some detail and over several pages. In some situations he recommends a rhomboid shape (p103-108)

One surprising aspect of the inner wall is the lack of any apparent evidence of coping bricks or stones. It is possible that like many of the bricks the copings have been appropriated or plundered for use elsewhere. Most of the horticultural literature at this time pays particular attention to the copings and the structures devised to fit along the top of the wall to protect wall fruits from frost. Loudon summarizes the general view in the *Encyclopaedia* (1822):

It appears both from the experience of a number of gardeners, and the most correct theories of dew... and cold...that projecting copings are of use in spring to protect the blossoms from descending cold and dews, and copings which project nearly a foot are approved...The temporary coping used in the garden of the Horticultural Society, at Chiswick, deserves to be noticed, as well as the manner in which it is fixed. The boards are 9 in. wide, supported on metallic brackets... permanently fixed to the wall, and so as to admit the boards to fit exactly below the stone coping of the wall. (p736)

Loudon continues by saying how the boards can be put up quickly, as required in the Spring, and removed easily when all danger of frost has gone. Elsewhere in the *Encyclopaedia* he advises on the use of screens to hang from the copings to cover the wall fruit:

The *canvas screen* is a sheet of canvas in a movable frame, to be placed against blossoming wall-trees during nights, and removed during temperate weather...The screens should have hooks, to slip into projecting eyes at the top of the wall; from which, as well as at the bottom, they should be kept distant one or two feet. (p562).

No evidence for these fittings has been found at Middleton but they were in general use at the time and would undoubtedly have been employed in some manner. In the restoration and stabilisation of the walls evidence for copings and fixings might well emerge, and most definitely suitable copings will have to be used in the restoration process.

4.3 The outer wall

According to the Horner view (1815) the outer boundary completely encircles and runs parallel to the inner brick wall but, as pointed out above, already by 1824 the north wall of the garden is missing. The outer wall is there to provide added protection from weather and intruders. Here at Middleton it is built at the minimum recommended distance from the outer wall according to contemporary literature. Forsyth again (1806):

The garden should be surrounded with a border, or slip, from forty to sixty feet wide or more... and this again inclosed with an oak-paling from six to eight feet high, with a cheval-de-frize at top, to prevent the people's getting over. (p317)

William Cobbett in the *English Gardener* (1833) also advocates the use of an outer boundary for protection:

As was observed before, the use of this wall, for horticultural purposes, would be lost, unless wall-trees could be placed on both sides of it; and wall-trees cannot be placed on the outside, with any chance of utility, unless there be an *effectual fence* to protect the trees on that wall... This protection is to be obtained by a hedge made of hawthorn, black thorn; or, still better, with honey locust... The space between the wall and the hedge ought to be a clear rod [sixteen and a half feet], allowing, besides, three feet for the hedge. (p19)

The distance between the two walls at Middleton is on average about 35 feet (c. 12m) [the space so formed is more than that recommended by Cobbett but slightly less than by Forsyth] and the outer wall made of stone is on average two feet higher [ie about 10 feet (c.3m)] than the fence recommended by Forsyth. Comparisons with other kitchen gardens in Britain [see Appendix 10.3] show that Middleton with its complete outer wall built at the same time as the inner wall enclosing a narrow slip garden extending right round the inner wall has no equal. Examples such as Wimpole Hall [see Appendix 10.3] have an outer enclosing wall at an average distance from the inner wall of approximately sixty feet and the outer wall is on average only six feet high. The outer wall here was built some hundred years after the inner wall and is made of gault bricks (Cambridge Whites).

The development of an outer wall, boundary hedge or fence was regularly included in garden literature for kitchen gardens from the middle of the eighteenth century and during at least the first half of the nineteenth. However the building or planting of a **complete** outer boundary is a rare occurrence. It had a number of functions that form a sequel to its major provision of protection from weather and intruders. In a single walled garden the south face of the north wall provides the warmest wall for trained fruit trees and the outside of the south wall lies unprotected. In a double walled garden the available walls for fruits are doubled - a point made by Cobbett above. The space between the outer and inner wall provides a convenient area for growing permanent crops of bush fruits and at the same time is a space that can be used for utilitarian functions such as compost making, storage of manure, making of hot beds for melons and a convenient route to bring the carts to the doors of the inner garden carrying manure etc. which can then be taken by wheelbarrow to all quarters of the inner garden. Thus the central area can be kept clear of excessive muck handling etc.:

"The reasons," Forsyth observes, " for allotting part of the outside slip next the stable, to hotbeds for raising melons and cucumbers, are, first, because there will be no litter to carry within the walls to dirty the walks; secondly, the beds will not be seen from the garden; and lastly, there will be a convenience in carrying the dung, by which a great deal of time will be saved in carting and wheeling." (Loudon p.740)

The Middleton kitchen garden of two concentric walls has been referred to as the 'Double Walled Garden' which is a suitable description. However such a description can also be misleading, as one garden inside another, where the walls are not concentric might be described as 'double walled' but bear little resemblance to Middleton. The kitchen garden at Luffness in Scotland has been described as double walled where an outer rectangular garden has at its center a second walled garden hexagonally shaped - this has sometimes been called, to give it a French title, a *Jardin Clos* - an enclosed garden. It differs significantly from Middleton as the two gardens are not concentric and the outer garden does not perform the function of a slip. [see Appendix 10.3]

Conclusion:

It is apparent then that at Middleton no economy has dictated the making of the walls. They have been constructed to provide the best possible growing environment with the utmost stability and ease for the training of trees. A complete slip garden surrounds the inner wall concentrically

bounded with a substantial stone wall and the whole was planned as an entity c.1800 and has no equivalent in Britain.

4.4 Additional walled enclosure to the south-west

Relying on evidence from maps this walled enclosure was added to the garden sometime between 1847 and 1886 [illus 3 & 4] and the assumption is that the fine gateways to this enclosure and the west slip garden were put in place at the same time. The 1886 maps shows a small building on the north wall of this enclosure and frames/glasshouse in the slip garden adjacent to the small enclosure. It is possible that this small house could have been an additional stove/heating facility.

There has been much speculation as to what this enclosure was used for. It is now shaded by trees and derelict. However the soil in this space shows evidence from its vegetation of being enriched by compost and manure. It is therefore possible that this area was used for making and storing manure and creating hot beds for growing melons. Loudon in the *Encyclopaedia* favours such an area:

The situation of the melon-ground is generally in the slip; and, where the range of hothouses is placed on the north wall, with the ground sloping, so as to shorten the shadow thrown by this wall in winter, when the sun is low, the melon-ground is with great propriety placed in what may be called a bay of the slip behind the north wall...This may almost always be the case when the compost-ground and melon-ground are placed adjoining each other, as the part most liable to be shaded may be devoted to the former. (p740).

The unsightliness of hot beds covered with wooden supports and glass frames was attested to by many authors and for this reason the slips or a separate enclosure were the favourite situation for such necessities of the kitchen garden. On this evidence a melon-ground seems very feasible for this new enclosure at Middleton as muck could be brought easily from the stables along the access road just to the west of the outer garden wall. However the ornamental gateways would seem to be superfluous to a utilitarian purpose. It should be born in mind however that this was also the route to the icehouse. Given the importance of this area of the estate it is conceivable that grand gateways to the corner of the walled garden would have given a prestige to this entrance and could have been seen as one of the many attractions in the park for visitors. The large gateway to the small enclosure could have served as a conceit to hide the utilitarian functions within.

It seems to me unlikely that a rare selection of plants would have been grown in such seclusion so far from the mansion.

5.0 The layout of the gardens within the walls

Three main sources of evidence have been used to determine the basic layout of the garden: the Horner painting of 1815, maps and archaeological reports.

5.1 The Horner painting

The Horner painting shows two entrances in the outer wall, both serviced by farm tracks: one in the middle of the upper west side and the other in the north-east corner. Both these entrances are on the side closest to the stables and both tracks leading to them would have been suitable for carts of manure. However from observations on the changes in level from the track on the west side it is unlikely that carts would have been brought through this entrance (now blocked up). Nevertheless manure could have been barrowed through this entrance for hot beds etc. in the western slip garden. The main route for carts must have been through the entrance in the north-east corner (no longer there following changes to the outer wall) and from there carts could have proceeded through the length of the slip gardens on all sides. The Horner painting shows four entrances in the inner wall, one in the middle of each of the garden's sides, thus providing the shortest distances for wheeling manure to all parts of the garden. The inner garden is laid out in four quarters divided by paths or walks which meet at the water basin which is conveniently located at the centre of the garden. Paths surround the quarters on the outside leaving a border for fruit between the path and the wall. This is a very typical arrangement as the following description from McIntosh (1828) makes clear:

The form most generally adopted ...is that of a lengthened square or parallelogram...Such a figure is more conveniently divided into quarters... The arrangement of such a figure is simply to carry walks parallel to the walls round the interior of the garden, leaving borders for the cultivation of fruit-trees of sufficient breadth, and bearing a just proportion to the height of the walls. The breadth of these borders is generally allowed to be equal to the height of the walls...A walk should divide the whole garden into two equal pieces from north to south... as also one from east to west, intersecting each other in the centre of the space, and thus dividing the whole into four equal quarters, the sides of each quarter being exactly parallel to the walls. (p11 & 12)

The Horner painting also very clearly shows the positions of the walks in the slip gardens and it will be seen that in the north slip the walk is positioned close to the inner wall leaving a wide border against the south facing outer wall and in the south slip the wide border has been left against the south facing inner

wall, thus in both cases making the best use of the situation of the walls in relation to the sun. In the west slip the border has been left against the back of the east facing wall presumably to provide suitable space for composting etc. which does not need a sunny situation.

The peach house is clearly indicated at the top of the garden in the sunniest situation facing south east.

5.2 Maps

The earliest map which shows the position of the walled garden is the Estate Map of 1824 [illus 2] which shows the layout as depicted in the Horner painting with the exception that the northern boundary has been removed. The tithe map of 1847 [illus 3] also records this layout exactly with the exception of the addition of two cross walls in the east slip garden. The OS map of 1886 [illus 4] confirms the layout of the inner garden with entrances still indicated in the north, south and west wall although the entrance in the east wall seems to have been omitted. The most significant changes to appear between 1847 & 1886 are to the south-west corner where two new entrances are shown and an additional walled area outside the slip garden (see 4.4 above). These entrances today still have their fine gate-piers surviving from this alteration. The one leading directly into the north slip could have provided a ride or carriageway to connect up with the stables. The other matching gate piers lead into the new walled enclosure which could have been constructed with the purpose of growing a particular crop or certain selected species of ornamental plants as discussed in paragraph 4.4.

5.3 Archaeological reports

A number of archaeological excavations were carried out by Cambrian Archaeological Projects Ltd in 1997 digging short trenches with the intention of investigating the layout of paths, the central water feature and the peach house. The limited number of trenches dug confirmed the pattern of paths and features as depicted in the Horner painting, that is the walks on the east and west side of the inner walled garden, the existence of a central water basin and the walls of the peach house [see 6.0 below]. In the peach house, within the limits of the excavations, evidence was found of wall heated flues. In addition to trenches in the inner garden one was dug in the west slip which confirmed a wide carriageway (about 3.0m) which would have been suitable for the access of carts or small carriages. Another trench which was dug across the north slip showed the location of the path depicted in the Horner painting, 1.8m from the inner wall and 2.9m wide (wide enough for carts). At a distance of approximately 9.0m the excavation revealed a surface 0.9m wide of 'compact purple sandstone

chippings and some brown soil' (p10). This was interpreted as a path. The boundary shown in the Horner painting would have been at this point - the distance from the inner wall being consistent with the width of the slips in the rest of the garden. Also the width of this 'path' (0.9m) would be consistent with the foundation layer for a stone wall. Had all the foundation stones been removed from the posited early wall then the debris left in the position of the 'path' would indicate the place of a wall foundation rather than a path.

6.0 The Peach House

The building which appears in the Horner painting on the west wall of the kitchen garden is generally referred to as the 'peach house'. This information I believe relies on the description taken from particulars of the sale in 1824. Two mentions of the walled garden occur in these particulars:

An excellent and extensive Walled Garden, well planted, Hot House, Conservatory, Green house, Grapery, Orchards, etc. (p1)

A capital kitchen garden, walled round, and clothed with choice well-selected Fruit Trees, Stocked, Cropped, and Planted, Containing about Three Acres; capital hot house, peachery, and grape house, etc; a gardener's house, with shed; a good orchard, well planted with young trees; an ice house, etc. melon ground, pine pits, etc. (p6)

It would seem from these accounts that the various forcing houses referred to could have occupied a larger space than that which appeared in the Horner painting. Conceivably more hot houses/glass houses were built between the time of the Horner painting (1815) and the sale of 1824. In any event the naming of the structure on the site in the location of the 'peach house' should not be confused with its definitive function.

Archaeological excavation (1997) provides us with some information about the floor plan of the house which is in two parts: a presumably once glazed part on the south-east facing side of the inner garden wall and a stone building on the north-west side in the west slip garden. The glass house width was found to be 5.0m with beds to either side of a central path. This would have been consistent with growing fruit trees both along the front next to the glass and against the back wall although this wall is interrupted by two large archways. Excavation in the building behind found evidence of a heating system. From a rough survey of the site the glass house and the adjacent building behind measure approximately 25.0m in length. The assumption would be that the stone building in the slip housed a

stove for the heating system, a bothie and/or the gardener's house referred to in the sale particulars (quoted above). The question of what the glass house was used for must remain open. Peach houses are usually much narrower, approximately 2.0m (see Appendix 10.3 Forde Abbey and Voelas) whereas vineries are usually broader to allow for training the vines from the front up the glass.

Other glasshouses may have been in existence by 1824, possibly along the south end of the inner west wall where there is today evidence of rendering and vine eyes suggesting that this wall was at one time glazed.

7.0 The living garden in Paxton's time

For the purposes of this report I believe it would be helpful to give a brief description of how the kitchen garden would have appeared and how it would have functioned during the time of Paxton.

The layout of the inner garden has already been described. It would have been an attractive area with its peach house or vinery along the top against the west wall. Espalier fruit trees would have lined the principal walks and been trained against the south-east facing wall. It is quite likely that some flower borders would have adorned the main walks leading to the peach house which could have been an attraction for visitors. In many gardens the peach house was constructed with an ornamental as well as a practical function [see Stratfield Saye in Appendix 10.3]. The borders could also have provided cutting flowers for the house or alternatively these could have been grown in separate cutting beds alongside the rows of vegetables. The quarters would have been planted up with an extensive range of vegetables, some of which are seldom grown today, such as cardoons; the beds would have been kept scrupulously weeded and edged possibly with box hedges which were very popular at this time. Gardeners would have taken wheelbarrows through the inner garden and used the central basin as a water supply which would have been taken round in cans or a water carrier to the various garden plots. Cold frames might also have been used in this area but it is more likely that frames and hot-beds would have been confined to the slip garden.

Between the two walls in the slips there would have been the opportunity of growing more wall fruits on the east and south facing walls. The slips would have provided a track for dung carts and the distribution of such materials through the gateways placed midway in each of the inner walls. The west slip would have been where the gardener lived in his house in a commanding position at the top of the

garden from where he could regularly maintain the stoves to heat the greenhouse and his house would have benefited from their warmth. The west slip in particular would have been the area where manure and compost were stored, out of sight of the main garden. Possibly here hot-beds would have been created for melons and later in the century moved to the enclosure on the south west corner. The slips would have provided ample storage facilities for pots, bean sticks, glass frames, wheelbarrows and all the other necessities to run a kitchen garden. The east and south slips would have provided space for more hardy fruits such as blackcurrants, gooseberries and raspberries, as well as adequate bedding for the raising of seedlings, cuttings, and necessary replacement plants for the main garden. The garden was not far from the mansion and the head gardener would have made regular visits to the house with vegetables and flowers.

8.0 Conclusion and recommendations for the way forward

This evaluation and assessment has sought, I hope successfully, to establish the exceptional quality of the structure of the double walled garden at Middleton and this on its own must make it a first class candidate for restoration. Coupled with its location within the National Botanic Garden of Wales restoration is of paramount importance. As I have argued the strongest case must be to return the garden walls in their entirety to the structure depicted in the Horner painting, which would include the reinstatement of the outer north wall, the peach house and associated structures, the layout of paths, quarters and central water basin. The one exception to the Horner plan would be the new gateways and the 'melon ground' added in the nineteenth century which should also be included in the restoration because they are clearly valuable additions. For me to recommend anything beyond the case for restoration is technically going beyond the brief of this report. However having looked at the walled structure and its context in such detail I hope it is seen as legitimate and helpful to indicate possible ways forward. Looking beyond the stage of constructional restoration of the built structures and paths, the wisdom of which cannot be doubted, the question arises as to how to restore the garden plots that lie within the walls. This in the first place must be seen in the context and mission statement of the National Botanic Garden as a whole, but any assessment of this part of the restoration programme would have to balance ideals with practical management, and the historical notion of a kitchen garden with its viability for the public. There is no doubt that people will be drawn to the walled garden and probably find an environment here which will be easier for them to relate to than the picturesque scenery of parkland and lakes. The success of such gardens as Heligan are good

evidence that walled kitchen gardens have a wide appeal. To restore the horticulture of the Middleton kitchen garden as it was in the time of Paxton although a laudable aim is probably not justifiable in the context of the National Botanic Garden. On the other hand to entirely ignore the function that this garden once had in the social life of the eighteenth century would be to deny a unique opportunity to make the best use of this outstanding environment. With this in mind some parts of the garden, perhaps the slip gardens and their walls, could be planted with traditional fruits and vegetables to provide a pre-eminent educational experience to interest and inspire visitors. Entrance through the doors of the inner garden could be designed to open up a very different horticultural attraction. Given that the formal qualities of the walled structure impose an intimate and a necessarily enclosed quality on the space and this together with an awareness of the geometric layout of the original garden divided as it was into four quarters, an opportunity exists to re-create and introduce formal styles of gardening which would not easily be accommodated in other parts of the Middleton Estate. A wide range of opportunities exist: the pruning and establishment of fruit trees as espaliers, cordons, fans, candelabras, etc. The planting of trees such as box and yew to make a topiary garden which could both be informative and structural. The creation of formal elements which were a *sine qua non* of early gardens such as knots, parterres and mazes, the training of trees to make arbours and pergolas. The case for such a garden here is very strong and equally it can be as attractive in winter as in summer. One other *raison d'être* for this might be the general lack of such formal gardens in Wales which would make such designs an attraction in themselves.

On another note in the immediate future I would recommend further archaeological investigation of the peach house and adjoining building prior to any restoration. Additionally a preliminary archaeological investigation needs to be undertaken in the 'melon ground' to establish whether there are reasons to conduct a fuller survey here. Pollen analysis could prove helpful in this context.

Lastly as far as I know no systematic archive to record the condition of the walled garden has been established. This should be done now before restoration commences and this archive will then become invaluable for future research.

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9.4 Acknowledgments

I would like to thank all those who have so generously helped with their time and knowledge which has proved invaluable in bringing this report together. I would particularly like to thank: Kevin Blockley, Susan Campbell, Willem Kuiters, Philip James, Veronica Renwick, Charlotte Roper, Michael Senior, Jane Stokes, Philip Whaites, Elizabeth Whittle and of course the staff at the National Botanic Garden who have been so helpful.

10.0 Appendices

10.1 Situation of kitchen gardens generally, before the eighteenth century

Detailed studies of Tudor gardens have revealed the close integration of house and garden. Moreover the ready distinction we make between areas to grow flowers, herbs, fruit and vegetables finds no equivalent in sixteenth century gardens and plots for any of these categories can be found adjacent or indeed the plants growing together. It is no surprise therefore to read in Thomas Hill's *The Gardeners Labyrinth* (1577) about the garden ground where all kinds of plants are grown and he advises too on siting the garden close to the house:

'Every ground-plot lying near to the City, as well the Garden as Orcharde, ought to be placed near the house'. (p9)

The advice was very similar in the early seventeenth century as can be seen in the well known plan of a garden by William Lawson (1618) where the whole garden is laid out before the house and divided into six different plots, which are for knot gardens, orchards, and vegetable plots. Towards the end of the seventeenth century the whole scale of gardens is dramatically enlarged and the concept of the pleasure garden becomes separated from the fruit and vegetable garden. However both are in convenient proximity to the surroundings of the house. It is not until the advent of the 'landscape movement' in the eighteenth century that fashion began to dictate that only 'natural landscapes' should be seen around the house. It was during this period that kitchen gardens were frequently re-located at some distance from the main dwelling, but as Tom Williamson (1998) points out this was by no means universally the case (p162)

10.2 Historical perspective on materials for garden walls

In early gardens boundaries were constructed in either the most readily available material or the material thought most expedient. In areas where stone was easily available this was the obvious choice. In areas where there was no stone then fences had to be constructed or hedges grown. Thomas Hill (1577) is careful to point out the merits of the hedge after providing something of an historical survey of suitable materials:

To be briefe, the inclosure which longest endured, surest and of least cost, was the same that the Romanes in ancient time made with brambles, and the white thorne laide orderly in banks, for the

better growing up. For this inclosure or hedge (after yeares sprung up) endured by reporte of the learned Cato an infinite time. (p13)

By the time of William Lawson wrote *A New Orchard* (1618) he recognised some advantages of growing fruit against a wall:

This provoketh most of our great Arborists, to plant apricots, cherries and peaches, by a wall, and with tacks, and other means to spread them upon, and fasten them to a wall, to have the benefite of the immoderate rostore of the sunne, which is commendable, for the having of faire, good and soone ripe fruit. (p7 & 8)

By 1683 when the Scottish gardener John Reid published *The Scots Gard'ner* (which has been claimed as the first Scottish gardening book) he advises on both the use of hedges and walls, but he sums up his experience by saying 'as for walls, brick is best'. From this time forward the thermal properties of brick become generally accepted and recommended.

10.3 Comparative assessment with other comparable walled Gardens in Britain

The intention in looking at other walled gardens for comparison with Middleton was to establish whether Middleton had unusual features and if as a whole it was exceptional. It was important to find out whether double walled gardens were a type and if so were they constructed on a concentric principle, and what kind of definition could be agreed on for the 'slip garden'. The criteria for the selection of walled gardens reflected these concerns and the comparison of individual features helped in their evaluation.

Bodrhyddan, Rhuddlan, Denbighshire

The walled kitchen garden (now used for grazing only) is rectangular (approx. 150 x 70m) sloping towards the south, sited at a distance of approximately quarter of a mile from the house. Some walls are of brick (0.38m), others are of stone, joined with right-angle corners; evidence from maps suggest that it was walled over a period of time between 1756 and the early 1800s. Within the rectangle there are a number of cross walls and some of these walls would have enclosed slip gardens. In summary this garden is typical: the main outlines developed over some hundred years, a rectangular form with walls of brick and stone, and a number of divisions to make additional use of wall space and provide slip garden areas.

Bryn Elisteddfod, Conwy

An early walled kitchen garden with later additions and forcing houses. Comparisons were only made with the peach house of c.1840. The dimensions are similar to Loudon (see Voelas below) with a width of 2.30m, a front wall of 0.5m and a height against the back wall of 3.0m (measurements are approximate). The width seems very consistent with other peach houses (See also Forde Abbey below)

Bryn-y-Neuadd, Conwy, Gwynedd

The main phase of development of the gardens was during the mid nineteenth century. It included a substantial rectangular walled garden (approx. 125 x 100m) with a slip between concentric walls on three sides. Some garden walls are of stone, all joined at right angles. An extension to the north-west provides further spaces for glass houses, hot-beds, etc. Undoubtedly in its heyday in the 1860s this was

a most elaborate kitchen garden with all the signs that it was planned as an entity and as such it bears close comparison to Middleton (although of a later date of course). It differs significantly in other ways in that the outer wall does not entirely surround the inner wall and all walls are joined at right angles. This garden would make a useful comparison for further research.

Forde Abbey, Chard, Somerset

The only comparison here was with the peach house. It measures approximately 30x2m. It has wooden rafters and sashes, but its size and type is otherwise very similar to the peach house at Voelas (see below).

Glynllifon, Caernarfon, Gwynedd

An impressively large rectangular walled kitchen garden (approx 120x 70m) probably planned over the late eighteenth and early nineteenth centuries. The outer wall is unusually high (4.5m in places) mainly stone with brick facing, joined at right angles. There are a number of cross walls of brick enclosing frame-yards and slip gardens. This garden compares with the Bodryhddan type although the walls at Glynllifon are on a much grander scale, as probably were the range of glasshouses and pit -greenhouses in the nineteenth century. (For comment on the peach house see Voelas below)

Luffness, Aberlady, Lothian

It is commonly quoted that the walled garden was built in 1822 by French prisoners of war; it is built with a rectangular outer wall enclosing an inner hexagonal garden. It has been described as a garden within a garden, as both the hexagonal centre and the area within the outer wall function as gardens. It would be stretching the definition to call this outer garden a slip garden. All the walls are made of stone with a coping of red pantiles. This is a working kitchen garden of a fine and rare design but although by some arguments it is double walled it bears little correlation to Middleton.

Penrhyn Castle, Gwynedd

Penrhyn Castle has an extensive kitchen garden area extending over six acres and once had an impressive range of glasshouses. The garden was divided into a number of areas and the ICOMOS report suggests that the garden was built over a period of time with extensions to the south and a range of brick buildings to the west. Some of the areas of the garden could clearly be called slip gardens but the garden as a whole does not present the consistently planned entity which is to be found at Middleton.

Stratfield Saye House, near Reading, Hampshire

The kitchen garden is situated about a quarter of a mile from the house. It was laid out in the second half of the eighteenth century to a rectangular plan, slightly tapering to the south, built with brick walls (0.36m thick) and one cross wall to divide the garden into two compartments, each with a central water basin. An axial path runs south to north to terminate at a fine hothouse, said to have been designed by Paxton for camellias. Its position is significant standing as it does in a commanding position in the middle of the north wall with the gardener's house abutting the back wall of the hothouse. This arrangement of hothouse and gardener's house is similar to Tyingham and to Middleton. There are no slip gardens but a substantial frame yard lies in an enclosed area to the west.

Tyingham, near Newport Pagnell, Buckinghamshire

An octagonal kitchen garden was laid out in the 1790s possibly by Sir John Soane who designed the house which lies almost adjacent to it. It has an outer wall (only approx. 1.5m high) which forms a slip garden on the south facing walls. The stables adjoin the garden on the west side and on the north there are remains of glass houses and behind the north wall the gardener's house, bothie and potting sheds. A central wall running east-west covers half the width of the garden. The garden is currently undergoing restoration. The plan of this garden is similar to the one at Sledmere House, East Yorkshire, which is also octagonal and built 1786-7.

Voelas, near Betwys-y-Coed, Gwynedd

The comparison with Middleton has only been made with reference to the peach house (now derelict). The ground-plans of the peach houses in each walled garden are markedly different: Voelas is approximately 23x2m and Middleton is 25x5m. The length is not particularly significant but with regard to the width Middleton is not typical for peach houses at that time. Loudon in his *Encyclopaedia* (1822) gives us the following description:

A peach-house for the earliest forcing, to be heated by one fire, acting either by smoke flues, or by hot water or steam, may be of any length between 30ft. and 40ft., 8ft. or 9ft. wide, and 12ft high. It should have no upright glass. The parapet may be about 18 in. in height, and the rafters should rest immediately upon it. (p775)

Loudon's suggested width is comparable with Voelas. The much greater width of the glasshouse at Middleton would suggest a vinery rather than a peach house (or conceivably a combined house - the one at Glynllifon is 4.50m wide and often described as a 'peach house'). Vines would have been planted in the front next to the glass and grown up it. The back wall in the case of Middleton would anyway be inconvenient for wall fruits because of the wide arched openings (assuming that these openings were contemporary with the early forcing-house shown in the Horner painting). [see also the peach house at Forde Abbey]

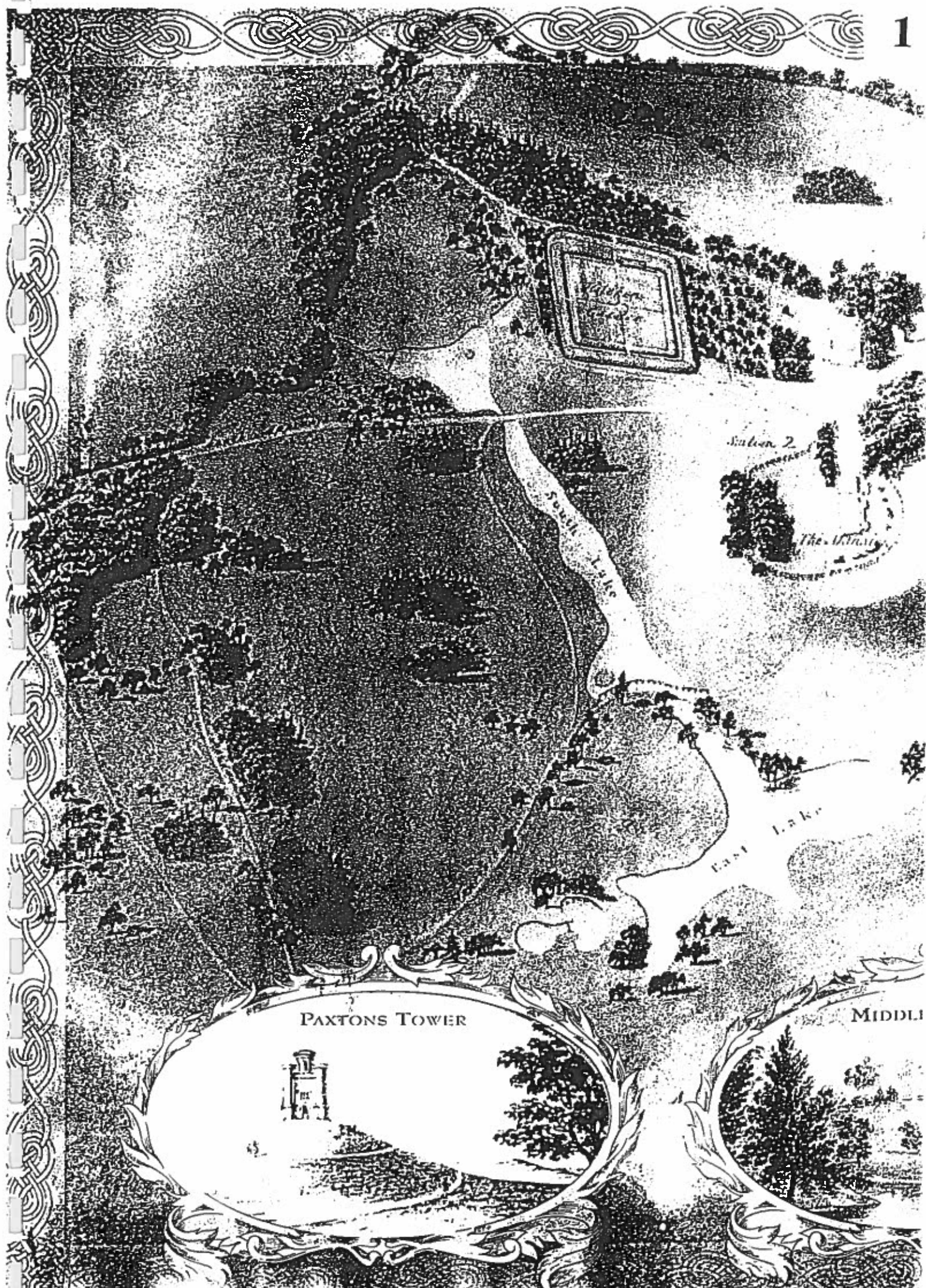
Wimpole Hall, Arrington, Cambridgeshire

The rectangular late eighteenth century walled garden with an inner area of 0.81 hectares is built of red brick and surrounded by a mid to late nineteenth century gault brick wall (now partially demolished). A fine range of glasshouses (undergoing restoration) were built on the north wall of the garden with a gardener's house behind (Compare with Tyringham, Stratfield Saye and Middleton). The existence of the slip garden makes a useful comparison with Middleton but significantly it was not planned as an entity.

10.4 Conclusion to this brief selection of comparable walled gardens

What clearly makes Middleton exceptional is the planned entity of concentric walls and their quality of construction. The 'double walled' plan is unusual and is not a type of walled garden although some gardens, such as Luffness, may be described as such but are very different from Middleton. As we can see in the appendices all the kitchen garden features which occur at Middleton can be found in other gardens but rarely, if ever, together. There are of course other general features of Middleton which show how it had absorbed prevailing views on walled garden construction: its situation, its division into four quarters with a water basin at the centre, the construction of the 'peach house' in its dominant position at the top of the garden on a south-east facing wall with the gardener's house behind and the slip gardens. These historical features reflecting social and practical concerns of the time, incorporated as they are into a highly organised and exceptional framework, only goes to strengthen our view of the high status of this feature in the landscape of the National Botanic Garden of Wales.

This Report has been prepared for the National Botanic Garden of Wales in January and February 2000, by Robin Whalley, Garden Historian and Landscape Consultant.



HALL ESTATE.

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Parishes of
and Llandarrogo:

CHESHIRE.





