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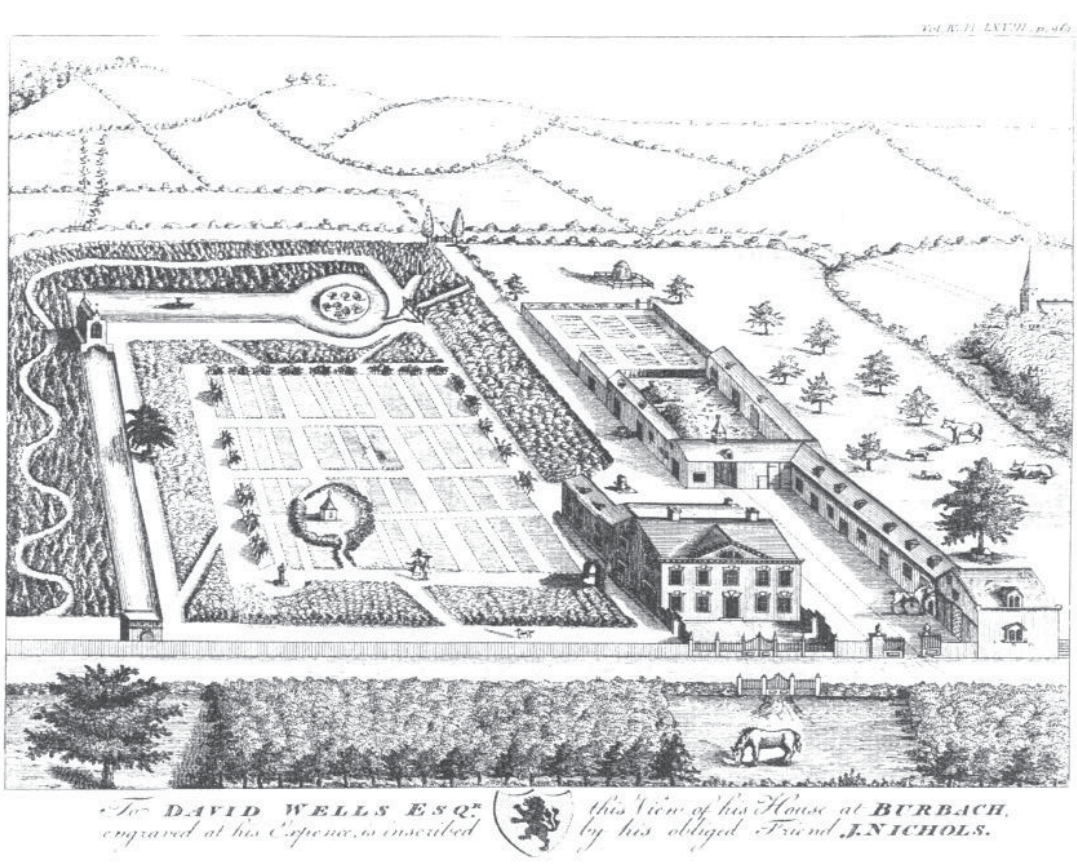
GARDEN ARCHAEOLOGY

edited by
A E Brown



1991

Garden archaeology

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Papers presented to
a conference at Knuston Hall,
Northamptonshire, April 1988

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Abbreviations

BL	British Library
CUCAP	Cambridge University Committee for Aerial Archaeology
DMV	Deserted medieval village
HBMC	Historic Buildings and Monuments Commission for England (English Heritage)
ICOMOS	International Committee on Monuments and Sites
MSC	Manpower Services Commission
NAR	National Archaeological Record
NMR	National Monuments Record
NRO	Northamptonshire Records Office
OS	Ordnance Survey
RCAHMS	Royal Commission on the Ancient and Historical Monuments of Scotland
RCAHM(W)	Royal Commission on the Ancient and Historical Monuments of Wales
RCHME	Royal Commission on the Historical Monuments of England
HBMD, SDD	Historic Buildings and Monuments Division, Scottish Development Department
SMR	Sites and Monuments Record

Editorial note

Most of the papers in this volume were given at a conference on Garden Archaeology organised by the Department of Adult Education of the University of Leicester, under the general aegis of the Countryside Committee of the Council for British Archaeology, at Knuston Hall in Northamptonshire in April 1988, The purpose of the meeting was to summarise the present state of the subject and to take note of the way in which it had developed so rapidly in recent years. Hence the contributions on field survey linked with documentary work (nos 2 and 4), aerial photography (3) and garden buildings (11), which might be said to represent the original, fieldwork orientated, approach to the subject: but to which must now be added excavation, particularly as an aid to restoration, both in town and country, and work on environmental remains (nos 5, 7, and 8). The conference also attempted to go beyond the enumeration of techniques and to look at changing philosophies in the archaeological approach to the study of gardens. Hence one of the field survey papers was in part at least an attempt to stand back from the details of individual surveys and attempt to consider the value of the rapidly increasing body of survey information as a whole (no 2). In the paper on parks (10), the benefit of collaborative understanding between field archaeology and botanists is shown.

Discussion during the meeting, and correspondence afterwards, led to the suggestion that any volume might benefit from the inclusion of some specially commissioned papers. So the section on excavation has been expanded to include an account of recent important work at Kirby Hall, Northamptonshire (6). The role of ceramics in medieval garden management has been considered (9). Papers have been included on gardens in Scotland and Wales (12, 13, and 14) (also introducing new themes, 19th century ornamental landscapes and kitchen gardens, for example), as well as on the statutory background of the preservation of old gardens (6). These additions have had the effect of almost doubling the size of the volume, but also of delaying its appearance, for which the editor tenders his apologies.

A E Brown
February 1991

1 Garden archaeology: an introduction

C C Taylor

One of the latest, and arguably the fastest growing, developments in British archaeology is that associated with gardens. Vast numbers of abandoned gardens have been discovered and many have been recorded in detail. Excavations on gardens are now becoming relatively common. With the appointment of a Garden and Park Inspector by English Heritage and the appearance of the Register of Parks and Gardens of Special Historic Interest in England, it has been formally recognized that parks and gardens constitute historical and archaeological monuments worthy of protection.

It is, of course, difficult to distinguish firmly between garden history and garden archaeology and the former discipline has itself undergone a major development and transformation in the last few years. Until relatively recently garden history was mainly concerned with existing gardens and parks and, especially, with the history of plants and plantsmen as well as with designs and designers. The concern of garden history has been with the aesthetic impact of gardens and parks on the viewer or with architectural structures contained within their bounds. These latter could be studied and protected as buildings rather than as integral parts of gardens or parks. In all this, historical documentation was regarded as the primary source of evidence. Today garden history is very different and its practitioners are now aware of the physical nature of gardens and parks as a whole, often in terms of their development through time as well as their importance as historical documents in themselves.

Garden archaeology, a far more recent field of study, was initially concerned with the physical remains of former gardens and parks, and in particular with the use of archaeological techniques to reveal and elucidate their arrangement and development. Yet it too has widened its scope to include both the use of historical documentation and botanical information in explaining what has been revealed, as well as moving into the study of existing gardens and parks.

Indeed the overall study of parks and gardens is now developing so fast that the difference between garden archaeology and garden history is already becoming blurred. Only the specific interests of the participants in the study of gardens allows a realistic distinction between the two aspects of the subject. Nevertheless, at a time when within less than a year there were two major conferences on garden archaeology in Britain, as well as an important seminar, it is perhaps worth looking specifically at the archaeological input into the study of parks and gardens.

It has long been recognized that both abandoned gardens and the redundant early phases of existing gardens could leave behind earthworks of much the same form as burial mounds, field systems or deserted settlements. Such remains could therefore be discovered and interpreted by the techniques of air photography, ground survey and analysis that all archaeological fieldworkers use as part of their normal methods of work. It also follows that such remains could be studied by other archaeological methods, most notably by excavation.

The first of the garden historians, Amelia Amherst, recognized, as early as 1895, that there was an archaeological side to garden history when she noted earthworks both within existing gardens and of abandoned ones (Amherst 1895, 87, 116). Soon afterwards the archaeologist Allcroft (1908, 482–3), implicitly rather than explicitly, certainly accepted that garden-like features existed as earthworks. It was, however, perhaps inevitable that the Royal Commissions in Scotland and England were the first to record the unequivocal remains of former gardens during their work in the 1920s (RCHME 1921, Havering atte Bower (33), Stanstead Abbots (8); RCAHM(S) 1924, (27)). Indeed the English Royal Commission can take the credit for publishing, in 1926, the earliest plan of a former garden, that at Leighton Bromswold, Huntingdonshire (RCHME 1926, Leighton Bromswold (2)). Abandoned gardens were recorded sporadically by the Royal Commissions over the ensuing 30 years or so, notably by the Scottish Royal Commission which published, perhaps most importantly, a plan of the 'hanging gardens' at Whytebank Tower (RCAHMS 1957, (16)), and drew attention to many others as well, in particular the remarkable remains at Stirling Castle (RCAHMS 1963, (192)). The first systematic attempt to list and survey all the abandoned gardens in an area was by the English Royal Commission in *West Cambridgeshire* (RCHME 1968) when no less than nine were recognized from an area of 37 small rural parishes. Others were soon discovered during the Commission's work elsewhere in Cambridgeshire and Dorset (RCHME 1972b, Bottisham (61); 1975a, Pentridge (2)). In the latter county the site at

Eastbury (RCHME 1972a, Tarrant Gunville (2)) was particularly notable in that, for the first time, the earthworks of an abandoned park, designed by Bridgeman, were recorded.

The staff of the former Ordnance Survey Archaeological Division also discovered and noted abandoned gardens during these years but the restrictions imposed on them with regard to types of antiquities prevented most of them being properly surveyed or recorded. Furthermore, noted garden remains were often misinterpreted, for example those at Quarrendon, Buckinghamshire (NAR SP 81 NW 20). This fact almost certainly meant that many sites were destroyed without being recognized for what they were, particularly during the 1950s and 1960s.

Air photography can also contribute much to the recording of abandoned gardens. However, until recently few air photographers seemed to have noted any and only Professor St Joseph can claim to have actually recorded any number. Even then, most were wrongly identified or catalogued under other subjects so that information on them could not be retrieved. There have been some notable successes using air photographs. Perhaps the most remarkable was the recognition of the pre-Brown Canal below the lake at Blenheim, Oxfordshire, on a standard vertical air photograph taken for planning purposes (Bond and Tiller 1987, 826).

Since the 1970s fieldwork on former gardens and parks has increased dramatically and so have the numbers of known sites. During its work in Northamptonshire the English Royal Commission specifically looked for garden remains with the result that over 40 sites were discovered and surveyed, including the remains of emparking earthworks (RCHME 1975b–1982). The publication of the details of the gardens in the Northamptonshire *Inventories* as well as other material relating to former gardens (Binney 1979; Taylor 1983) encouraged the growing interest in the field archaeology of gardens. The English Royal Commission has now recorded the earthworks of former gardens in Berkshire, Cheshire, Essex, Gloucestershire, Lincolnshire, Staffordshire, Shropshire, Wiltshire, and Yorkshire, while other scholars have found them in Bedfordshire, Cambridgeshire, Cumbria, Kent, Leicestershire, Norfolk, Oxfordshire, Somerset, and elsewhere. It is now clear that the remains of former gardens must be amongst the commonest type of archaeological site, at least in England.

The great majority of the former gardens now known are those laid out to highly formalized designs between the mid 16th and the early 18th centuries. Many involved the construction of terraces, ponds, or 'canals', mounts, etc, which were often of considerable size and complexity and which enable them to be fairly easily identified. The 'ziggurat'-type terraces at Holdenby, the double-truncated pyramidal mounts at Lyveden, both in Northamptonshire, and the cascade at Croxby, Lincolnshire (RCHME 1975b, Aldwincle (22); 1981, Holdenby (4); 1991, Thoresway (4)) are typical examples. Once located and identified, however, it has often proved possible to recognize minor features surviving as very slight earth works including flower beds and paths, as at Hamerton, Cambridgeshire, and Boughton, Northamptonshire (Brown and Taylor 1978, 64–7; RCHME 1979, Weekley (11)).

Even more important is the fact that now the characteristic features of former gardens are known, many other sites can be identified. Gardens constructed in entirely flat situations and not having major earth-moving associated with them have now been found in some numbers while others which have been reduced to soil and crop-marks visible only from the air have been identified on aerial photographs.

A further advance has been the growing ability of fieldworkers to discover former gardens in places where they actually overlie earlier, better documented and more obvious, archaeological sites. Many deserted medieval villages (DMVs) have later gardens within or superimposed on them. These have often been laid out long after the settlements themselves have been abandoned. Steeple Gidding, Cambridgeshire, is an example (Brown and Taylor 1977, 90–2; RCHME 1970b, Anderson (6); 1982, Farthinghoe (16)). In this context it is ironic that the so-called DMV of Knaptoft, Leicestershire, whose recognition, it has been claimed, helped to establish the study of DMVs (Beresford 1986, 18–26) actually consists of some post-desertion paddocks, a medieval fishpond and a large abandoned 16th or 17th century garden. There are no recognizable village remains on the site at all!

Many monastic sites too have recently been recognized as having elaborate, immediately post-Dissolution, garden remains on them, associated with country houses which reused the monastic buildings or were newly built on the site. A number of the best preserved Lincolnshire monastic sites, such as Barlings, come into this category as well as lesser-known ones such as Catesby in Northamptonshire (RCHME 1991, Barlings (2); 1981, Catesby (4)). Other former gardens of a much later period have also been discovered. These mainly comprise the sites of formal layouts of the 19th century which again involved the construction of terraces and other major features and are usually associated with now-demolished country houses.

Once the existence of the earthworks of former gardens was understood, it also soon became apparent, as Amherst had realized in 1895, that many existing gardens contained within their layouts the remains of earlier phases of formal arrangements. These have sometimes been mutilated and reused, but the recognition has often helped not only to elucidate their history but also to explain the constraints imposed by them on the later designs. Among many existing gardens which

contain the earthworks of earlier phases are Melford Hall, Suffolk, Wrest Park, Bedfordshire, and Spains Hall, Essex (HBMC n d).

The great period of both formal and informal emparking from the early 18th century to the later 19th century has left less for the archaeological fieldworker to discover and record. Even so much has been found in recent years and much more still remains to be understood. This is particularly true of major engineering works that often accompanied the establishment of parks. The evidence includes not only obvious features like dams, but also traces of the wholesale modification of the pre-park landscapes which in some cases involved the removal of hillsides and the filling of valleys to create views. Examples include a site at Haddenham, Cambridgeshire and the parks at Althorp and Watford Court, Northamptonshire (Brown and Taylor 1977, 99–101; RCHME 1981, Althorp (2), Watford (5)). The rapidly changing fashions in parkland layouts, especially in the 18th century, means that many features of the various phases including former coppice banks, tree mounds, drives, walks, lakes, and dams can often be recognized.

Until recently very few former medieval gardens had been discovered and even now they seem to be extremely rare. An exceptionally well-preserved and documented one, probably of the mid 14th century, survives at Nettleham, Lincolnshire RCHME 1991, Nettleham (1)) while a more fragmentary one has been noted at Spaldwick, Cambridgeshire (Taylor 1990). However, in the last few years, work by the English Royal Commission and notably by the staff at its Keele office, has led to the identification of a type of medieval and early post-medieval garden/park which has been crudely described by the jargon term 'aesthetically modified landscape'. The sites given this definition are certainly not gardens in the normal sense but nor are they parks. What they comprise are features, often of considerable extent and usually associated with water, deliberately created so as to alter the existing landscape and to provide pleasurable views or activities. The best known of such sites is that at Kenilworth Castle, Warwickshire (Brown *et al* 1963, 682–5; Thompson 1964; 1965; 1977), where the complex layout of the great Mere and other features were intended both as an area for leisure activities and as a back-drop to the castle itself. It is the result of extensive and long-term engineering works dating from the 12th to the 15th century.

A smaller example with fishponds, moat and a documented 12th century swannery is that around the palace of the Bishops of Lincoln at Stow Park, Lincolnshire (RCHME 1991, Stow (3)). Another, a very similar example, is that at Somersham, Cambridgeshire, created some time after 1109 for the Bishops of Ely (Taylor 1989). Later examples noted include the lakes or meres associated with the 15th century Baconsthorpe Castle, Norfolk (Everson, Chapter 2). The subsequent development of large-scale alterations to the landscape for aesthetic purposes was much influenced by Renaissance ideas and is exemplified by the site at Elvetham, Hampshire (Wilson 1982; see below Chapter 3). The site of this great lake, constructed for a visit of Queen Elizabeth I, is also important in the development of garden archaeology for its traces are largely soil-marks and were revealed by normal archaeological air photography.

The excavation of gardens has, with a few notable exceptions, lagged behind the development of field analysis. The fact that most archaeologists failed to perceive their existence meant that excavations on former gardens have, until very recently, been extremely rare. Though this statement is true for Britain, it should be pointed out that elsewhere, and especially in the USA, historians recognized the importance of excavation as a tool of garden history and restoration long ago. For example, the first excavation on the gardens of the Governor's Palace at Williamsburg, Virginia, took place as early as 1930–31 (Noel Hume 1974). In this country, even on sites where garden remains could have been expected, notably surrounding Roman villas, most excavators ignored the possibility of their existence and indeed usually interpreted the various structures and features which they found in materialistic rather than aesthetic terms. Thus paved areas were usually described as 'yards', areas of well-tilled soil were called 'orchards', possible gazebos identified as pigsties and water-features explained as 'drinking ponds' (Taylor 1983, 6–8).

It was not until the 1960s that the first unequivocal evidence for gardens appeared in excavations in Britain. These discoveries were all made at villas and their recognition stemmed largely from the remarkable work carried out by Professor Cunliffe at Fishbourne, Hampshire (Cunliffe 1971a; b). There, for the first time in this country, not only was the potential for excavations on gardens revealed, but also the methodology of interpretation developed. Almost at the same time smaller scale excavations, such as that at Frocester Court, Gloucestershire (Gracie and Price 1979), began to produce details of other Roman gardens. Since then a number of excavations have led to the discovery of various types of formal Roman gardens including the villas at Bancroft (Zeepvat 1984; 1987 and Chapter 5, below) and Latimer, Buckinghamshire (Branigan 1973). Features interpreted as parts of kitchen gardens have been recorded again at the Bancroft villa and at Colchester.

Excavations on post-Roman gardens were somewhat slower to begin and most of them have been the result of demands for restoration of existing gardens containing relict features, rather than rescue or research generated archaeology on totally abandoned gardens. They include the investigations at Aberdour Castle, Fife, Chatelherault, Lanarkshire, Painshill Park, Surrey, Castle Bromwich, West Midlands, Audley End,

Essex, Acton Court, Gloucestershire, Kirby Hall, Northamptonshire, as well as the site of an urban garden at the Royal Circus, Bath (Bell 1987; Hynd and Ewart 1983; Keen 1985; Painshill Park Trust; this volume, Chapter 6),

Though this expansion of garden excavation is encouraging there is still a need for work on totally abandoned gardens, not least because of the continuing destruction of such sites at an ever increasing rate. In West Lindsey, Lincolnshire, for example, two major former gardens, surveyed by the Royal Commission, at Harpswell of 16th century and later date and at Stainfield of early 17th century date, have recently been destroyed without further investigation (RCHME 1991, Harpswell (2), Stainfield (3)).

Botanical and palaeobotanical methods of study have both been extensively used on archaeological sites of all periods in the last few decades. At first sight both have much to offer the student of gardens (Willcox 1977). Occasionally there have been successes in these fields such as the identification of plants grown in a medieval urban garden in Hull from the macro-fossils contained in pits (Crackles 1986). On the whole, however, palaeobotany has failed to rise to these expectations, largely because of the problems inherent in the methodology of the subject. These include the difficulties of the preservation of either pollen or macro-fossils in garden deposits as well as, and much more important, the impossibility of distinguishing between the pollen of wild and cultivated species of the same genus. The excavators of the Aberdour Castle Gardens (Hynd and Ewart 1983) specifically had pollen analysis carried out from deposits on the site, but apart from the identification of mulberry, horse chestnut and waterlily, nothing but traces of all the usual weeds of cultivation were found (but see Chapter 8 for a more optimistic view of the potential of environmental archaeology in relation to gardens).

More valuable in its results has been the development, particularly by John Phibbs and his colleagues, of what may be termed botanical archaeology (see Chapter 10). This is the analysis of the relationships of plants, especially trees, both to other plants and to various aspects of the natural and man-made landscape. The identification by these methods of, for example, pseudo-medieval parks, has been particularly valuable.

This then is where the study of gardens by archaeological methods stands today. Much has been achieved in the establishment of this new field of enquiry and clearly much more remains to be done. But at least it is possible to assert with confidence that garden archaeology has at last come of age.

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2 Field survey and garden earthworks

Paul Everson

The survival in the British landscape of the remains of early formal gardens as earthwork features is now well established *(contra* Strong 1979, dustjacket), and is attested again and again by papers in this volume, Their recording and analysis by techniques of non-excavational field survey has proved a major factor — some would say the major factor — in establishing formal gardens as a legitimate subject for archaeological study. In the context of a conference introduced by Christopher Taylor and organized by Tony Brown, and held at Knuston Hall above all places, it would be an impertinence to pretend to argue afresh the validity of this approach. At that level one can surely take as read the established value of earthwork survey as a tool of record and of interpretation, most pertinently to the aspects of gardens' plan-form and structure.

More than that, the intention of this paper is not solely to give an account of recent RCHME work on the sites of early formal gardens surviving as earthworks in midland England, but something perhaps wider and more general. Simply to do the former might lead too easily to a miscellaneous catalogue of the 'we have done this and that' sort. Nevertheless, very much the greater part of what follows is indeed based on the results of RCHME fieldwork (and thus to a large extent on the excellent fieldwork skills of my colleagues); and it is true that working in a new area of the West Midlands (new that is to RCHME) we have begun to pick up garden remains wherever we go. Some occur as monuments in themselves.

A good example is the field remains at Gerrards Bromley in Staffordshire (Fig 2.1). The house there was built in 1584 by Sir Gilbert Gerrard, Master of the Rolls, as 'a very fair new house of stone', called by the county historian (Plot 1676) a century later 'the most magnificent structure of all this county'; and the gardener John Rea is known to have worked there in the 17th century. Despite the demolition of the house itself and subsequent erosion of the abandoned garden layout by a continuing mixed farming regime typical of the area, the bones of that layout can be discerned in the earthworks. The garden lay principally east and south of the present farm, and its relationship to the house and its approach way and entrance court can also be understood.

Another recent example at Kinderton in Cheshire (Fig 2.2) is similarly on a large scale but equally difficult to appreciate because of the same sort of differential degradation of the field remains in improved pasture and the peripheral activity of a later tenanted farmstead. Conventionally described separately as a moat at the north end and an undated mound that has sometimes been considered as a possible castle motte (King 1983, 69) to its south-west, the earthworks when planned carefully come together into a coherent layout that is rectangular overall, with a raised platform at the centre of the north end — presumably the site of the house, surrounded by former water features and raised walks — and with the mound proving to be a truncated pyramid in form and integrated as a mount at one corner of the layout. The residence belonged to the Venables family, Barons Kinderton, but close dating on the house and gardens has not been established.

Other examples have been encountered as components in a tapestry of landscape features, as, for example, at Holdgate, Shropshire, where one area of what has conventionally been regarded as deserted village remains seems better interpreted as the truncated end of a garden layout.

Instead of pursuing this at greater length and to minor detail, however, it may be more generally helpful to use specific examples in order to take up and explore a little further two general points relating to earthwork survey that emerged in a seminar on 'Garden Archaeology' promoted by the Garden History Society and held at the Society of Antiquaries in London on 18 November 1987. In doing so I am taking the perhaps unusual and salutary step of taking cognizance of the views and opinions of interested outsiders to the professional archaeological circle about what we think we are doing, its value and how we communicate that.

The two points were reactions to seminar presentations made about field survey on garden remains. One was a matter of definition or classification — almost a semantic matter it might seem. For in referring at that seminar to the identification of the physical remains of medieval gardens as earthworks, I commented that I had come across only one unequivocally medieval garden in fieldwork and that lay within the Bishop of Lincoln's manor at Nettleham, three miles north-east of Lincoln, and was perhaps created in a re-ordering of the site in the 14th century (RCHME 1991 and forthcoming). Yet elsewhere, and specifically, for example, at another of the Bishop of Lincoln's favoured residences at his hunting park at Stow Park, some eight miles north-west of Lincoln, large ponds were so positioned flanking the entrance causeway giving access to the site's moated inner court as to act as impressive and decorative sheets of water displaying the bishops' taste and substance to influential guests (RCHME 1991). Are these also, by virtue of this function, to

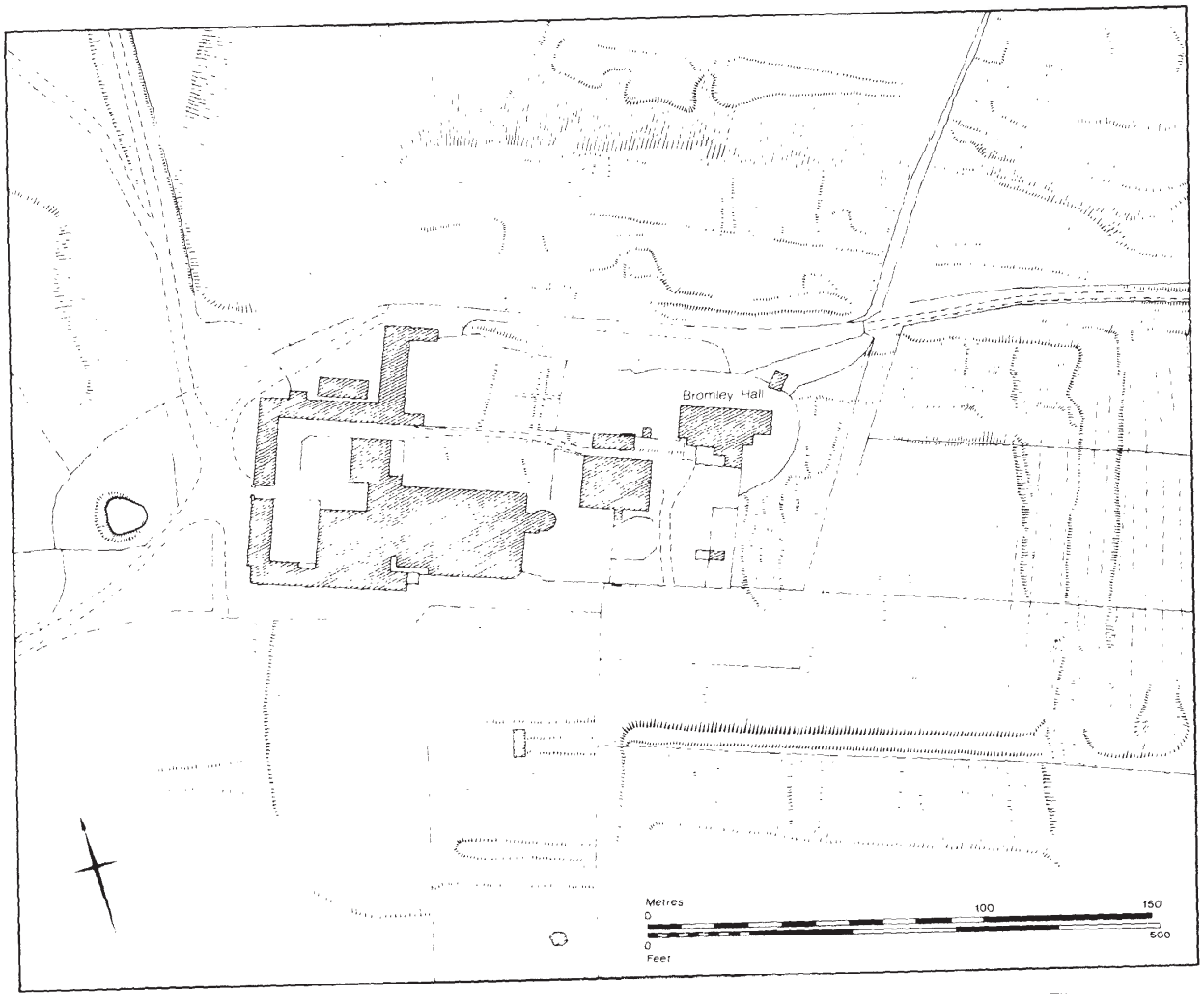

Figure 2.1 Bromley Hall, Gerrards Bromley, Staffordshire: earthwork plan (copyright: RCHME)

be called medieval garden features? If, indeed, such features are one aspect, and perhaps the principal aspect, of what in earthwork terms we may hope to identify of medieval gardens, then the archaeological literature may already contain more examples than we have recognized, masked by prosaic archaeological classification by those functions — as fishponds and the like — that were no doubt one facet of their purpose but which the medieval mind was unlikely to differentiate.

The second general comment which arose concerned the desirability of identifying well-dated, well-preserved examples of 16th, 17th and early 18th century formal garden earthworks through which an outline of the achievements, aspirations and stylistic developments of formal garden design might be perceived, as archaeology was able to throw light on it. The analogy of the early study of Gothic church architecture was adduced as a pointer as to how a firm basis for the subject might thereby be established.

Both these points in their different ways invite exploration. Both address questions larger than the individual sites with which our fieldwork has to date to a great extent been preoccupied, which in itself is a sign of the maturing of a topic area. Both may thereby perhaps offer the prospect. of communicating archaeological results to a wider and undoubtedly numerous non-archaeological constituency that is more generally interested in gardens and wishes to know.

To take these two points in turn and tackling them in the summary fashion that is all that space allows:

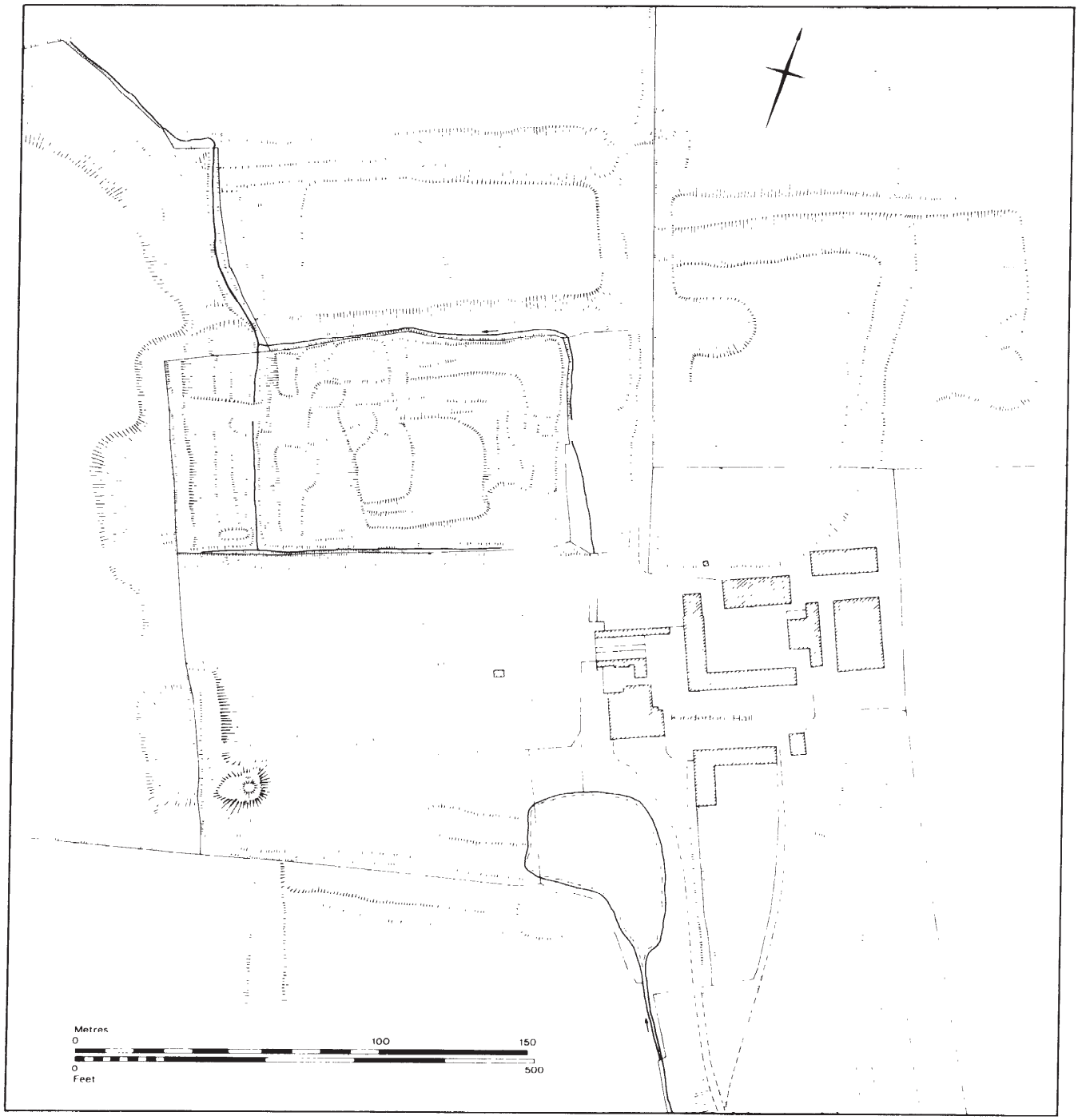

Figure 2.2 Kinderton, Cheshire: earthwork plan (copyright RCHME)

Medieval water management as garden features

A starting point then is the contrasting pair of episcopal residences of the Bishops of Lincoln at Nettleham and Stow Park in Lincolnshire. At Nettleham the remains are precisely what one would anticipate from the documentary evidence that has been gathered for medieval gardens, the predominance of which in both quantity and quality seems to relate to gardens in urban contexts (Maclean 1981, 59–88; Dyer 1989). That is, it is small (about 65 m square), set on ground dropping slightly to the north that it utilises to create low terraces, and enclosed on the north and west by high limestone walls. On its east side stood the principal residential buildings, with which it appears closely integrated.

It is very much a privy garden — the scene in 1432 of delicate consultations between Bishop Grey and the Dean and other dignitaries of Lincoln Cathedral: in effect, an urban garden in a rural context. There are also traces of walled paddocks or closes around the core that might also be reckoned part of the gardens, and the likely source of the 'pears, apples and other fruits, as also necessary and sufficient kitchen vegetables growing within the precinct' (recorded in the 16th century in terms that appear traditional) that were grown directly for table and for profit. All this, too, echoes the evidence and practices of the urban gardens of episcopal and lay magnates, for example in London (Maclean 1981, 62–79).

At Stow Park, the ponds identified by ground survey within what is now arable land lie along the north side of the moated site and would have derived their ornamental impact from the approach to the site along the Roman road, giving distant views of the residence with its attached deer park beyond, and then through an outer court and over a causeway passing through these sheets of water to left and right. They were no doubt used as fishponds and probably for a swannery, but Giraldus's description of the site as *silvis et stagnis delectabiliter obsitum* — 'delightfully surrounded [almost besieged] by woods and ponds' picks up the tone and intention. In his characteristically forthright way John Harvey's reaction to the ponds at Stow Park has been that 'of course these are garden features' (pers comm). The creation of such features is documented in later medieval continental contexts, and the fact that they also have a practical function as fishponds does not invalidate their ornamental aspect, ie it is a case not of either/or but of both/and. One might perhaps even compare the field remains at Stow Park with the account of Geoffrey de Montbray's creation of an episcopal residence at Coutances in Normandy in the later 11th century, including as it did pools and an associated deer park (Harvey 1981, 8).

This seems to be an interesting viewpoint and one that potentially might cause us to look again, and perhaps more imaginatively, and perceive a dimension of gardening or landscaping or design for show in features that have been more simply categorized.

Episcopal, and indeed royal, palaces are an obvious category within which further evidence might be sought. At Somersham, Cambridgeshire, a palace of the bishops of Ely, ponds similar to those at Stow Park appear to flank the site's approach (OS record card TL 37 NE 10) and the creation of the residence looks to have intruded into the settlement, causing its road system to skew and divert (Taylor 1989). The outstanding example, of course, lies in the mere and ponds surrounding Kenilworth, Warwickshire. A dammed pool seems already to have been in existence in the 12th century, but it was the 13th century heightening of the dam and entrance causeway that created the enormous mere and brought into full play the elaborate waterworks that surrounded the extended castle and flanked the entrance. The forework known as The Brays seems to be part of the elaboration of the approach. The ornamental and garden-related dimension of the mere is underlined and confirmed by the documented creation by Henry V of the Pleasance at its west limit, with access by boat across the mere evidently an integral part of its conception (Thompson 1964; 1965; 1977). We might be led again to look at familiar earthwork sites; a possible example is the manor at Braybrooke, Northamptonshire, with its large water sheet and network of fish breeding tanks (RCHME 1979, 11–13), perhaps bearing in mind that even in urban contexts, for example in the Earl of Lincoln's garden in Holborn, a fishpond might form part of the layout (Maclean 1981, 63–4).

What immediately happens when one begins to contemplate the possibility of an ornamental aspect to such water works is that you are forced to think harder about the means of access to a site. For, as we have seen at Stow and Kenilworth, this dimension of display is liable to relate to external show as much as to private pleasure.

The broad enclosing moat of Bodiam Castle in Sussex, that 'old soldier's dream house' of the 1380s in Christopher Hohler's telling phrase, perched on the hill-slope above the flood-plain of the River Rother, has that element of deliberate show and striving for visual impact about it, coupled as it is with the neat elegance in the design of the fabric. But beyond that the castle is surrounded by further extensive earthworks. They include an approach from the river bridge which is carefully contrived to pass beside and between ornamental sheets of water and to afford distant glimpses of the castle itself. It turns onto a line axially to approach the south gateway and ostensible entrance, but then leads the visitor round two and a half sides of the moat to the main north gatehouse. On that side there is a string of ponds, and on the adjacent

Figure 2.3 Rushton, Cheshire: earthwork plan (copyright RCHME)

hilltop the site of what is presumably a pleasance or pavilion affording a carefully contrived view of the castle like a toy below.

The Royal Commission is about to carry out a survey of these earthworks. The principal problem of interpretation to be faced is how much, if any, of these peripheral features genuinely relate to the late medieval castle — as everything at Bodiam is all too readily presumed to do — and how much might rather belong in a hitherto unconsidered 16th or 17th century context of continuing use or reuse. It is to the latter, and to a world of Spenserian fantasy, that, on our initial assessment, the remains certainly seem most comfortably to belong in conception, but to the late 14th century and to a show of careerist chivalry that our mature conclusion inclines (Taylor *et al* 1990; Coulson forthcoming a; b).

The idea of medieval water management features as having an ornamental, garden-related aspect seems, then, to have considerable interest, and one that can broaden and make more subtle our understanding of earthworks and (on occasion) the buildings they relate to. Not the least importance is that it might afford an insular/non-continental background through continuity of skills and

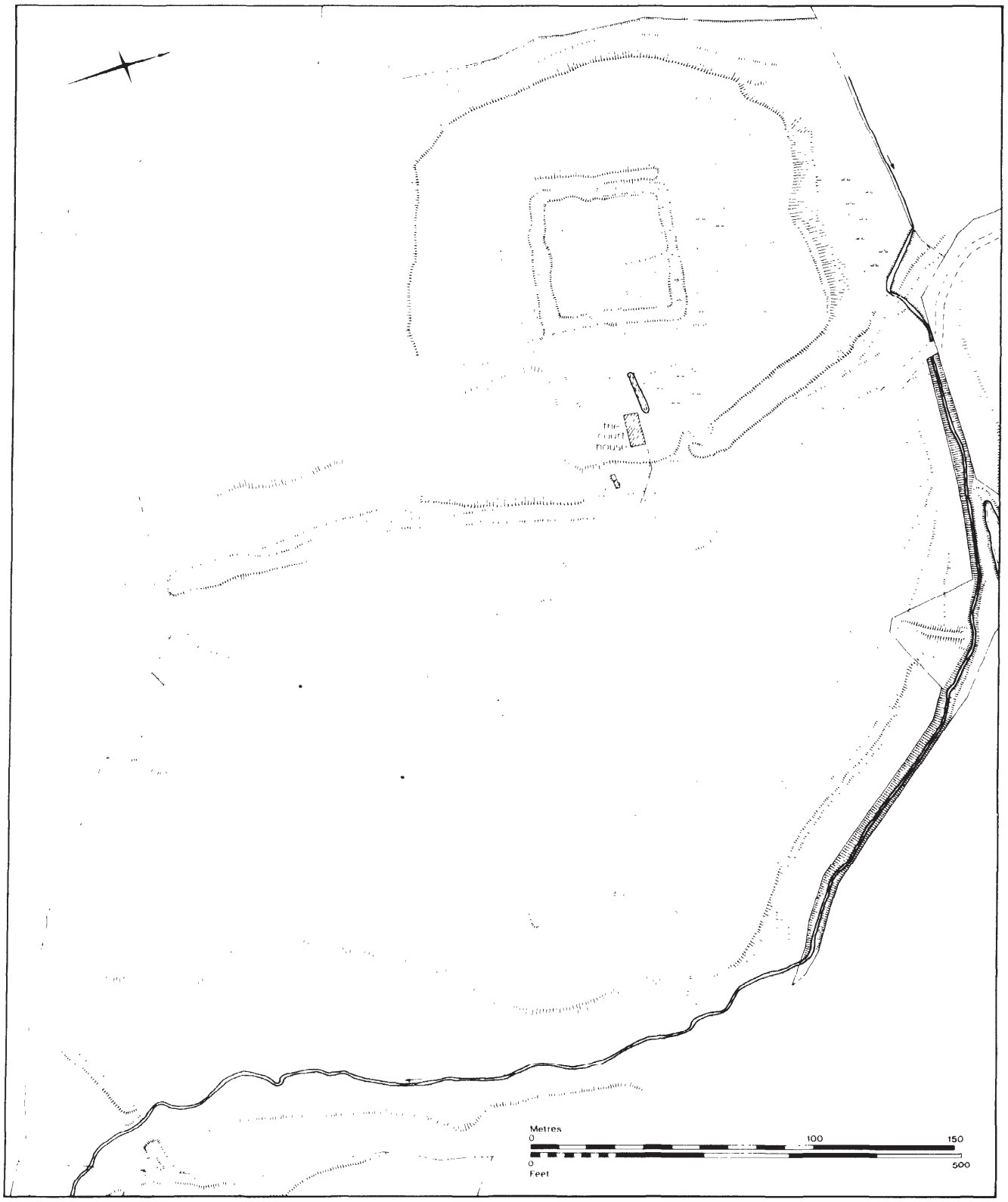

Figure 2.4 Gretton, Cardington, Shropshire: earthwork plan (copyright RCHME)

interest in water features to the almost ubiquitous employment of water features found in 16th and 17th century gardens. But before going overboard on this and filling the literature with medieval garden earthworks on all sides, there is a need (as the case of Bodiam indicates) for rigorous recording and analysis in respect of specific cases such as is possible through field survey.

At just that level, it often becomes clear on closer examination that what presents itself as ornamental, dressing up or landscaping must in fact be seen as an aspect of continuing adaptive site use, and is often properly identified as 16th or 17th century developments. A well-documented example of the impact of such reuse is the reorientation and new building works at Kenilworth by the Earl of Leicester, that extended to the adaptation of the Brays, the so-called Tiltyard and mere for entertainments at visits by Queen Elizabeth (Thompson 1977).

A far from obvious example revealed in earthworks is Baconsthorpe Castle, Norfolk. Here the Heydons' 15th century moated manor has a mere occupying the east side, in an arrangement hitherto understood to be original. Field survey has shown not only how creation of the mere involved extending the site across the valley but also that its shape relates to further ponds that together formed a vista perhaps focussed on the castle's north-east tower. This extension is matched by the development of the Outer Court, whose most obvious feature is the gatehouse, and less obviously traces of a small square formal garden. The whole, including the mere, seems a fashionable development of the later 16th and early 17th centuries (RCHME survey in Dallas and Sherlock forthcoming).

On a small scale a comparable process can be seen with the genuine medieval moated manor at Rushton, Cheshire (Fig 2.3). Here, too, the earthworks show one arm of the moat opened out into a tapering layout of ponds, access from the east, with an L-shaped water feature (conventionally described as a fishpond) relating to it, and the whole sitting within a park-like block that the modern by-roads skirt and define. In this case, the manor was bought in 1547–8 by a London merchant, William Hinton 'citizen and skinner of London'. Much of the present detail of the site, therefore, and specifically its ornamental aspects, results from this purchase and the creation of a suitable residence, that was in turn abandoned in the 18th or early 19th century.

At the Court House, Gretton, Shropshire, what is also in the literature as a medieval manorial moat and is a splendid field monument on the ground and from the air (Watson 1987, 4 and fig 2) is surrounded by dammed water features that on one side would have created a sizable lake or mere, giving in all an impressive managed landscaped setting (Fig 2.4). The problem is that documentation appears to be totally lacking for a medieval manor, and the moated feature itself cuts through good ridge-and-furrow. Pending the results of more systematic research, one begins to apprehend that the site may prove to be totally a post-medieval (probably 17th century) residence, from which the remaining ruined building — the so-called Court House — is a fragmentary survival.

If nothing else, these instances warn against too simplistic an identification of garden features as medieval. They urge the need for well-observed and questioning field survey, if an idea that seems to be valid on a few sites is not to be debased by over-eager application inappropriate to the specific local evidence.

Dated and well-preserved examples of garden design

The second and perhaps more pressing concern that emerged from the seminar referred to above was the need to identify clearly dated and well-preserved examples of garden design. This was seen both as a means of communicating the archaeological contribution to the wider subject of garden history, and equally as a basis through which the development of styles of design and of ideas might come to be perceived, and as the only reasonable basis on which to organize a policy of preservation. It is a concern perhaps predominant in the minds of those non-archaeologists prepared to be interested in the relevance of archaeological results, but one which is worth the attention of archaeologists too.

The analogy with the development of understanding of medieval architectural styles through the 18th and 19th centuries, building on the basis of well-dated and preserved examples, was brought forward. It is perhaps significant that in Scotland with far less material to consider, the early reaction of the architectural historian Neil Hynd to the need to provide some academic context for the investigation and conservation of the gardens at Chatelherault near Glasgow for which he has been responsible has been precisely to list those gardens in Scotland for which good information exists (Hynd 1984). In England, we have on the whole been absorbed with individual sites, some of them in themselves of exceptional interest, but it has been and remains difficult to see the wood for the trees.

In any attempt along these lines that can be seriously helpful, we are again faced with the critical problem of dating. Earthwork gardens certainly lack some of the most obvious aids that form the bedrock of church architectural study, and notably the date and dedication stones. The closest direct and wholly earthwork analogy that I can think of — and it is one that I am not confident my colleagues who have shared RCHME's work in Lincolnshire wholeheartedly agree with — is at

Kettleby in Bigby parish, near Brigg, in Lincolnshire (RCHME 1991). The site is marked by the Tyrwhitt family's late medieval moated manor; an early 17th century mansion was built in it and demolished at the end of the century, the earthworks of a small square garden with prospect mounds were fitted within the moat; adjacent to the east is a group of so-called fishponds, with the boundary of a deer park beyond. The ponds have an extraordinary angular configuration, that it may be possible to see as the monogrammed initials *RT* for Robert Tyrwhitt, who died in 1617, and the whole therefore as a form of water parterre of definable early 17th century date.

More often for good dating we are relying on some varied and mutually supportive sources, bringing together documentation (typically of purchase, amalgamation or other enrichment of an estate rather than direct reference to gardens), likely circumstances (ennoblement, a royal visit, marriage), the survival of directly associated buildings, occasionally cartographic evidence or topographical drawings, ambient topographical details, and direct field observation, and forming as balanced a judgement from these as possible. The example of the gardens of Old Campden House at Chipping Campden, Gloucestershire (Fig 2.5) is a prime case. Sir Baptist Hickes bought the manor in 1609/10, there are surviving early 17th century garden buildings, a fragment of Campden House itself of similar date (it was destroyed in 1646), topographical drawings ostensibly showing that house in use, Hickes's tomb in St James's church with a laudatory poem that refers to his creation of the gardens, almshouses of 1613 that formed part of the approach to the house, and other evidence of Hickes's beneficence to the town, such as the water supply and the Market Hall of 1627 (Everson 1989).

Chipping Campden, then, is an example of garden earthworks that are *both* exceptionally well preserved *and* reasonably tightly documented — *viz* they were created after the acquisition of the manor in 1609/10 and were apparently in place (at least the axial core of the garden) by the time of Hickes's death in 1629, and if any of the layout was additional to this it was certainly of before 1646, when the house was destroyed. We also know who was responsible for creating them (ie, the patron not the designer), what his social position and background was, and something of his local pretensions. It seems probable that these latter dimensions, which are not the primary concerns that have brought archaeologists to study garden earthworks, are likely to come more to the fore as the subject area matures.

It seems well worthwhile to try to identify and list those earthwork remains that appear to fulfil the two criteria to a useful extent. For the present purpose only a few can be mentioned and illustrated that have generally been the object of RCHME investigation, or of comparable work by others, or simply of personal observation as yet unverified by detailed survey, in an attempt to indicate the scope and potential, and perhaps the deficiencies.

In many instances, some of the most promising and potentially influential sites are deficient either in adequate confidence in their date or, more commonly, in survival of earthworks. Such a case, by way of example, is the Duke of Buckingham's Thornbury in Gloucestershire, despite the remarkable survival of the two-storeyed gallery in stone around the garden (Hawkyard 1977). Another example, at a later date, is Beddington Place in south London, said to be the location of the first orangery in England (Cherry and Pevsner 1983, 641–2; Strong 1990). Even here, one can still appreciate how the course of the River Wandle has been formally managed within the former garden.

One might nevertheless begin in the later years of Henry VII's reign at Collyweston in Northamptonshire, where the creation of gardens by Lady Margaret Beaufort in the years up to 1502/3 is well documented. The work included planting a new orchard, creating new ponds and the construction of several summerhouses, plus measures of water management along the Nene associated with the lower fishpond. Well-preserved earthworks of the gardens here have been published by RCHME (1975, 30–1; and see Tasker 1905–6) and the context of the conversion of a medieval manor house into a Tudor palace and centre of royal authority in the region has been recently explored in print (Jones 1987).

Other examples from the first half of the 16th century are not obvious. In particular our limited knowledge of Henry's gardens created between 1538 and 1547 at Nonsuch (in contrast to those created by Lord Lumley there in Elizabeth's reign) is a major gap, since they might be expected to be a benchmark and setter of trends as that palace was in so many other respects. This makes particularly interesting the possibility that the site of Woodham Walter Hall near Chelmsford, Essex, whose earthwork remains RCHME has recently surveyed (Fig 2.6), may belong to this period.

There the impressive earthwork complex has at its core a massive artificial platform built out from the side of a small valley and on the west side of which the house (with H-shaped plan) stood. Around it lie to the south-west a privy garden, water features including to the south a massive island or mount, and on three sides west, north and east strings of shallow ponds apparently designed to allow water to pass continuously over a series of minor falls leading to a common outlet to the north-east.

Access to the site was elaborately contrived to achieve maximum display of its features, via two massive causeways crossing and recrossing the valley. In short, the whole complex, as so often is apparent in gardens of this era, was finely conceived to offer a rich variety of images and experiences. The house was that of the Radcliffe

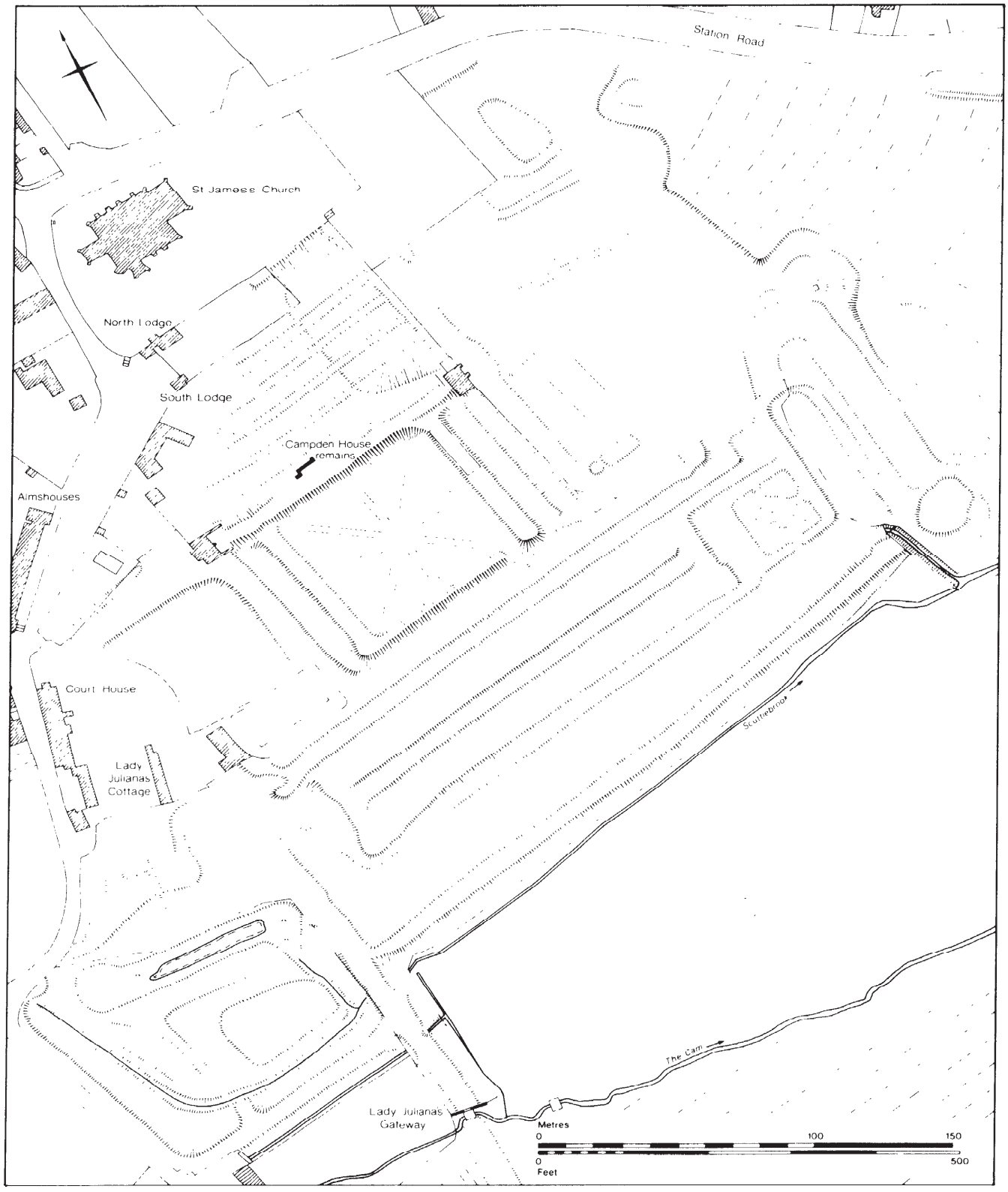

Figure 2.5 Chipping Campden, Gloucestershire: earth work plan (copyright RCHME)

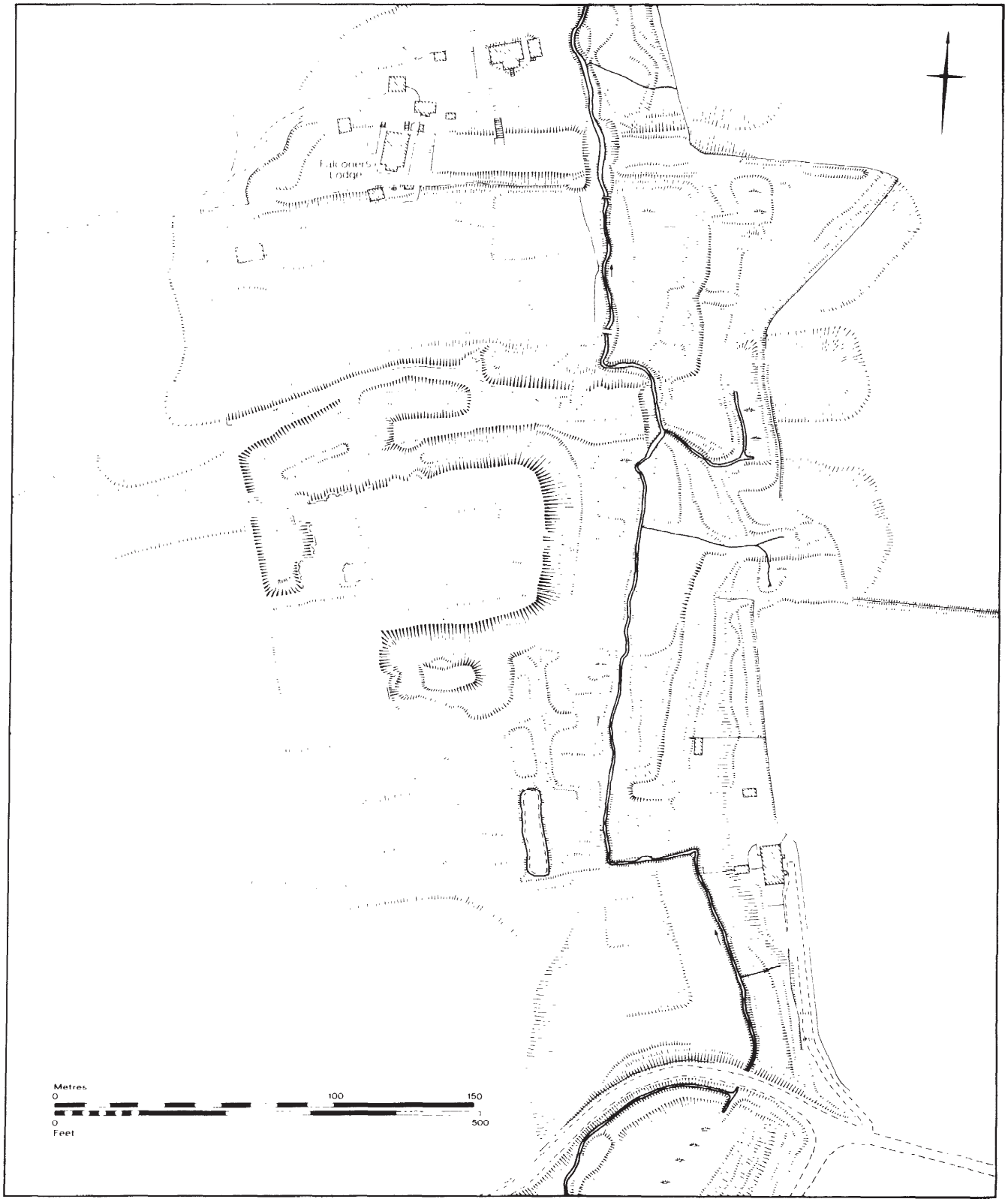

Figure 2.6 Woodham Walter Hall, Essex: earthwork plan (copyright RCHME)

family, from 1529 Earls of Sussex. It was used by the Lady Mary, and from here in 1550 her best-documented, but abortive, escape to the continent via ship from nearby Maldon was plotted by the agents of the Emperor Charles. It was superseded as the third earl's principal residence by Elizabeth's gift in 1573 of the great house at New Hall, Boreham, of which only the north wing — the earl's addition to the existing mansion — is the principal survival.

We have yet to work sufficiently closely on the documentation for this site to be confident about the tightness of its dating, but its preservation is excellent, its earthwork details elaborate and sophisticated.

From the reign of Elizabeth onwards, good examples both in respect of survival and documentation and context are notably more numerous, and are well enough known not to dwell on.

They include Holdenby, with its gardens created between 1579 and 1587 by Sir Christopher Hatton, that Christopher Taylor has characterized as 'perhaps the best preserved of all 16th-century gardens in Britain' (RCHME 1981, 106–9; Taylor 1983, 43).

At Raglan Castle, Gwent, the garden is on an appropriately grand scale and extends not only to the magnificent terracing with all its fine earthwork detail around the west corner of the castle, but also to water features in the valley below to north-west and south-west, that include a massive mere with islands and behind it a water parterre. This layout clearly relates in conception to the great Long Gallery added to the house by the third Earl of Worcester (died 1589), and presumably can be attributed to him or his son Edward (died 1628), a notable patron of the arts in his own right (Taylor 1979; Whittle 1989). A number of English castles, too, clearly go through the same process of development into residences suitable for Renaissance lords. What is obvious in buildings at Kenilworth or Bolsover, for example, may be found also with an earthwork and garden dimension at Ashby, Leicestershire, and Framlingham, Suffolk, to cite no more than two instances.

At Lyveden, Sir Thomas Tresham's unfinished garden, with its extended linear layout climbing the hill slope, is closely dated 1597–1604 (Brown and Taylor 1973; RCHME 1975, 6–8).

It is perhaps too easy to concentrate on the large earthworks of terraces and mounts: some awareness, too, is necessary of the possibility of less massively obvious but nonetheless well-preserved garden earthworks that might result from a less helpful topography or lower expenditure on earthmoving. Of a different form and manipulating a different landscape on the high claylands of north-east Northamptonshire are the gardens at Beaulieu Hall, Hemington (Fig 2.7). The result in earthwork terms is far less impressive remains, whose analysis as a garden relies more heavily on the geometric nature of the layout and the close integration of the house, one crosswing of which survives, with that layout. The house dates from the later 16th century and certainly before 1602, was being leased out already in the 1630s and was reduced to its latter-day truncated form probably in the 1680s.

Of a rather different and less exalted social level was the house and garden at Madeley, Staffordshire, created by Sir Thomas Offley (died 1582), London merchant and a lord mayor of the City, following his purchase of the manor. The earthworks, known as Madeley Old Manor, comprise the site of the house with two-armed moat or angled canal, a double square garden layout with walks, and a complex series of ponds and water features integrated in it (OS record card SJ 74 SE 12). The site was abandoned through marriage of the Offleys into the Crewe family, who already had a substantial residence not ten miles away.

Still less elevated socially and developing a flat clayland site were the now largely destroyed earthwork gardens at Goltho in Lincolnshire, the creation of the Grantham family, successful Lincoln merchants and rising county gentry, in the early 17th century (RCHME 1991). These, in fact, stand for a large class of garden remains in scale, date and context (generally the county gentry of both old and new wealth), notices of which pepper the RCHME inventory volumes once one starts to list, them out. The sheer quantity at this level is one of the most impressive aspects of garden studies.

Of the greater surviving gardens of the early 17th century, the remains at Chipping Campden are securely fixed in the second and third decades. The excellent earthworks at Wakerley in Northamptonshire belong to the same period and have an equally limited life-span that has contributed to their remarkable preservation (RCHME 1975, 104–5). In the same class for scale, detail and fine preservation are the post-Dissolution house and gardens at Brooke Priory in Leicestershire (Knowles and St Joseph 1952, 216–7; Hartley 1983, 9–10). The Noel family, whose house it was, were connected by marriage with Sir Baptist Hickes of Campden: Edward Noel married his elder daughter, the Lady Juliana, and was heir by special remainder to both house and title at Campden.

Of the post-Restoration period, three outstanding examples are again available from Northamptonshire, at Kirby Hall of 1685, Harrington of 1675x1712, and pre-eminently Boughton of 1685 onwards, with its integrated planning of garden and house in a contemporary French late 17th century style, completed by about 1710 (RCHME 1979, 156–62). Rather earlier, and even more up-to-the-moment, was the layout created at Greenwich to designs of 1663/4 by André le Nôtre, under the direct patronage of Charles II. The earthworks of the raised terraced walks of this scheme, whose labour costs and planting are well

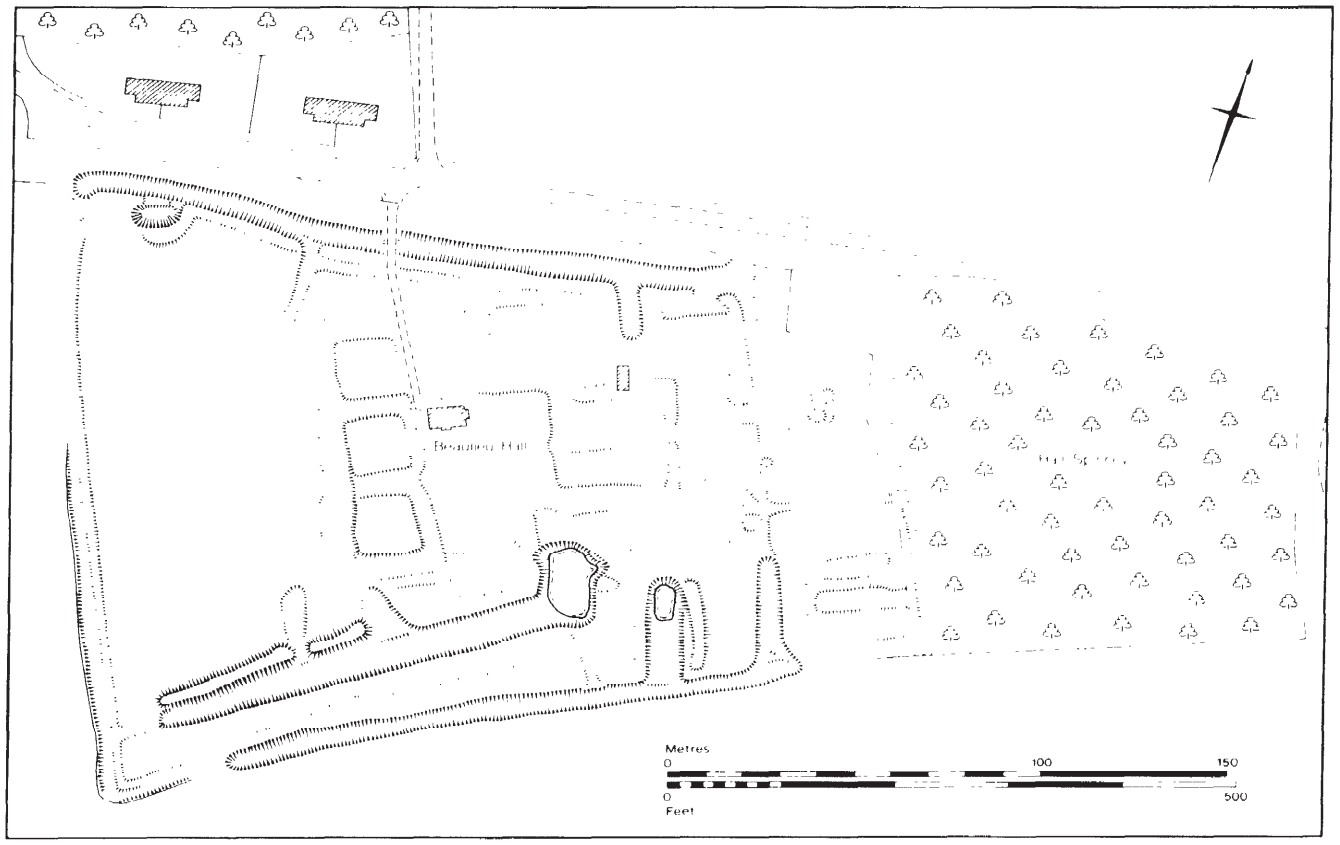

Figure 2.7 Beaulieu Hall, Hemington, Northamptonshire: earthwork plan (copyright RCHME)

documented, can still be seen in the park south of the Queen's House and are susceptible to earthwork survey (Jacques and van der Horst 1988, 20–3). Gardens with this sort of continental influence, incorporating tree-lined avenues and vistas framing distant viewpoints and creating illusions, survive of course as living gardens, as at Hampton Court. But they also turn up, well-preserved in parochial earthwork contexts and dated by that combination of topographical detail and documentation spoken of earlier. At Wimpole, Cambridgeshire, water gardens that lay south of the house and are known from Bridgeman's drawings (RCHME 1968, 215–6, p1 121) and from the view by Knyff and Kip (Jacques and van der Worst 1988, 34, 130), though swept away by subsequent changes in design, survive as earthwork features with a relationship to the residual planting of the parkland (Fig 2.8). Still more strikingly, at Stainfield, Lincolnshire, for example, the splayed vista added to the west side of the former house is well dated by among other things the rebuilt and reorientated church dated 1711 and the contemporary acquisition of the ruins of Barlings Abbey across the river as a distant viewpoint (RCHME 1991).

Nevertheless at the same time formal earthwork gardens continued to be created, both at a local and a grander level. An example is the neat, tightly-conceived terrace-based gardens superbly preserved at Croxby, Lincolnshire (RCHME 1991). Here, perhaps 20 years behind the fashion or simply employing a constricted valley site to its best advantage, a house and gardens seem to have been built for the marriage of a son of the Dymokes of Scrivelsby (anciently King's champions) *c* 1690. It was sold following the son's premature death in 1704 and apparently reverted to a tenanted farm. It is to this period (ie, later 17th century), too, that the splendid earthwork garden layout at Gawsworth, Cheshire, most probably belongs. That is, it is likely to be associated with the massive and uncompleted New Hall of *c* 1700, that dominates the village, rather than with the Old Hall which lies in a much reduced form within the garden. Work on this garden is currently in progress through survey and excavation, and if it proves possible to pin the date down satisfactorily, its form, detail and preservation will give Gawsworth an important place in the framework of garden development. At least part of the garden earthworks at Low Hamm, Somerset, too, also

Figure 2.8 Wimpole, Cambridgeshire: earthwork plan (copyright RCHME)

including formal terraces and supply leats, must belong to a similar period, in the last decade of the century (Aston 1978).

The examples offered here may seem a thin, in some respects a presumptuous and inadequate list. It is certainly a partial one, bounded by personal experience and awareness, and deliberately drawing especially on recent examples of RCHME work in the English midlands. What it has been intended to explore was whether putting together such a list would be helpful at this stage in the study of the subject. It might help, for example, to define what has been achieved by earthwork survey in particular and to communicate that to other interested parties (which was the starting point). It tends to identify principal gaps in knowledge — the relative absence of early Tudor gardens of which we know anything through earthworks is obvious enough. It, may help to identify a bias in what we perceive as earthwork gardens, in favour of terraced features and mounts to the detriment of flat sites, in favour of the big and obvious to the detriment of the full social range, whatever that might turn out to be. It may allow some broader understanding of the circumstances which tend to allow the survival of earthwork features for study, when they do not survive at the greatest contemporary residences where they undoubtedly existed, at Hampton Court, Richmond, Hatfield, Theobalds, Wilton and the like. Principally those circumstances are those of a short life and rapid abandonment before the updating impact of continuing changes in garden design and ultimately of parkland landscaping. That abandonment might occur through individual death, failure of the male line, amalgamation of family fortunes, possession of an alternative property nearby, destruction of the residence in the Civil War, or whatever.

Recognition of these factors may help to focus and direct the progress of future research and field recording (if, that is, it is capable of direction!), and, perhaps more importantly, to inform the preservation and management of those remains that do survive.

Acknowledgements

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3 Old gardens from the air

D R Wilson

The value of air-photography for the study of archaeological remains is well known (Wilson 1982; Riley 1987). Essentially, it has two aspects:

(a) where there are surviving earthworks, the overall view obtainable from the air encourages the recognition of a significant pattern and aids its detailed analysis;
(b) when surface relief has been destroyed, buried features may still be revealed to an aerial observer by differences of colour in the soil (soil-marks) or of growth in crops (crop-marks).

This is as true for the remains of gardens as it is for any other class of site, yet early gardens do constitute something of a special case, because so long unrecognised. The very existence of garden remains failed until recently to penetrate archaeological awareness. However well-known their typical overall design and constituent features may have been to garden historians from books and paintings, field archaeologists had, with few exceptions, simply not learnt to recognise them on the ground. Christopher Taylor refers to instances in which garden earthworks were completely misidentified because the possibility of a garden had never been so much as considered. Aerial archaeologists have been no more perceptive: numerous air photographs have been taken of groups of earthworks wholly or partly attributable to post-medieval gardens that were not recognised as such at the time of photography. Custodians of

Figure 3.1 Earthworks at Hardwick, Northamptonshire, looking south (2 Feb 1969): the site of the 16th century knot garden is at the centre of the picture, above the church (Photo: CUCAP)

Figure 3.2 Papworth St Agnes, Cambridgeshire, looking SW (24 Oct 1969): the 16th century house and garden earthworks of Russels lie in the foreground, partly covered by trees (Photo: CUCAP)

collections of air-photographs now have the task of reviewing their holdings to see how many examples can be rediscovered that have hitherto been overlooked.

The remains of gardens may be identified by reference to one or more of the following:

(a) description or depiction in contemporary documents;
(b) situation adjacent to a known house or mansion;
(c) physical remains whose form and pattern are consistent with interpretation as a garden;
(d) physical remains whose form and pattern are characteristic specifically of gardens.

Where there are earthworks of category (d), the nature of the site is not in doubt, but a good many gardens are represented by traces that warrant attribution to category (c) at best. For positive identification we must, then, rely on documentary or other evidence, when this can be obtained. For instance, at Hardwick (Northamptonshire) the rectangular enclosure on the south-west side of the manor house, seen at the centre of Figure 3.1 above the church, is shown as containing an elaborate knot-garden on a village plan of 1587 (RCHME 1979, 73), but no certain trace of its paths and beds is now to be seen. The interior indeed is not completely featureless, but too much lies beneath the house's modern garden for any intelligible pattern to be perceived. A fairly similar enclosure is seen on the south-east side of the manor house of Russels at Papworth St Agnes (Cambridgeshire) in Figure 3.2; interpretation of this as another formal garden is prompted by the way that its long axis is aligned on the 16th century bay window, as if to provide a pleasing prospect from the parlour of the house (RCHME 1968, 199; Taylor 1983, 35, 57).

Undoubted garden features on the north side of the same house are concealed by trees at the bottom of the photograph. This illustrates a major disadvantage of aerial survey in relation to garden remains. When a garden is not kept up, it quickly

Figure 3.3 Strixton, Northamptonshire, looking west (23 Nov 1972): a sunken garden on the north side of the demolished manor house had a circular raised bed at its centre; other gardens extend eastwards, towards the camera (Photo: CUCAP)

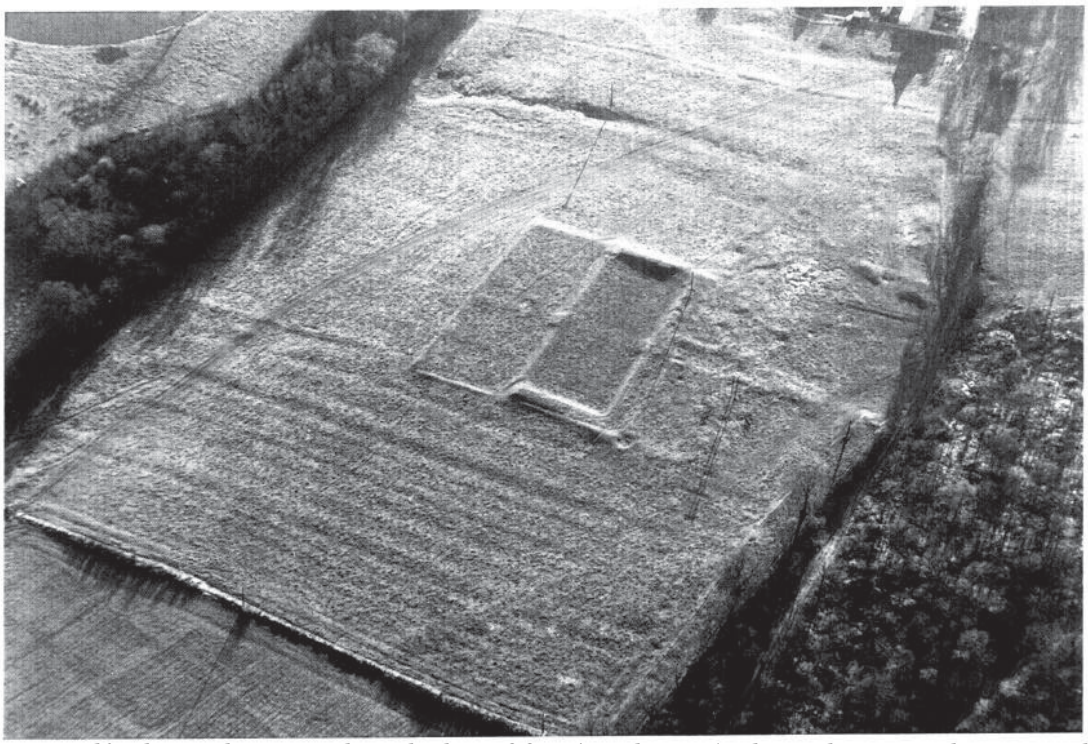

Figure 3.4 Woodford, Northamptonshire, looking SSW (7 Feb 1974): the 17th century house stood at the top of the slope above the garden terraces (Photo: CUCAP)

Figure 3.5 17th century gardens, Harrington Hall, Northamptonshire, looking SW (28 Mar 1956): here a flight of five terraces led down to the house (centre right); the three upper terraces contained ornamental pools; the three lower ones show faint traces of paths. Tree-pits lining the drive to the house (lower left) may belong to the early 18th century (Photo: CUCAP, Crown copyright reserved)

runs wild and becomes overgrown especially if trees and shrubs are already present as part of its design (cf Fig 3.9). Substantial mounds, banks and moats may then disappear entirely from the aerial view, though still traceable by ground survey.

The most characteristic feature of Tudor and Stuart gardens visible on air photographs is the levelled area or *parterre,* normally of rectangular shape, and often sunken or bordered by raised walks (Fig 3.3–3.5). Parterres were so universally subdivided into compartments to make interesting geometrical patterns that their name was thought by many to derive from this act of partition. In the best preserved examples air photographs can pick out the main elements of the design, such as axial paths converging on a central plot or pool (Figs 3.3 and 3.5).

To make their best effect, parterres needed to be seen from above, so allowing the subtleties of layout to be appreciated. This accounts for the raised walks, sometimes arranged in two tiers, and for sunken gardens, which achieved the same effect by lowering the parterre below the general level (Figs 3.3 and 3.5). On sloping ground, similar dispositions could be obtained by terracing, each successive terrace providing a vantage-point from which to view the next (Figs 3.4 and 5). Here too raised walks could be provided, projecting like promontories beside or between terraces, to permit a view along their length as well as across them (Figs 3.4 and 3.6).

A wider prospect of the grounds could also be had from artificial mounts or prospect mounds, often placed at the outer corners of an enclosing moat (Fig 3.6), so as to afford an attractive destination for a walk through the gardens well as a vantage point from which to look all ways, both back towards the house and also outwards over your own or other people's lands.

Moats and ponds complete the inventory of garden features which can be readily identified from the air. But, although a common and

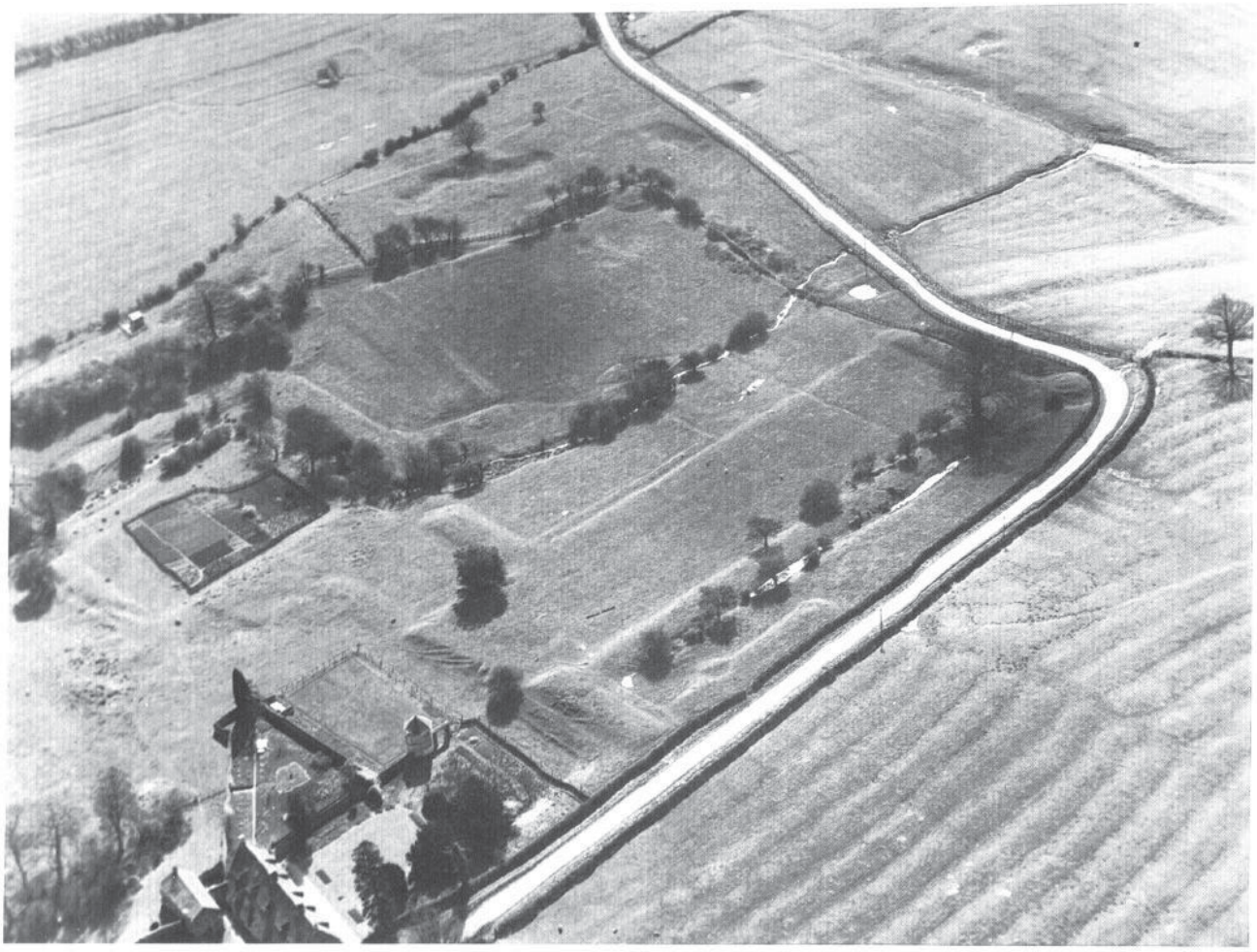

Figure 3.6 Earthworks at Brooke Priory, Leicestershire, looking SE (9 Apr 1949): the Elizabethan mansion of Brooke House may have stood above the stream at the left margin of the picture, its gardens extending to the south (Photo: CUCAP, Crown copyright reserved)

important element in garden design, these are not in themselves a sure indication of the presence of an actual garden. Both moats and ponds can occur in a variety of contexts and a careful assessment must be made of their position in the overall plan of any given site.

Many of the features described are to be seen in the photograph of Brooke Priory (Leicestershire, formerly Rutland) in Figure 3.6. A series of terraces occupies the gentle slope on the near side of a stream leading down to the River Gwash. Banks forming raised walks are seen in various positions, but especially projecting from the middle terrace towards the stream, to left of centre of the picture. At the far corners of the site, just inside the modern road, are two prospect mounds (cf Hartley 1983, 9). The remains are instantly recognisable as those of a 16th or 17th century garden, evidently that belonging to the house (disused after 1680) whose octagonal lodge survives converted to a dovecote (Fig 3.6, bottom left). A similar photograph was published in *Monastic sites from the air* (Knowles and St Joseph 1952, 217): 'it is uncertain whether the numerous banks and terraces near the house are medieval (which is unlikely, considering the small numbers [of canons] at Brooke) or, as local tradition has it, the work of Parliamentary forces' *(ibid,* 216). Thirty-five years ago there were few who would have ventured a more definite opinion, and at least it was recognised here that the earthworks were unlikely to be monastic.

It is instructive to compare the site of the Hospital of St Mary the Virgin and St Lazarus, said to have been the largest leper colony of medieval England, at Burton Lazars (Leicestershire). Interpretation of the earthworks (Fig 3.7) is complicated by our relative ignorance of the expected plan of such a hospital, but the eye is caught by a T-shaped arrangement of banks between level spaces that can only have formed part of a formal garden of the 16th or 17th century. To the left (north-east) of this is an area of broken

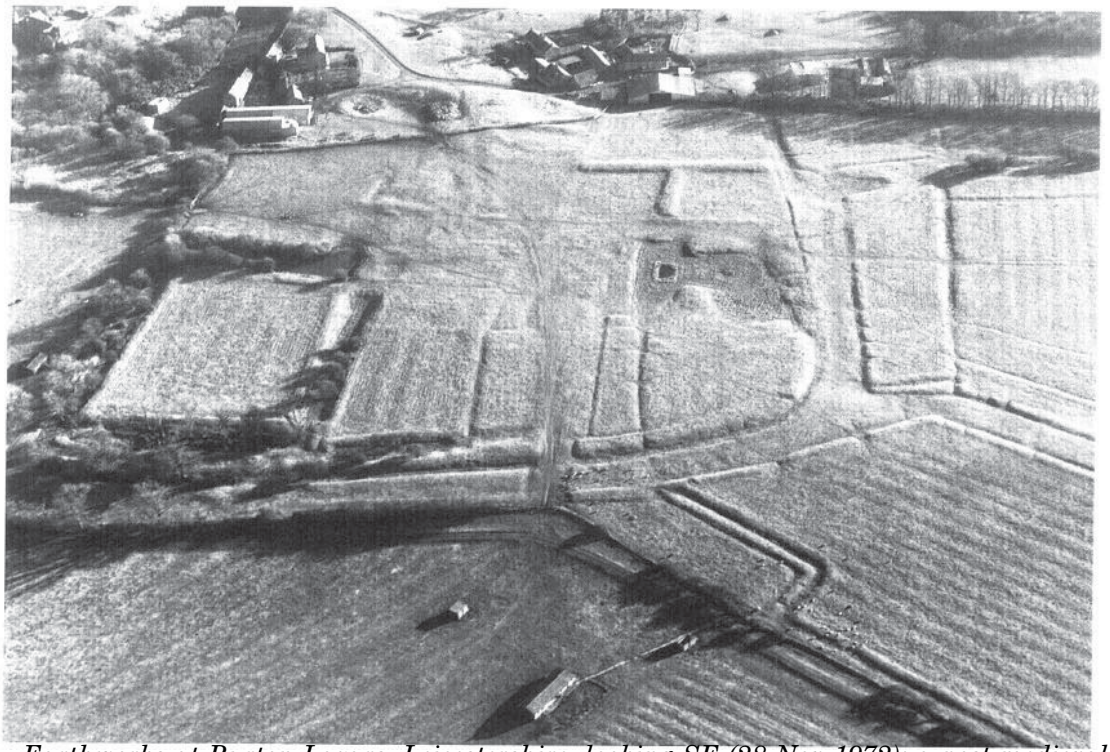

Figure 3.7 Earthworks at Burton Lazars, Leicestershire, looking SE (28 Nov 1972): a post-medieval garden occupies part of the site of the medieval hospital (Photo: CUCAP)

Figure 3.8 Earthworks at Warden Abbey, Bedfordshire, looking WNW (13 June 1962): the pattern of enclosures and fishponds now visible relates mainly to the Tudor house (of which a part still stands near the centre of the picture), rather than to the Cistercian abbey (Photo CUCAP, Crown copyright reserved)

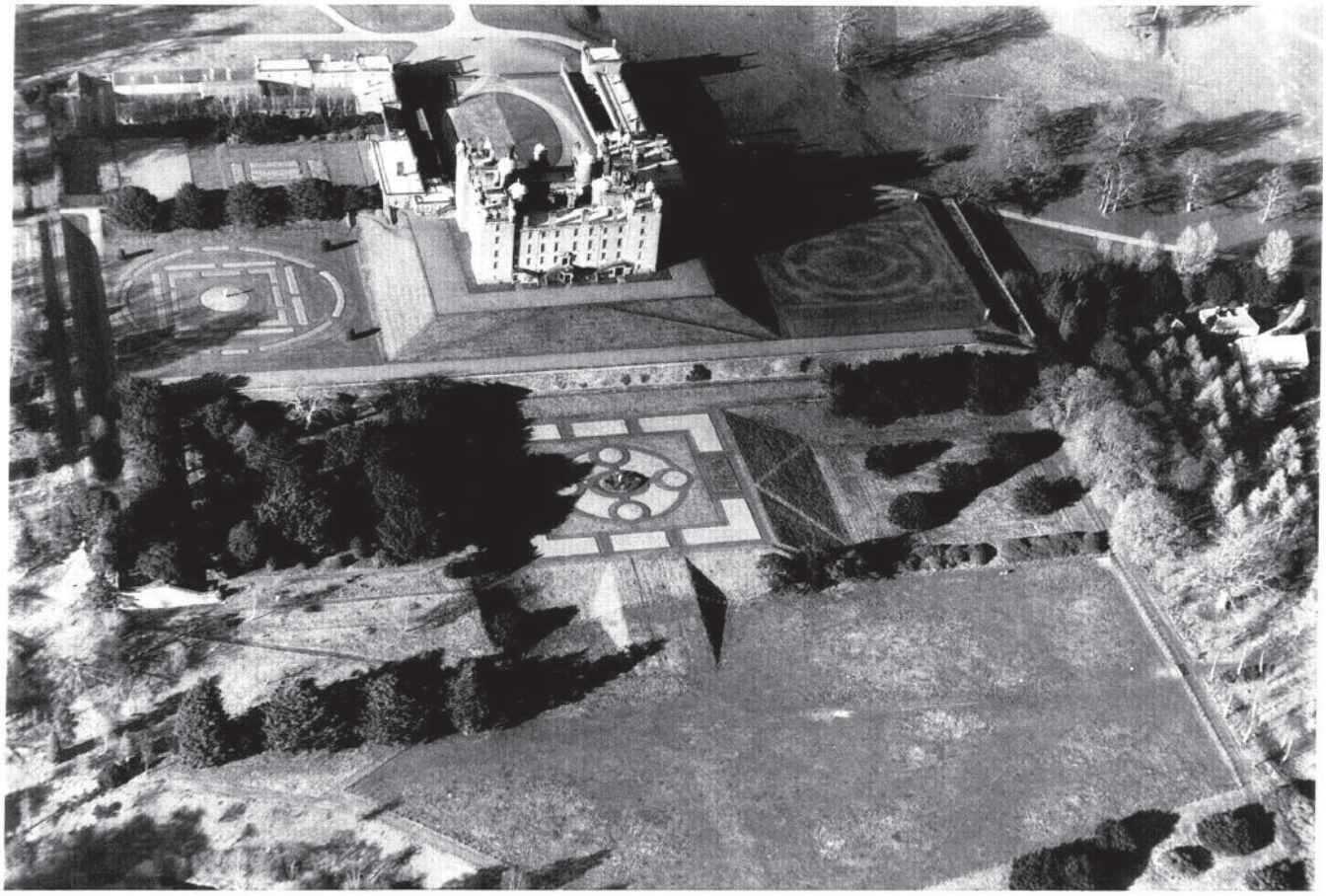

Figure 3.9 Drumlanrig Castle, Dumfries & Galloway, looking NNE (8 Apr 1957): a dramatic garden of the late 17th century, composed on many levels, now receives little attention apart from mowing, hut much of the earlier design is discernible from the air (Photo: CUCAP, Crown copyright reserved)

ground containing building foundations, whether those of the medieval hospital or of a later house to which the garden belonged. The remaining earthworks consist of a very substantial moat and a number of more or less rectangular enclosures, most of which show subdued traces of cultivation ridges (cf Hartley 1987, 7, 24). While there is no formal proof of the date or use of these less explicit earthworks, they are more easily understood as belonging to the same private grounds as the formal garden already identified than to the environs of the medieval hospital. Similar groups of earthworks are not uncommon on monastic sites, where they seldom seem to be directly related to recognisable monastic remains (Fig 3.8); the general conclusion is thus that they form part of the gardens of post-medieval houses erected (and eventually demolished) on those sites.

Prompted by these examples, and by detailed study of monastic sites in west Lindsey carried out by RCHME (Everson forthcoming), the present writer has reviewed all the air photographs in the Cambridge University Collection showing earthworks on known monastic sites. Only those sites were included where the remains were sufficiently definite to warrant some attempt at interpretation; even so, a total of eighty-four sites remained. Examination of the photographs was not supported by ground survey or documentary searches, so the results obtained must be seen as preliminary and provisional, but they provide food for thought, both for students of religious houses and for students of gardens. Only seventeen examples could be regarded as incorporating, or related to, the remains of monastic buildings; the remaining sixty-seven were unrelated to the monastery, even when some parts of this survived. Of these, five could be identified definitely as gardens from the presence of characteristic garden features, while another thirty-one, although less distinctive, were sites where gardens were either possible or probable. The remaining thirty-one

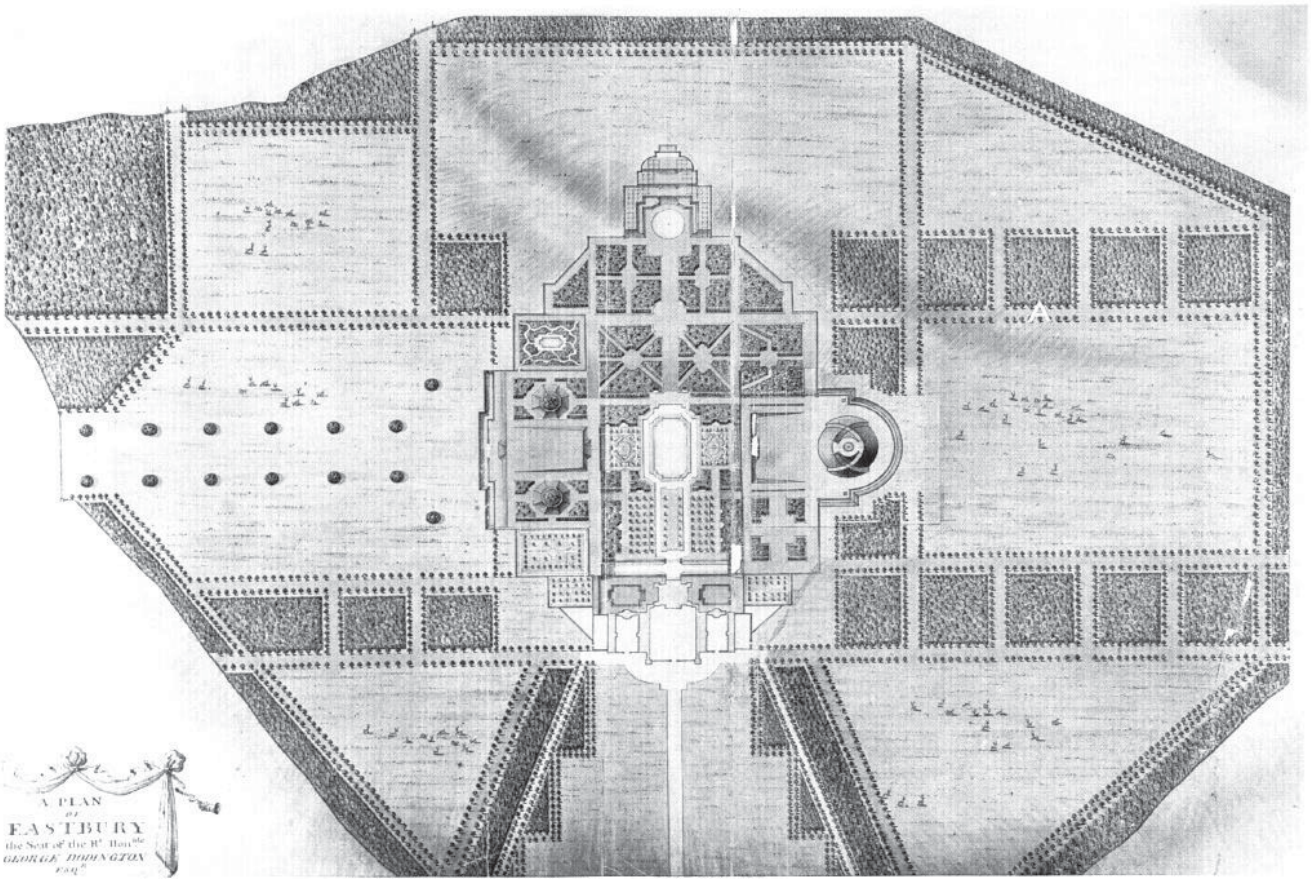

Figure 3.10 Charles Bridgeman's design of c *1717 for the gardens of Eastbury House, Dorset. The letter* A *marks the position of the moated garden seen in Fig 3.13 (Photo: Bodleian Library, Oxford)*

were too nondescript or fragmentary to yield useful conclusions. (The sites in each category are listed in the appendix).

These observations should not be unexpected. Probably the most usual fate of religious houses at the Dissolution was to provide the site and the materials for constructing a residence for the new owner. Many such residences survive, or have been rebuilt on the same site, and continue to carry the name of the original monastery (like Woburn Abbey). But where the house was demolished in the 17th or 18th century (or even later), its borrowed name commonly failed to keep its memory alive and it has been all too easy to forget that the monastic site ever had a post-medieval use. In reality, we should regard all monastic sites as potentially holding the remains of a later house and garden.

Formal gardens in England were generally laid out on level ground or on a gentle slope. Figure 3.9 shows the striking effects that could be obtained by the use of parterres on a more dramatic site. Drumlanrig Castle (Dumfries) in Nithsdale stands some 25m above the stream seen in the bottom left corner of the picture; the main approach to the house is down a lime tree avenue through parkland to the north, but on the valley side to the south is one of the most remarkable gardens in Scotland, laid out on a succession of platforms at various levels linked by ramps.

The house itself is mainly of the period 1680/90 and the construction of the garden is presumably contemporary. On either side of the house, but at a lower level, are two parterres; that on the right has been grassed over, but the buried paths have caused parching of the turf above, so revealing the former pattern. The actual designs of these parterres need not be original; it is more likely that they have been simplified or replaced (see below). Further changes of level are found on either side, with a higher terrace on the west and falling ground to the east, but the main interest lies immediately to south where square platforms linked by ramps descend in steps from left to right. That on the left is so overgrown as to resemble a wilderness, but enough can still be seen of an original geometric layout to suggest that nearly all the trees and bushes were once neatly clipped to

Figure 3.11 Remains of the avenue of tree-covered mounds on the north-south axis at Eastbury Park, looking NE (25 Jan 1978): soil-marks show that each mound once had a surrounding ditch, now filled (Photo: CUCAP)

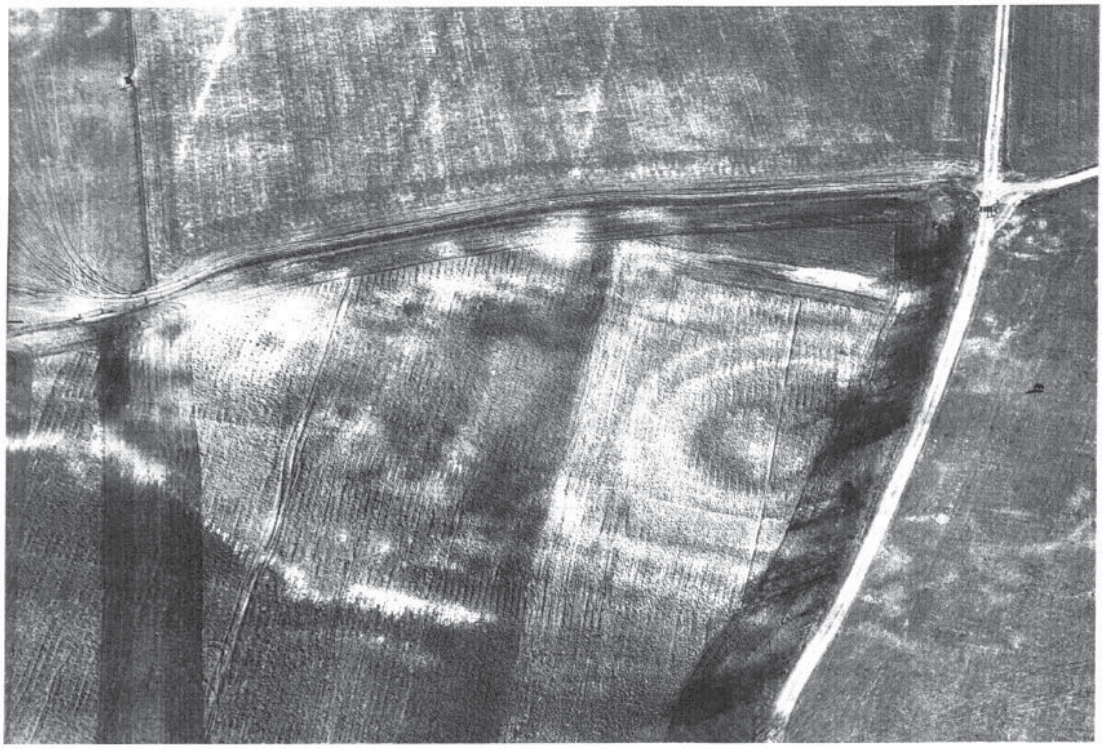

Figure 3.12 The easternmost part of the gardens on the main axis at Eastbury Park, looking SSE (12 Mar 1966): soil-marks show the positions of a circular pond with surrounding terraces and 'portico' (Photo: CUCAP)

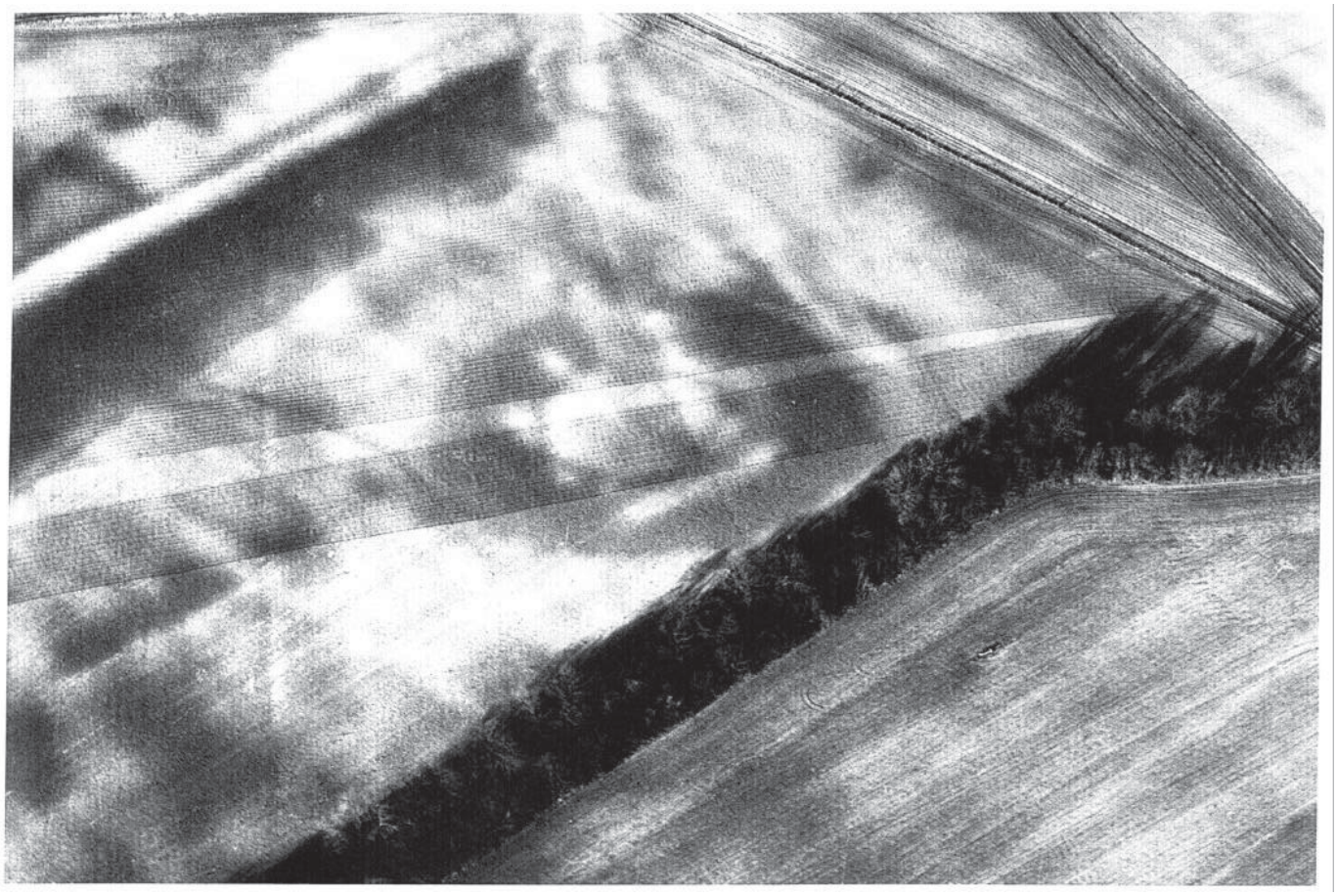

Figure 3.13 An outlying moated garden shown by soil-marks at the SE margin of the 19th century park at Eastbury, looking north (25 Jan 1978) (Photo: CUCAP)

shape as part of this design. On the central parterre a simple pattern of Celtic inspiration is plain to view, while at the lowest level there are traces of another, similar in style but differing in detail, surrounding five small trees arranged in a *quincunx*.

In front of the three platforms, and linked to them (where necessary) by ramps, is a larger level area whose paths, now grassed over, made geometrical patterns on a larger scale: a central circular plot formed the hub for a wheel-like pattern whose rim and spokes can be traced though half a circle near the bottom of the picture. There is obviously no doubt about the identification of such remains as belonging to a garden of major importance; but air photography may justly claim to contribute to our appreciation of the overall pattern and to our recognition of a number of features that have fallen out of use.

As we continue into the early 18th century, there is a tendency for the formal gardens of the larger houses to grow ever larger and to invade the surrounding parkland. The result is that, as parks revert now more and more to agricultural use, the remains of these gardens are particularly vulnerable to destruction by ploughing. The most substantial features, however, may yet yield soil-marks or crop-marks to permit their rediscovery by and study from the air. As an example we may take Eastbury House (Dorset).

Vanbrugh's mansion of 1718–38, largely demolished less than fifty years later, was complemented by contemporary gardens designed by Charles Bridgeman (Fig 3.10). The lawns, flower beds and canal in front of the house were ploughed up before 1840, and some of the square groves were incorporated in belts of trees that still survive. While the loss of detail is enormous, the general layout can still be traced on the ground, even in the ploughed areas, and the two octagonal mounts north-east of the house still exist, though concealed from the air by trees (RCHME 1972, 92–3). On the cross-axis passing between these mounts was a double line of tree-covered hillocks, half of which

Figure 3.14 Earthworks in Horton Park, Northamptonshire, looking west (23 Nov 1972): the circular pond is of 1740 or perhaps a little earlier; the avenue crossing the ridge and furrow below this was laid out in 1728 and removed in 1740; The Arches (foreground) may be as late as the early 19th century (Photo: CUCAP)

survive unploughed, though now without their trees (Fig 3.11). Whether preserved as earthworks or seen in terms of soil-marks after ploughing, these fourteen mounds have a superficial resemblance to prehistoric round barrows, but their regular layout and its relationship to other garden features would demonstrate their true character, even if we did not have Bridgeman's drawings to refer to.

The east end of the gardens featured a circular pool bordered on three sides by a double terrace, which led up to two further terraces at the far end. The highest levels carried a portico known as the Great Temple. Recognisable though not very explicit earthworks survived here until they were ploughed up in 1958. Soil-marks in the same place seen after ploughing (Fig 3.12) add the significant detail that each upright of the portico had been planted in a sizable pit. They were presumably of timber, though possibly plastered to resemble stonework; the whole construction may, however, have differed little from an elaborate pergola.

On the south side of the formal gardens air photography has recorded soil-marks of a major garden feature (Fig 3.13) not forming part of Bridgeman's design. It nevertheless lies on one of his avenues (at A on Fig 3.10) at the margin of the park as remodelled in the 19th century and may thus form part of that remodelling, if not a later embellishment. The remains probably survived beneath a circular grove of trees until the 1950s, when they were ploughed. Soil-marks are of a circular island, perhaps 40m in diameter, clasped by a broad moat into which substantial foundations project at intervals around its circuit. The marks are not precise or regular in detail, but they suggest an architectural fancy to close the vista, perhaps featuring a circular colonnade on the island at the water's edge, and a series of statues further out surrounded by the waters of the moat.

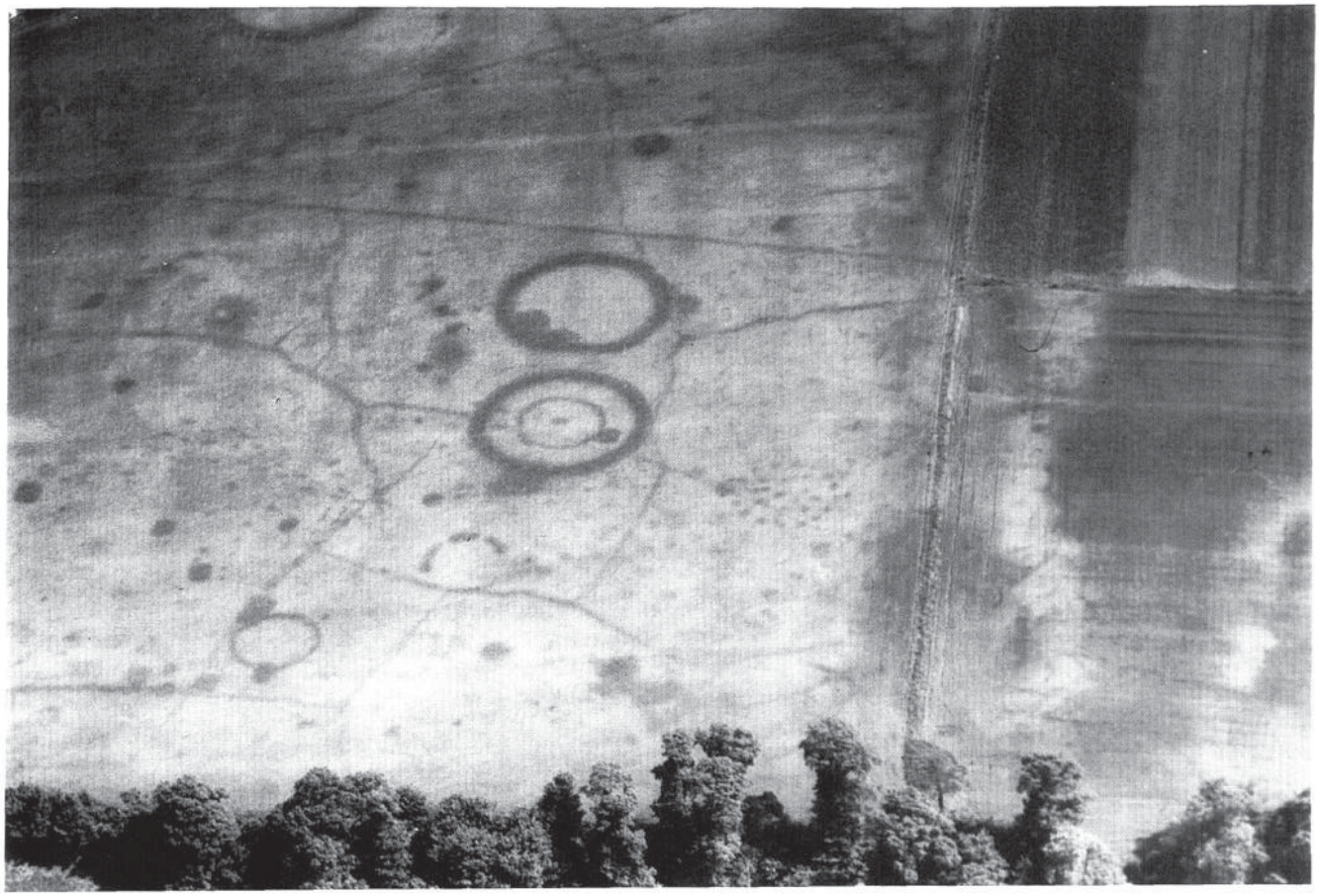

Figure 3.15 Crop-marks in the park at Wick Hall, near Radley, Oxfordshire, Looking NE (9 June 1959): to the right of two large ring-ditches marking the site ofprehistoric barrows is a circular arrangement of tree-pits from an 18th century grove (Photo: CUCAP, Crown copyright reserved)

Another fine example of 18th century gardens rediscovered through crop-marks appears in Derrick Riley's air photograph of Worksop Manor, Nottinghamshire (Binney and Hills 1979, 13). The crop-marks correspond closely, though not exactly, with designs by Lord Petre of 1737/8 (Binney 1973). Without the air photograph it would be quite uncertain how far those designs had been put into effect; in return, Petre's drawings make it possible to discern, albeit with difficulty, vestigial earthworks of ornamental parterres in unploughed parkland nearer to the house.

Fashions were soon to change to the more informal concepts of landscape gardening. Formally laid-out gardens were then restricted to the immediate environs of the house, beyond which extended the idealised landscape of the surrounding park. But this too would commonly contain a variety of garden features, whether buildings like those described by Paul Woodfield below (Chapter 11), or ornamental pools, walks, groves and glades.

At Horton Park, (Northamptonshire), the 17th century gardens round the house were enlarged in the 1720s but swept away twenty years later when the park was redesigned (RCHME 1979, 67–9). In Figure 3.14 the former site of Horton House lies just beyond the centre of the top margin of the picture; below this the boundary between garden and park shows a characteristic semi-circular projection on the axis of the house. A visitor who followed this axis away from the house would encounter first a circular pond, nearly 70m in diameter; then a walk along a former avenue from which the trees were now removed; and finally a triumphal arch set between screens of trees whose curving outline is shown by enclosing ditches and whose actual position is in most cases indicated by the individual tree pits. The arch serves not only to close a vista, but (as the air photograph illustrates) also to hide a pair of cottages. The flanking screens of trees similarly had a dual role: both to provide a more romantic setting for the arch and to conceal

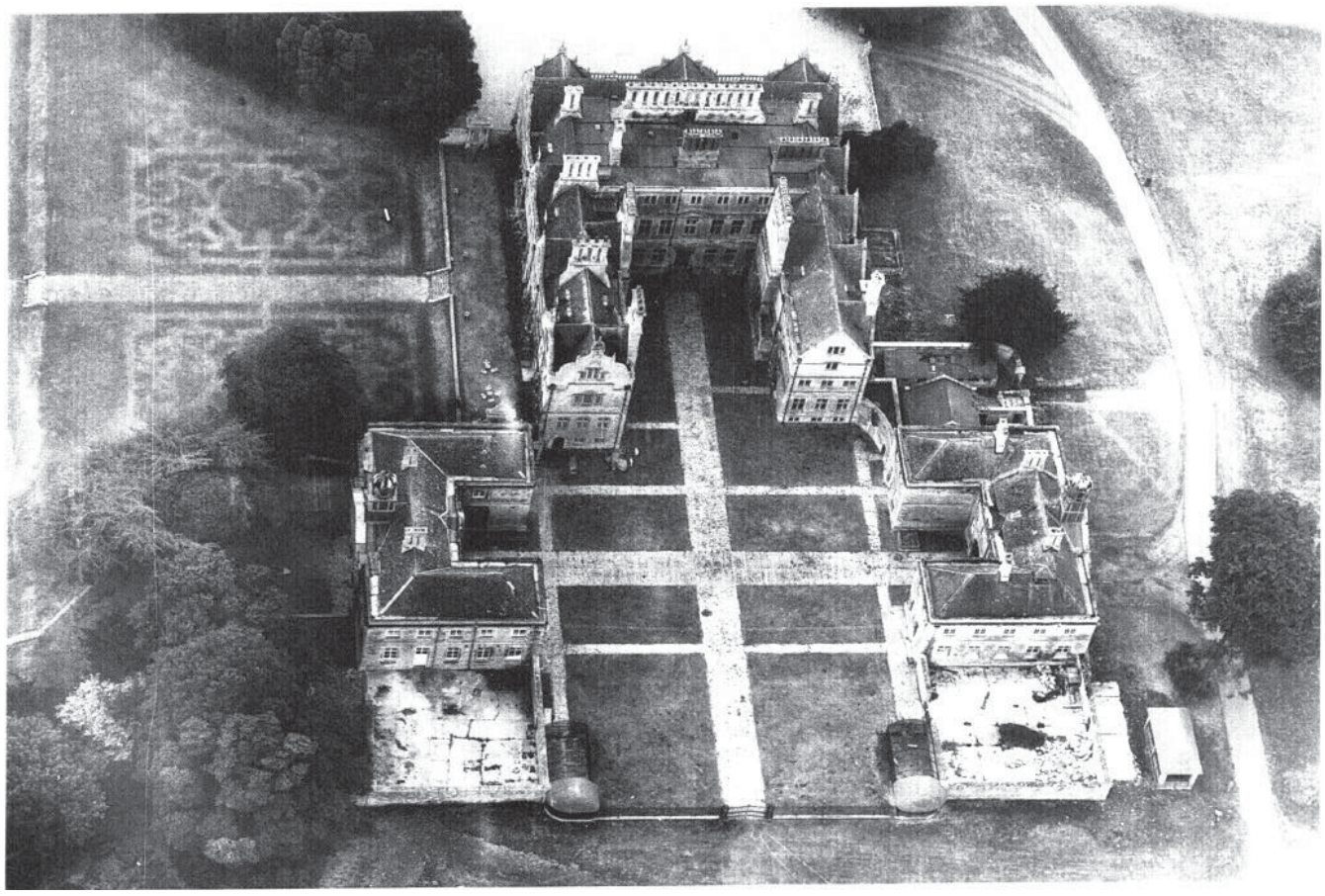

Figure 3.16 Lilford Hall, Northamptonshire, looking SW (20 Sept 1973): twin parterres on a terrace on the SE side of the house are rediscovered through parching of the turf in drought (Photo: CUCAP)

the walls of the cottage gardens and the mundane activities within.

The new style of landscaped park required groves and belts of woodland that should appear, if not always completely natural, at least to have been long established. For such an effect to be achieved within a reasonable period, newly planted trees needed to have attained some size before being placed in position. This in turn necessitated digging pits of considerable diameter and depth to receive them. Tree-pits on this scale yield clear crop-marks if the ground is subsequently cleared and converted to arable, and care must be taken not to misidentify them as prehistoric rubbish pits (Wilson 1975, 64) or ceremonial post-settings.

The example illustrated in Figure 3.15 provides an object lesson in photo-interpretation. A circle of sixteen evenly spaced pits surrounding a dozen others is seen close to one end of a line of prehistoric round barrows known as the Barrow Hills. As every experienced photo-interpreter knows, proximity is no proof of association, but it was inevitable in the context of the barrows and of a probable Neolithic mortuary enclosure that this pit-circle should be provisionally identified as a prehistoric ritual monument (St Joseph 1965). It has taken excavation to prove otherwise and to show that, while the association between the pits and the barrows was indeed a genuine one, it should be placed in the 18th century AD and not in the 2nd or 3rd millennium BC. A circular grove in the park of Wick House was sited, we need not doubt deliberately, beside a pair of barrows that would then have still survived as picturesque earthworks. We should never forget, when looking at archaeological remains in the landscape, that their history extends long after their period of primary use; genuine ruins and earthworks were as acceptable in a park as their frequent counterfeits and this may well result in their close association with other parkland features.

The proportions of park and garden established in the mid-18th century have remained the norm for owners with traditional tastes ever since, but in recent years both elements have seen some changes. Parkland, when not transformed into a

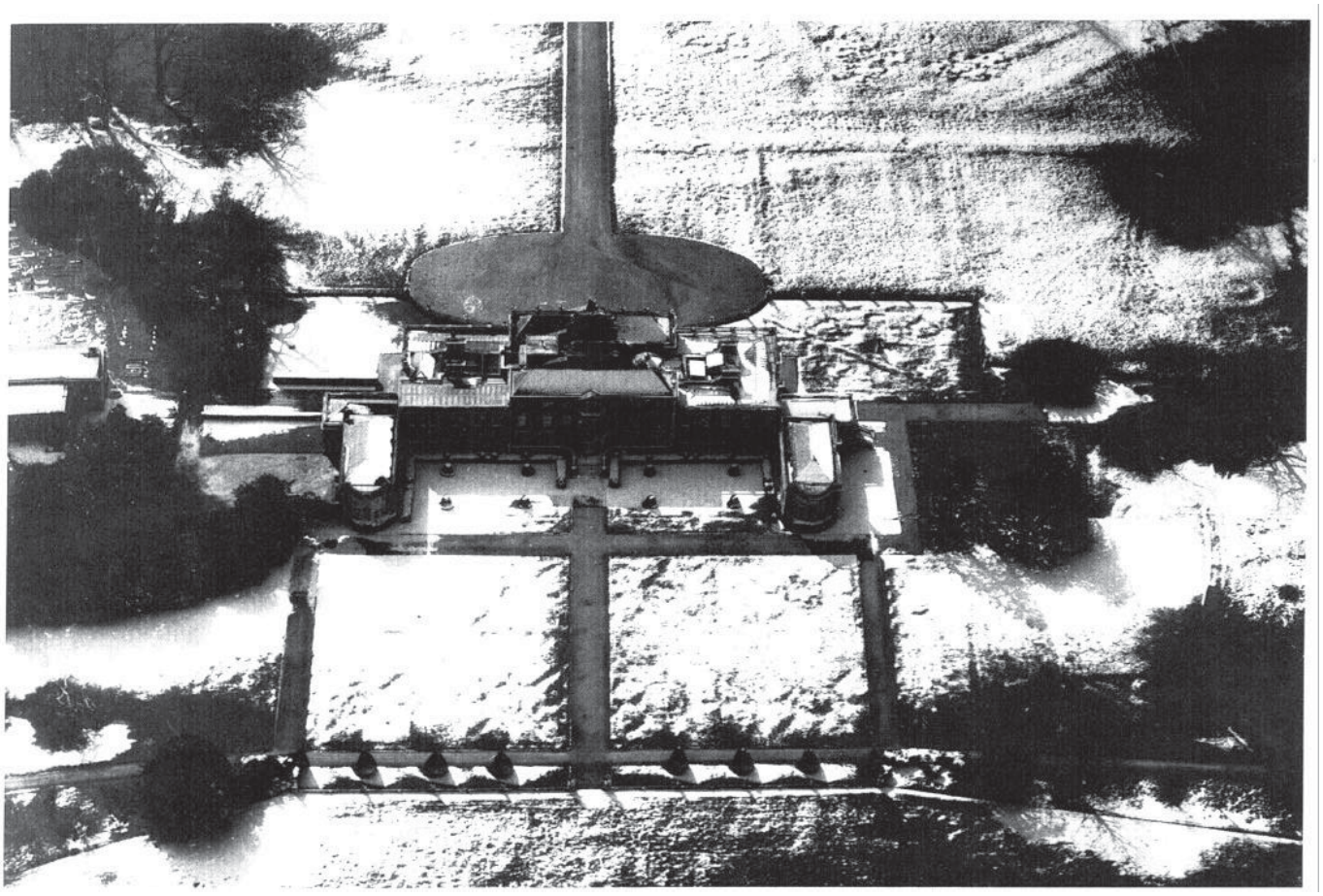

Figure 3.17 Wimpole Hall, Cambridgeshire, looking south (9 Apr 1975): a thin covering of snow picks out traces of Victorian parterres on both sides of the house (Photo: CUCAP)

safari park or developed for up-market housing, has increasingly been given over to arable cultivation, while formal gardens have often been simplified for ease of upkeep with a much reduced staff. Ornamental parterres have been especially vulnerable: in many places air-photographs have recorded their reduction to a mere outline and their eventual replacement by unbroken lawns (Binney and Hills 1979, 16–18, 21, 36).

At the same time, air photographs have also been the means of recovering the design of vanished parterres, of which little or no sign is ordinarily visible. In time of drought, as was seen above in Figure 3.9, overlying turf may parch above the hard-core foundations of former paths to reveal their pattern, sometimes in astonishing detail (Figs 3.16 and 3.17). Even more dramatically, because so rarely seen and photographed, a light covering of snow can emphasise minute differences of surviving relief, allowing their pattern to be appreciated and the design to be recorded for the first time. At Wimpole Hall (Cambridgeshire) two square lawns on the north side of the house and at least one other on the south side had once featured clipped yew trees, one tree in each quarter of every square. Most of these yews survived until 1950; even after they had gone, their former position could still be detected, but little else. It took an April snow-shower to pick out the patterns seen in Figure 3.17, showing that each square had been divided into quadrants by broad paths in the shape of a cross; in the northern squares the yew trees at the centres of the quadrants had each been approached by eight radial paths in a 'Union Jack' design; in the smaller, south-western, square the design was similar but less elaborate, the diagonal paths being omitted. This part of the garden was laid out in the 1840s and it is possible (though not certain) that the detailed design dates from the same period.

In general terms, it is fair to say that any parterre surviving into the post-war period is unlikely to be older than Victorian, and many will be Edwardian or later. Some, of course, have been deliberately restored to 17th century designs derived either from contemporary records, as at

Pitmedden House, Aberdeenshire, or from archaeological excavations, as at Kirby Hall, Northamptonshire. Elsewhere, it is as rare for a garden to survive unaltered as it is for a house to do so. Indeed changes in the one will often accompany changes in the other, both being dependent on the same funds of wealth and imagination for their execution. Thus, at Charlecote Park, Warwickshire, the appearance of house and garden is recorded in an anonymous painting of 1695–1700 (Harris 1985, 144). The quasi-aerial view presented in the painting prompts and facilitates comparison with an air photograph taken in 1950 (Binney and Hills 1979, 36). There are parterres in the photograph, which are already in decay and within a few years will have disappeared entirely, but they are quite different both in position and in design from those depicted 250 years before. Bearing in mind that the house received drastic alterations in 1829 and 1867, it is reasonable to suggest that the gardens were remodelled on at least one of those occasions.

Appendix

Distinguishing the remains of post-Dissolution houses and gardens, farms and closes from those of the former monasteries is not always straightforward. The conventual buildings were often adapted for subsequent secular use, and the abbot's lodgings in some cases differed little from a secular house and could be reused for that purpose without significant alteration. This was even more true of the establishments of the Knights Templars and Knights Hospitallers. In those few cases where it is certain that no later house or farm made use of the monastic site, rectilinear enclosures and elaborate groups of fishponds are found close to the precinct ditch; yet similar enclosures and ponds, if sited next to the known or supposed position of the church and cloister, would seem to belong to a post-medieval phase. On the lesser monastic sites, where there never was a great church, the remains would in any case resemble those of a farm or small manor and we could hardly expect to tell them apart.

For these reasons the lists that follow are not presented as a confident and accurate classification; they are intended rather to draw attention to areas of doubt and to elicit an appropriate degree of caution and open-mindedness in studying earthwork remains on monastic sites.

List A: certain or probable monastic earthworks

Bardney (Lincolnshire): but site of 17th century residence.
Barlings (Lincolnshire): but accompanied by 17th century garden features.
Bordesley (Hereford and Worcester): ponds east of buildings could be later and ornamental.
Bullington (Lincolnshire): conventual buildings perhaps adapted as later house.
Catley (Lincolnshire): conventual buildings perhaps adapted as later house.
Coxford (Norfolk).
Jervaulx (North Yorkshire): fishpond complex and precinct moat.
Kirkstead (Lincolnshire): three sets of fishponds.
Meaux (Humberside).
St Benet Holme (Norfolk): fishpond complex and enclosures inside precinct moat.
Sawtry (Cambridgeshire): enclosures and fishponds.

List B: precinct moat present, but other earthworks ambiguous or fragmentary

Alvingham (Lincolnshire).
Denny (Cambridgeshire).
Sixhills (Lincolnshire).
Sulby (Northamptonshire).
Swineshead (Lincolnshire).
Watton (Humberside).

List C: certain or very probable post-medieval gardens and private grounds

Brooke (Leicestershire): terraces, raised walks, prospect mounds.
Burton Lazars (Leicestershire): parterres, raised walks; also moat and enclosures.
Rocester (Staffordshire): square garden with paths and beds.
Stainfield (Lincolnshire): parterres, raised walks, embanked enclosure.
Thornholme (Humberside): buildings, enclosures, moats, artificial lake.

List D: probable or possible post-medieval gardens and private grounds

Bradwell (Buckinghamshire): enclosures.
Buckenham (Norfolk): moats.
Bushmead (Bedfordshire): enclosures, ponds.
Canons Ashby (Northamptonshire): enclosures, ponds.
Carbrooke (Norfolk): moats, ponds, enclosures.
Chacombe (Northamptonshire): ponds, also monastic precinct.
Croxton (Leicestershire): closes, levelled spaces.
Dale (Derbyshire): closes.
Ellerton (North Yorkshire): enclosures, numerous ponds.
Flitcham (Norfolk): enclosures.

Great Limber (Lincolnshire): buildings, walled closes.
Grovebury (Bedfordshire): moats, enclosures.
Kirby Bellars (Leicestershire): moats.
Lavendon (Buckinghamshire): enclosures, circular mounds, possible water garden.
Legbourne (Lincolnshire): ornamental ponds, enclosures,
Louth Park (Lincolnshire): moats, enclosures, one with circular raised bed.
Luffield (Buckinghamshire): enclosures, some with plough ridges.
Marton (North Yorkshire): enclosures; also monastic precinct and ponds.
Moxby (North Yorkshire): moat.
Nun Cotham (Lincolnshire): buildings, enclosures.
Revesby (Lincolnshire): clearest building is post-monastic; but little trace of actual gardens.
Shingay (Cambridgeshire): buildings, ponds, moats, enclosures.
Shouldham (Norfolk): ornamental ponds, enclosures.
Snelshall (Buckinghamshire): ponds, enclosures, some with plough ridges.
Temple Guiting (Gloucestershire): terraces.
Thornton (Humberside): earthworks related to 17th century gatehouse rather than priory.
Tupholme (Lincolnshire): moat, paddocks; also monastic precinct.
Warden (Bedfordshire); enclosures, ponds.
Warter (Humberside): buildings, closes.
Winghale (Lincolnshire): small moat, enclosures.
Wormegay (Norfolk): ornamental ponds.

List E: Nondescript and fragmentary earthworks

Alberbury (Shropshire).
Beightonfields (Derbyshire).
Coverham (North Yorkshire).
Dodford (Hereford and Worcester).
Godstow (Oxfordshire).
Hagnaby (Lincolnshire).
Heynings (Lincolnshire).
Hough on the Hill (Lincolnshire).
Long Crendon (Buckinghamshire).
Maiden Bradley (Wiltshire).
Marham (Norfolk).
Newsham (Lincolnshire).
North Ormsby (Lincolnshire).
Orford (Lincolnshire).
Owston (Leicestershire).
Pipewell (Northamptonshire).
St Radegund (Kent).
Selborne (Hampshire).
South Kyme (Lincolnshre).
South Witham (Lincolnshire): since excavated.
Spinney (Cambridgeshire).
Stanley (Wiltshire).
Stoneley (Hampshire).
Swainby (North Yorkshire).
Swine (Humberside),
Ulverscroft (Leicestershire).
Waterbeach (Cambridgeshire).
West Acre (Norfolk).
Wigmore (Hereford and Worcester).
Witham (Somerset).
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4 Early gardens in Avon and Somerset

C J Bond & R Iles

Introduction

This paper attempts to summarise our knowledge of the development of gardens in the modern counties of Avon and Somerset up to the middle of the 18th century, when the fashion for the naturalistic style took over.

Roman gardens

The origin of formal pleasure gardens is classical, and the earliest recognisable pleasure gardens in Britain are those associated with Roman villas, themselves a direct import from the Mediterranean. In addition to their ornamental gardens, Roman villas are also likely to have had kitchen-gardens, orchards, and perhaps vineyards. The modern county of Avon has one of the densest concentrations of villas in Britain, especially around Bath, in the Avon valley, and in the Vale of Wrington, and there are also significant concentrations in Somerset, notably around Ilchester.

The biggest local villas are built around a central courtyard, which would almost certainly have been a formal garden rather than a mere farmyard. Such courtyards could be extremely large: the biggest, at the palatial villa at Keynsham, measured 66m by 52m (Bulleid and Horne, 1924–5), but this is rivalled by others at Pitney (64m x 46m) and Wellow (61m x 49m).

A number of villas lay within larger enclosures which seem likely to have included orchards and vegetable plots. Examples include the Lye Hole villa in the Vale of Wrington, which stood within a rectangular enclosure of about 1.65ha, distinct from the contemporary long rectilinear fields (Fowler 1970), and Gatcombe, where gardens are presumed to have lain between the supposed villa and its outbuildings, all within a walled enclosure of at least 7ha (Branigan 1977).

Although numerous villas have been excavated, past work has concentrated on the buildings rather than the gardens. There are two exceptions nearby over the Gloucestershire border. The courtyard of the villa at Spoonley Wood in Sudeley contains vestigial terraces bisected by a paved stone path (RCHME 1976, 113–4; Taylor 1983, 31). More extensive excavations before the south front of the villa at Frocester showed that it was approached by a central pathway between five prepared beds of soil, with a gravelled yard to one side and a possible orchard on the other (Gracie and Price 1979; Cunliffe 1981; see also Zeepvat, this volume); an additional garden enclosure appears to lie to the rear. Charcoal from Frocester included remains of box, probably used for ornamental hedges. Elsewhere, excavated garden features may have been misinterpreted in the past. Taylor (1983, 8) has questioned whether the long narrow structures on either side of the great central courtyard of the Pitney villa can really represent slave quarters and pigstyes, as was suggested by Applebaum (1966, 102; 1972, 179–82); their position in relation to the main front of the house makes this interpretation seem unlikely, and it is at least possible that they may be garden pavilions of some kind.

Finally, there is some limited environmental evidence. At Chew Park seeds, stones, shell,s and other plant remains from the well and elsewhere included hazelnut, walnut, cherry, plum, and probably pear (Rahtz and Greenfield 1978). A well at Low Ham has also produced plant remains, including fragments of hazel and pear or crab-apple wood, hazelnuts, walnuts, cones of stone pine, stones of wild plum, sloe, and common hawthorn, and seeds which include culinary herbs and drug plants such as marjoram, vervain, and opium poppy (Dewar 1955; Godwin 1957). In neither case is there direct evidence for an orchard or garden, but it seems likely that at least some of the plants represented were grown on the spot.

Medieval gardens

During the Middle Ages there was a clear distinction between the nature and function of parks and gardens. Parks were essentially private hunting preserves, large enclosed areas of uncultivated wood-pasture created for the keeping and hunting of deer, and they were often at a distance from the house to which they belonged. In one respect they served a similar function to that of the great landscaped parks of more recent times, representing an ostentatious status symbol for the major landowners of their day. There were over fifty medieval parks in the area encompassed by the modern county of Avon, and at least ninety in the remainder of historic Somerset.

Medieval gardens, by contrast, were much smaller enclosed areas created around manor-houses, castles, and monasteries, in which a variety of plants were deliberately cultivated. Grazing livestock were excluded from the cultivated parts, although it is evident from documentary sources that some gardens and orchards might also include

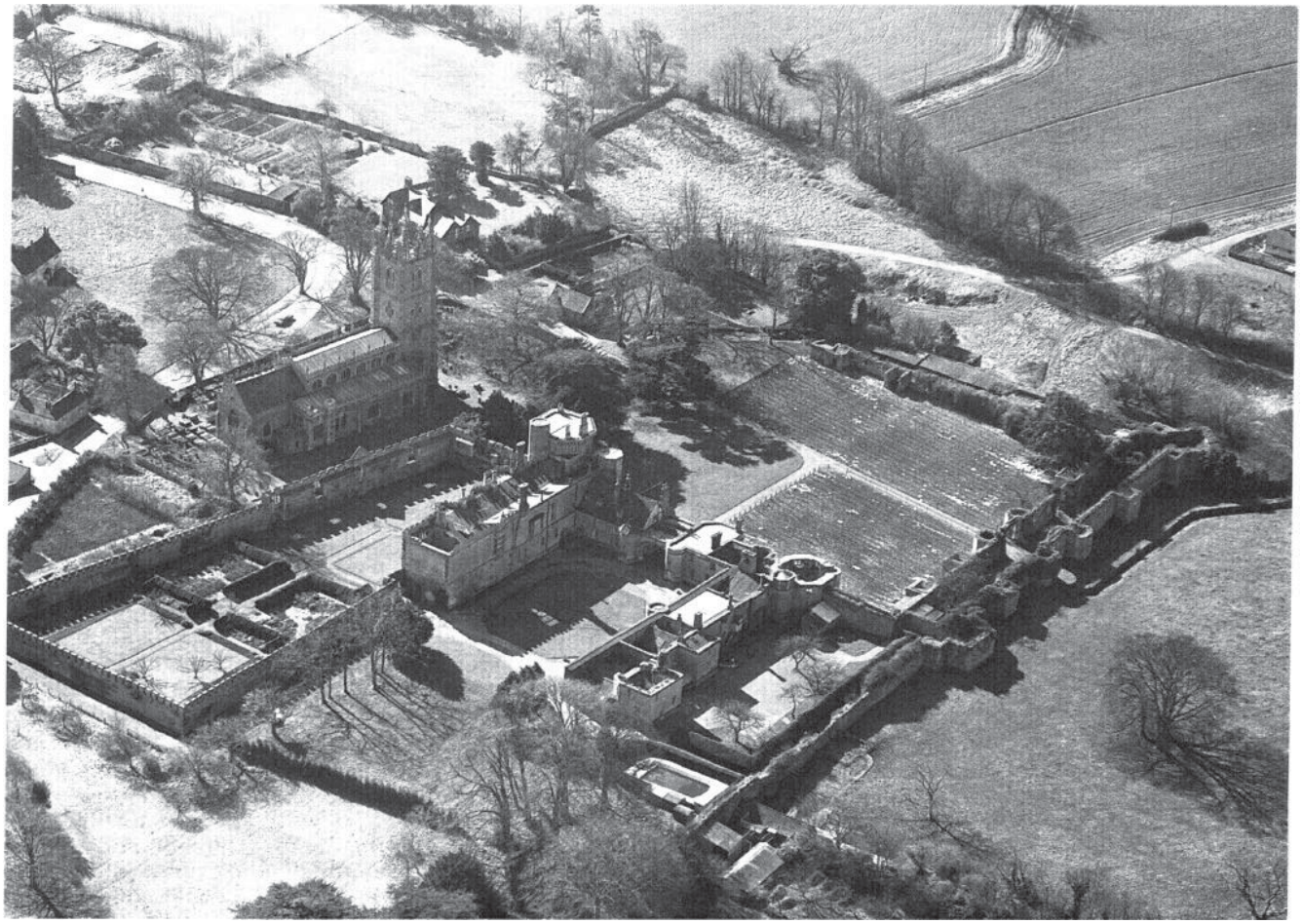

Figure 4.1 Thornbury Castle, Avon, remains unfinished as it was in 1520. The crenellated enclosure between the castle and church was the main privy garden. The other Tudor gardens were at lower left (Copyright West Air Photography)

extents of pasture. Gardens were tended at many levels of society, from the peasant kitchen-garden producing basic vegetables, to the more elaborate gardens of monasteries and seignurial households. Although medieval gardens were primarily functional, at the higher levels of society an appreciation of their aesthetic potential is evident at least from the 12th century, and by the end of the Middle Ages a wide range of flowering plants and ornamental trees was being cultivated, often planted in beds of symmetrical design, sometimes containing ornamental ponds or surrounded by moats (Harvey 1981; 1988; McLean 1981). The Bishop of Winchester's garden at Taunton Castle was planted with apple trees in 1210–11, and also produced leeks and garlic. The Bishop's account rolls also record the enclosure and planting of a new garden at Rimpton in 1264–6 to supplement a much smaller earlier garden. The new enclosure was surrounded by a substantial ditch and bank 5ft (1.6m) high and 7ft (2.2m) broad, with a perimeter of 113 perches (568.3m), implying an area well over 3 acres (1.2ha) and perhaps as much as 6 acres (2.4ha) in extent. It was planted with apple and pear trees, and also with flax and unspecified vegetables, and the orchard section was also used for grazing (Hunt 1959–60; Harvey 1981, 72, 79).

Some details of the gardens of Glastonbury Abbey are known from the one surviving account of the gardener, Thomas of Keynsham, in 1333-4. There were at least two gardens, the Great Garden and the Little Garden, in addition to an orchard and vineyard. Parts of both gardens were grazed by horses, but pot-vegetables including onions, leeks, beans and garlic, dye-plants including madder and bedstraw, fibre plants including flax and hemp, and fruit trees including cider apples and pears are also recorded (Keil 1959–60). Records of purchases and sales inevitably tend to emphasize the economic rather than the aesthetic aspects of the garden; but shortly before the Dissolution the sacrist's account

Figure 4.2 Horton Court, Avon: William Knight's ambulatory, an early Italian Renaissance structure of c *1520*

of 1538–9 mentions a flower garden, and we find Richard Whiting, the last abbot (1525–39), receiving payment of a debt from John Lyte of Lytes Cary in an 'erber of bay' in his garden (Lyte 1892, 36). Glastonbury Abbey also had numerous orchards and several vineyards elsewhere on its estates, and there are specific mentions of gardens on several of its manors. At Meare a vineyard is recorded in *Domesday Book*. Abbot Adam of Sodbury (1323–34) rebuilt the manor-house there and fortified its courtyard with stonework. Abbot Richard Bere (1493–1524), who further extended the house, described the walls as of great height and thickness, enclosing more than 3 acres (1.2ha); substantial fragments of this wall survive. Bere's terrier of 1516 also records stews, fisheries and orchards within the walled precinct and an outer garden and orchard of 2½ acres (1ha) to the east with other plantations (a fuller discussion of this site is in preparation). At Mells the square enclosure of the garden still has its high walls supported internally by semicircular buttresses and entered through a four-centred arch, probably dating from the time of Abbot Bere or Abbot Whiting; it formerly had mounts at each end of its northern terrace, giving views out over the park (Harvey 1981, 136, 142).

Other evidence for monastic gardens comes from the two Carthusian priories at Witham and Hinton Charterhouse. Excavations at Hinton have revealed a large cloister, 69m square, surrounded by fifteen individual cells, each with its own L–shaped garden and paved walk (Fletcher 1958–9). Less is known of the detailed layout at Witham, but the same basic arrangement of cells in gardens around a cloister can be presumed (Burrow and Burrow forthcoming). Evidence of a different kind comes from Steep Holm in the Bristol Channel, where a small house of Augustinian canons was established in the 13th century. The flora of the island includes a number of long-established exotics and rarities such as the naturalised Mediterranean single pink peony and the wild leek in addition to edible plants such as alexanders (Roe 1981), and it is widely believed, though without any firm evidence, that these may be monastic introductions.

Lay seignurial gardens are frequently listed in sources such as manorial extents, but the documentary records rarely provide any detail. Most of them would be fairly small, regular in layout with paths and raised beds, and generally enclosed by a wall or hedge. Water was used as a feature in medieval gardens, and many of the manorial fishponds which lie adjacent to the manor-house may well have been as much ornamental as practical in design (Dennison and Iles 1985; 1988; Aston and Dennison 1988). At Chaffcombe a terrace above the fishpond attached to the moated enclosure of the Poulett manor-house suggests that this may be a garden feature; the house and its outbuildings were in decay by 1565 and have since disappeared (Dennison and Burrow 1985). Other local examples include Horton Court (Fig 4.5a) and the palace of the bishop of Bath and

Wells at Banwell, both in Avon, and Cothay Manor and Brympton d'Evercy in Somerset. Gardens would sometimes be enclosed by moats, and Barr's Court at Kingswood provides an example (Russell 1980). Some sites, such as Pucklechurch, Kenn Court, Marston Magna and Sock Dennis, had several contiguous moated enclosures, and it seems likely that some of these represent small gardens.

Early Tudor gardens

Early Tudor gardens were still very much in the tradition of medieval enclosed gardens, albeit on a larger scale. However, during the 16th century new concepts of Renaissance gardening began to penetrate into provincial England. In Avon there are three outstanding gardens developed during the reign of Henry VIII, at Thornbury Castle, Horton Court and Acton Court. All three were created by men who either had connections with the English court, or had travelled to Italy

The greatest and most influential of these new gardens was at Thornbury (Fig 4.1), where the castle was rebuilt in an almost palatial style by Edward Stafford, 3rd Duke of Buckingham, between 1510 and 1520. Although the scheme was never completed, much survives at Thornbury Castle, arranged around a series of courtyards which would have contained the three main gardens. These are described in contemporary documents.

The first, and most important, lay between the Duke's private apartments and the embattled wall next to the churchyard. The building overlooking this garden still has a series of magnificent oriel windows providing an excellent view. Around the other walls was a timber-framed gallery roofed in slate which would also have given elevated views over it. It seems likely that this was a knot garden — it is recorded that Stafford employed a gardener, John Wynde, who was 'diligent in making knots' (Harvey 1974, 35). The second garden was also enclosed by embattled walls. The third garden was a large orchard stocked with fruit trees and 'many rooses and other pleasures'. It had a series of walks and galleries with arbours of whitethorn and hazel (Strong 1979, 24).

The garden remains at Horton Court (Fig 4.5a) are much smaller in scale than Thornbury, but are possibly one of the earliest examples in England to show direct Italian Renaissance influence, as opposed to the style of Blois and Fontainebleau which had inspired the contemporary royal gardens such as Hampton Court. Much of Horton Court was built by William Knight who, before becoming Bishop of Bath and Wells in 1541, had been a civil servant and ambassador under Henry VII and Henry VIII. He made many visits to the continent, and in 1527 went to Rome to negotiate for Henry VIII's divorce from Catherine of Aragon.

Figure 4.3 Acton Court, Iron Acton, Avon: garden sundial, dated 1520, with initials of Nicholas Kratzer

The house itself is of fairly traditional appearance, retaining its Norman north wing, but the front doorway of the new range includes Italian Renaissance arabesques and the interior includes a Renaissance frieze, of note because they are so early. Of more interest to the garden historian is Knight's loggia or ambulatory (Fig 4.2), built probably in the 1520s (Hussey 1932). The Italian prototype of this structure is a covered walkway, normally open on the north side, designed to provide shade from the hot Mediterranean sun, Undeterred by its inappropriateness to the English climate, Knight built a loggia of six bays south of the house, fronted by rather flat four-centred arches, and he even followed the Italian fashion to the extent of setting four somewhat rustic interpretations of medallions of Roman emperors on the interior wall. Adjacent to the loggia, and linked to it by steps, is a series of six rectangular terraces on different levels. Some are defined by stone walls, others by grassy slopes. Their date is not precisely known, but it is likely that at least some of them are contemporary with the loggia and the rebuilding of the Court. The terraces, together with the medieval ponds on the north side of the house, would have made a very impressive garden layout (Iles 1984a, 44–5).

The Poyntz family, the owners of Acton Court at Iron Acton, were not quite so distinguished as their neighbour, the Duke of Buckingham, but were nonetheless very wealthy. Much of the rebuilding of Acton Court was probably done after 1538 for Sir Nicholas Poyntz, who was connected with Henry VIII's court. Only the east range and part of the north range of the Tudor buildings of Acton Court survive, but current excavations by the Bath Archaeological Trust have revealed sufficient of the layout to indicate a large inner courtyard enclosed by ranges to west, north, and east, and entered through a gatehouse to the south. The main approach to the house was from this direction, through a large outer court bounded by high battlemented walls, possibly a large garden resembling the Privy Garden at Thornbury. Initial clearance work in this outer courtyard in 1985 revealed an elaborate polyhedral sundial bearing the date 1520 and the initials NK, which can be identified with Nicholas Kratzer, a Bavarian astronomer who was horologist to Henry VIII (Fig 4.3; White 1987). This is the earliest garden sundial yet found in England, although it is known that Henry VIII had seven sundials made for the privy orchard at Hampton Court. Unfortunately it is not clear whether it was originally intended for Acton Court itself, or whether the Poyntz family acquired it from the recently-aborted gardens at Thornbury. Further earthworks to the north of the house, partly overlying ridge and furrow, may include the remains of a more extensive series of gardens, although interpretation is rendered difficult by the several phases of land use represented and by modern dumping (Iles 1986).

Elizabethan gardens

Underlying the developing fashion for herb and flower-gardens during the Elizabethan period was an increasing interest in the science of botany. Important local contributions were made by William Turner, Dean of Wells, author of the *New Herball,* published in three parts in 1551, 1562 and 1568, in which he refers to his own physic garden at the Old Deanery (Roper 1921); and by Sir Henry Lyte of Lytes Cary, who published his *Niewe Herball or Historie of Plants* in 1578, based upon his own translation of a French version of a Flemish medicinal herbal originally issued in Antwerp in 1554, but incorporating many of his own observations. Sir Henry's son, Thomas, recorded the many varieties of apple, pear and plum still growing at Lytes Cary in 1618, in addition to cherry, peach, quince, bullace, sloe, walnut, almond, hazel, grape, and fig. John Aubrey noted the remnants of the Lytes Cary garden later in the century, when a few of the original plants still lived (Lyte 1892, 44–8).

The partly medieval embattled wall of Dean Turner's garden at Wells still remains, and the basic form of the raised terrace walk at Lytes Cary is probably Elizabethan, but in all other respects both gardens have been much altered since.

The only major new garden created in the second half of the 16th century in Avon or Somerset was at Montacute. However, the concept of larger and more elaborate formal gardens was also beginning to percolate down to the lesser nobility. Some manor houses of this period, such as St Catherine's Court, Little Sodbury Manor, and Lytes Cary, do still have formal gardens today. Often, however, it is difficult to ascertain how much of their layout is original and how much is a recreation of more recent times.

At Montacute a great new house was built in the 1590s for Sir Edward Phelips, a wealthy lawyer, who subsequently became Speaker of the House of Commons and Master of the Rolls. Gerard's description of the house in 1633 refers to its 'large and spacious Courtes, gardens, orchards, . . . parke &c.' (Bates 1900), and there is a fuller survey of the gardens, which then covered 24 acres (9.7ha), in 1667 (quoted in Girouard 1975, 33–4, in Dodd 1978, 48, and in Havinden 1981, 241–2). The 1667 survey refers to the stone terrace and walled courtyard east of the house entered through a gatehouse, beyond which was a large court with walks and rows of trees, enclosed within a stone wall. North of this court was a bowling-green also surrounded by rows of trees, walks and arbours. To the north of the house was a further spacious walled garden with raised walks, fruit and flowers, beyond which ten steps descended to further walks and orchards and a banqueting-hall. South of the house were kitchen-gardens, fishponds and orchards with cherries, pears, plums and apples, and west of the house another large court planted with elms and walnuts, a hop garden and further fishponds.

Montacute has been cited in the past as a fine example of a surviving Elizabethan layout (Riggs 1902, 11–12; Tipping *c* 1909, 89–100), but in fact a great deal has changed. The outline of the eastern forecourt, originally the direction of the main approach to the house, still remains, with its walls balustraded and punctuated with obelisks and with a small open pillared rotunda at the mid-point of either flanking wall, each capped with an enormous pierced ogee spire and pierced finial. Also surviving are the square corner pavilions with their bay windows, ogee roofs and pierced finials (Fig 4.4), but the stone gate lodges mentioned in 1667 disappeared in the late 18th century, and the central space has since been laid out with lawns and flower borders. The terrace overlooking the principal walled garden to the north and the raised perimeter walks are probably original, but the internal layout is entirely a product of the 1840s. The central pond and fountain, installed in the 1890s, take the place of an Elizabethan prospect mound (Strong 1979, 12; Sales 1980, 166–71).

On a much smaller scale the skeleton of the Elizabethan layout at Cothelstone Manor on the

Figure 4.4 Montacute, Somerset: Elizabethan garden pavilion and balustraded walls at the SE corner of the eastern forecourt (Copyright M Aston)

Quantocks can still be discerned, though the detail is lost. The courtyard on the south-eastern front of the house is closed off by a gatehouse giving access to a straight drive, which leads to an outer gate in a short screen wall. North-east of the house are the outlines of a bowling-green with a loggia of three arches and of another formal garden, both since converted to vegetable plots.

The best evidence for gardens of this period, in the sense that they are least damaged by later changes, comes from the sites of manor-houses abandoned by their owners. There are instances at Hawkesbury Manor and Little Badminton (Iles 1984b), but perhaps the best local examples are Claverton Court and Kelston Court, both near Bath, and Hardington near Frome. At both Claverton and Kelston the old manor-house was superseded by a new house in a new location, and the older gardens were allowed to become grassed over.

Kelston Court was built between 1574 and 1589 by John Harington (d 1582) and his son, also called John. Both men were courtiers, and the second John Harington, a godson of Elizabeth I, was knighted in 1599. The family later ran into financial difficulties, and sold Kelston in 1759 to Sir Caesar Hawkins, George III's surgeon. Hawkins demolished the Elizabethan house and in 1765–70 built the present mansion of Kelston Park on a new site overlooking the Avon.

Very little trace of the old manor-house, which stood immediately east of the church, can now be seen. What does survive, however, are considerable remains of its garden (Fig 4.5b). Directly south of the church are the remains of a large walled orchard. Further south and east of the church are the scarps of several long garden terraces, the most prominent of which flanked the eastern side of the house itself. On the terrace above this scarp, overlooking the site of the house, the terrace is marked by several low banks and rectilinear depressions which clearly represent former walks and flowerbeds. Further south the principal scarp breaks back in two shallow dog-legs and there are further, slighter terraces below. On the main terrace above the house a central feature of the garden was a fountain, designed by Sir John, which formed part of a complex water system supplied by a spring-fed reservoir higher up the hill to the east. This same water system served the house, operating the water-closet invented by Sir John Harington and described by him in *The Metamorphosis of Ajax,* published in 1596; it also fed the fishponds on the further side of the farm buildings.

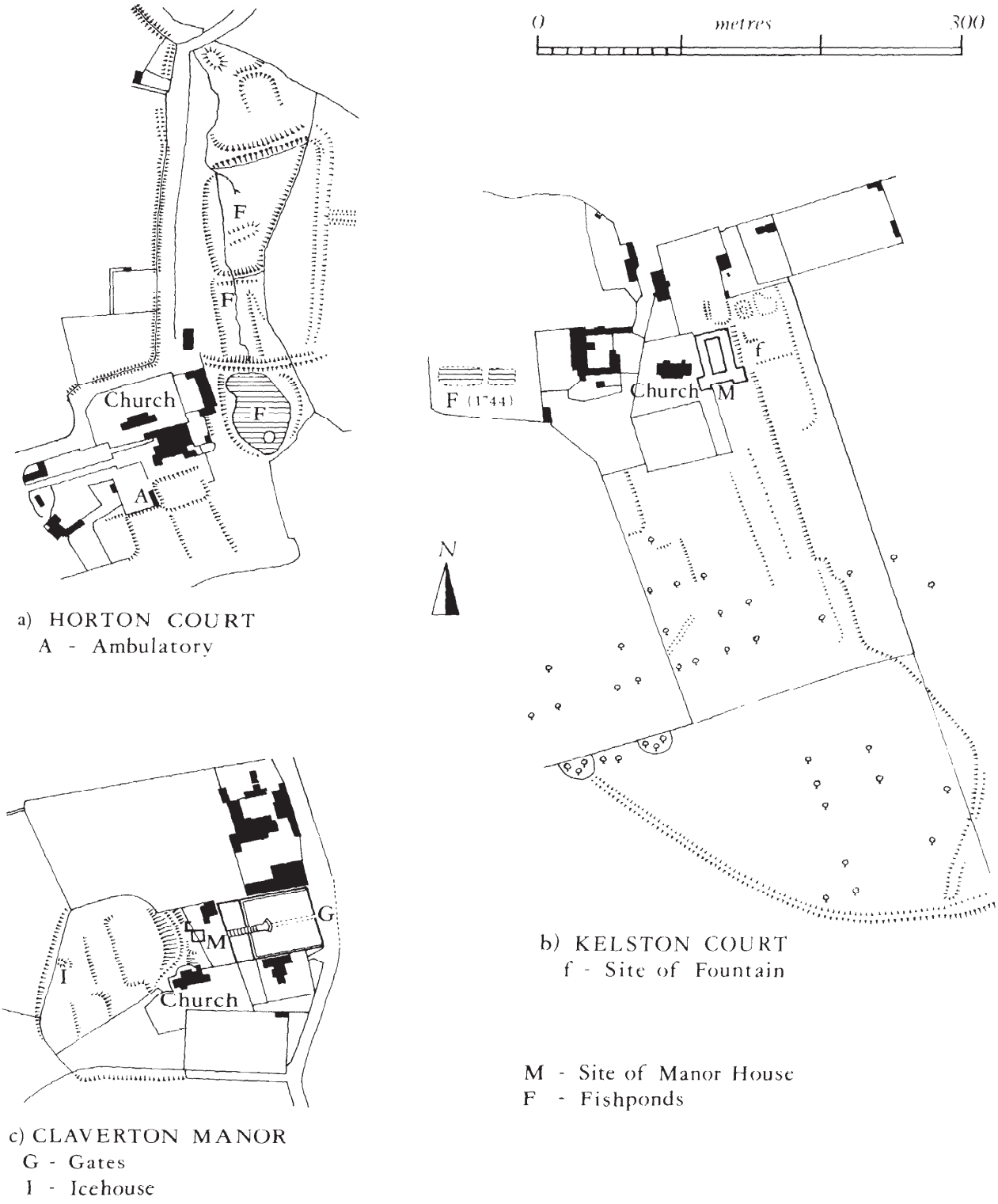

Figure 4.5 Garden earthworks in Avon: (a) Horton Court; (b) Kelston Court; (c) Claverton Manor

Figure 4.6 Claverton Manor, Avon: the gates and walls of the lower terraces. The house, demolished in 1823, stood towards the rear of the third terrace, in line with the steps

An estate map of 1744 shows an area of early parkland extending down to the site of the later 18th century mansion, where there was formerly a summerhouse. This early park had a number of straight double avenues, the positions of which are still preserved by a few trees. One of the avenues led from the old manor to the summerhouse, with its view over the Avon valley (Edgar and Iles 1981).

Claverton Manor and its gardens were probably begun in *c* 1580 and completed in the early 17th century; a lead rainwater head from the site bore the date 1625. The house was demolished by its owner, John Vivian, in 1823, following the completion of the new Claverton House, higher up the hill. There is little to be seen of the old manor-house, unless the existing Manor Cottage represents its service wing (Ayres 1979). Clear remains of its former garden survive, however (Fig 4.5c). The old house was built on a steep hillside which was artificially cut by five terraces. The edges of the higher terraces are marked by grass slopes. The central terrace, with slightly more complex earthworks, was occupied by the house, and the two lower terraces are still enclosed by stone walls. The easternmost wall has a balustrade of openwork panels and a central gateway with openwork obelisks above the piers (Fig 4.6). There is a similar wall above the next terrace, with a flight of steps to its centre, fanning out at the bottom (Iles 1985).

The remains of the Bampfyldes' gardens at Hardington were unfortunately bulldozed and levelled in 1977, but a survey made before their destruction revealed a complex series of earthworks which included house platforms, lynchets and hollow-ways of medieval date, partly overlain by a long bank passing from one straight length to another through a series of obtuse angles. This latter feature appears to be a park or garden boundary, and within it were three rows of planting mounds, one above and two below a terrace (Aston 1978, 12–17). At the west end of the uppermost row is a keeper's lodge with a first-floor banqueting chamber (McGarvie and Harvey 1980). The date 1581 carved over its doorway suggests, though it does not prove, the date of the whole garden layout. The Bampfyldes' house at Hardington was in ruins by the end of the 18th century.

Jacobean and Carolean gardens

The most spectacular abandoned gardens in Somerset are those of Low Ham (Figs 4.7, 4.8). The extensive earthworks here are of at least two separate phases, relating to two successive

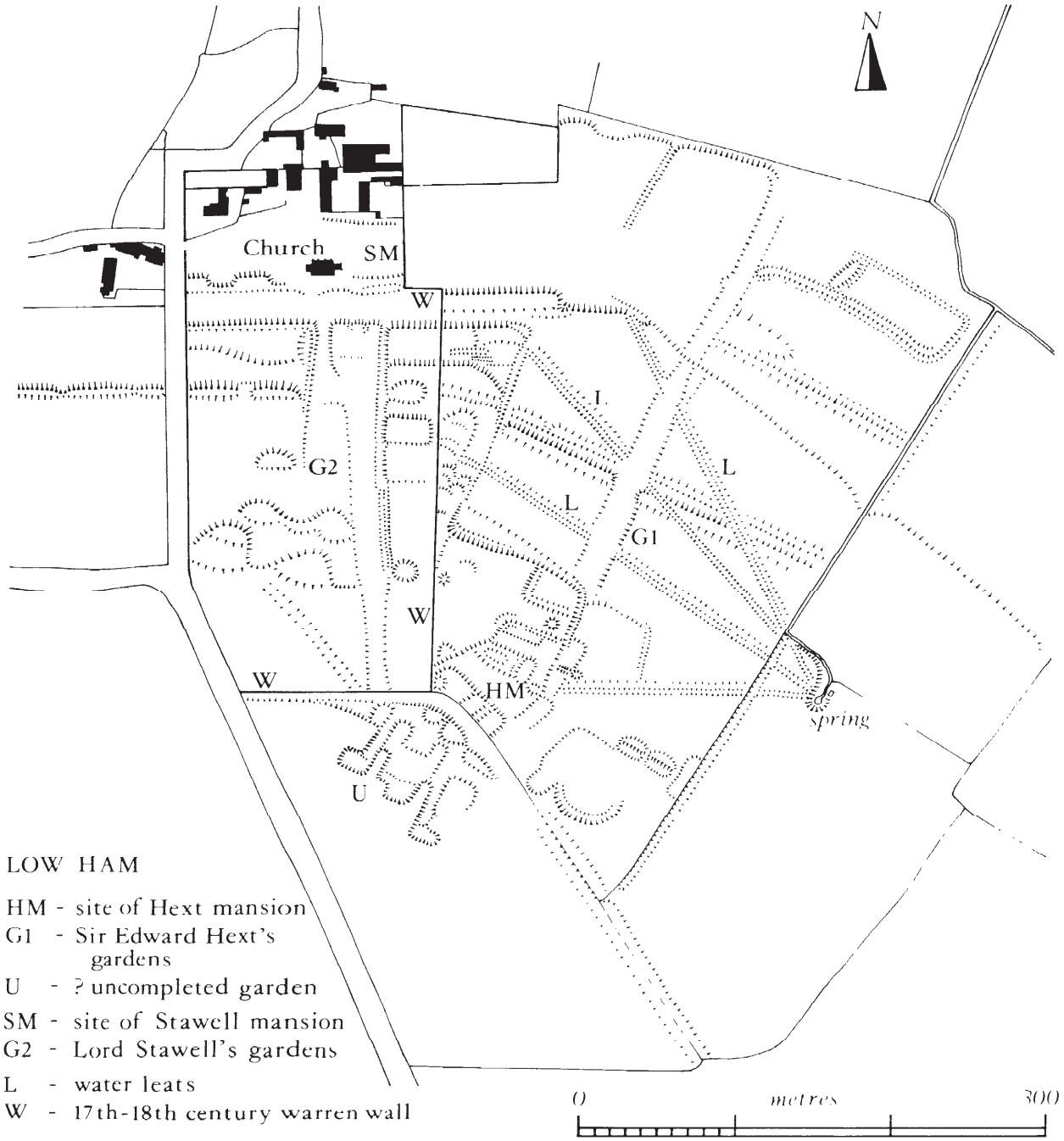

Figure 4.7 Garden earthworks at Low Ham, Somerset (after M Aston)

vanished mansions on different sites (Aston 1978, 17–27). In 1588 the manor of Low Ham was purchased by Sir Edward Hext, and by 1592 he had completed the house, regarded as one of the finest in the west of England (Collinson 1791, iii, 444–6). In about 1620 he began building the anachronistically Gothic church which still survives.

The site of Sir Edward's mansion was almost certainly on top of Hext Hill, some 300m south of the church, where earthworks and parchmarks of walls and foundations are clearly visible. Immediately south-west of the house site is a hollowed-out area which seems too regular in shape to be quarrying, and is probably to be interpreted as a small uncompleted formal garden. The

Figure 4.8 Low Ham, Somerset: aerial view of garden earthworks. Sir Edward Hext's mansion, completed in 1592, stood on the hilltop beyond the left margin of the photograph, and the diagonally-aligned terraces and tree-pits in the foreground are related to this earlier house. The more prominent garden terraces in the centre and right of the picture belong to Lord Stawell's mansion, built immediately east of the church to replace the Hext mansion in c *1690, and itself demolished by 1838 (Copyright M Aston)*

principal approach to the house appears to have been from the opposite side, where a distinct hollow-way can be traced climbing up through the central axis of three broad terraces. The house would have commanded fine views over the valley in this north-easterly direction. The Hext mansion lasted about a century before it was demolished, to be replaced by a new house with gardens on a different orientation, discussed below.

Apart from the first phase of Low Ham, little is known to survive of other early 17th century gardens in Avon or Somerset. At Hinton St George the park was extended in stages by the Poulett family from the mid-16th century onwards, and in the 1630s elaborate gardens were created there. Grand Duke Cosimo III of Tuscany, who travelled through England in 1669, was impressed with the provision of gardens at Hinton 'both for utility and pleasure', with their wide variety of plants and fruits; and he commented in particular on the parterre which, he says, was unlike the usual contemporary English version with turf and rolled gravel walks; instead it was 'a meadow with different beds having borders of bricks on end, filled with flowers' (Harvey 1988, 106). Other gardens appear to have been developed during this period at East Coker Court, Long Ashton Court and Brympton d'Evercy, but little is known of them. The disruption of the Civil War and the *Interregnum* under Parliament were not propitious times for the further development of gardens, although the Pouletts were continuing to take more land into Hinton Park during the 1650s, grubbing out older hedges, planting hawthorn around the new perimeter, and on one occasion in 1652 purchasing 2 cwt of cherry trees from London (Dunning 1978, 40, 45). Elsewhere a number of parks fade from the documentary record and were probably broken up during this period.

Later Stuart and Baroque gardens

After the Restoration gardens remained formal in layout, but became even more elaborate and even more extensive. Although the garden was still divided from the park by some physical barrier,

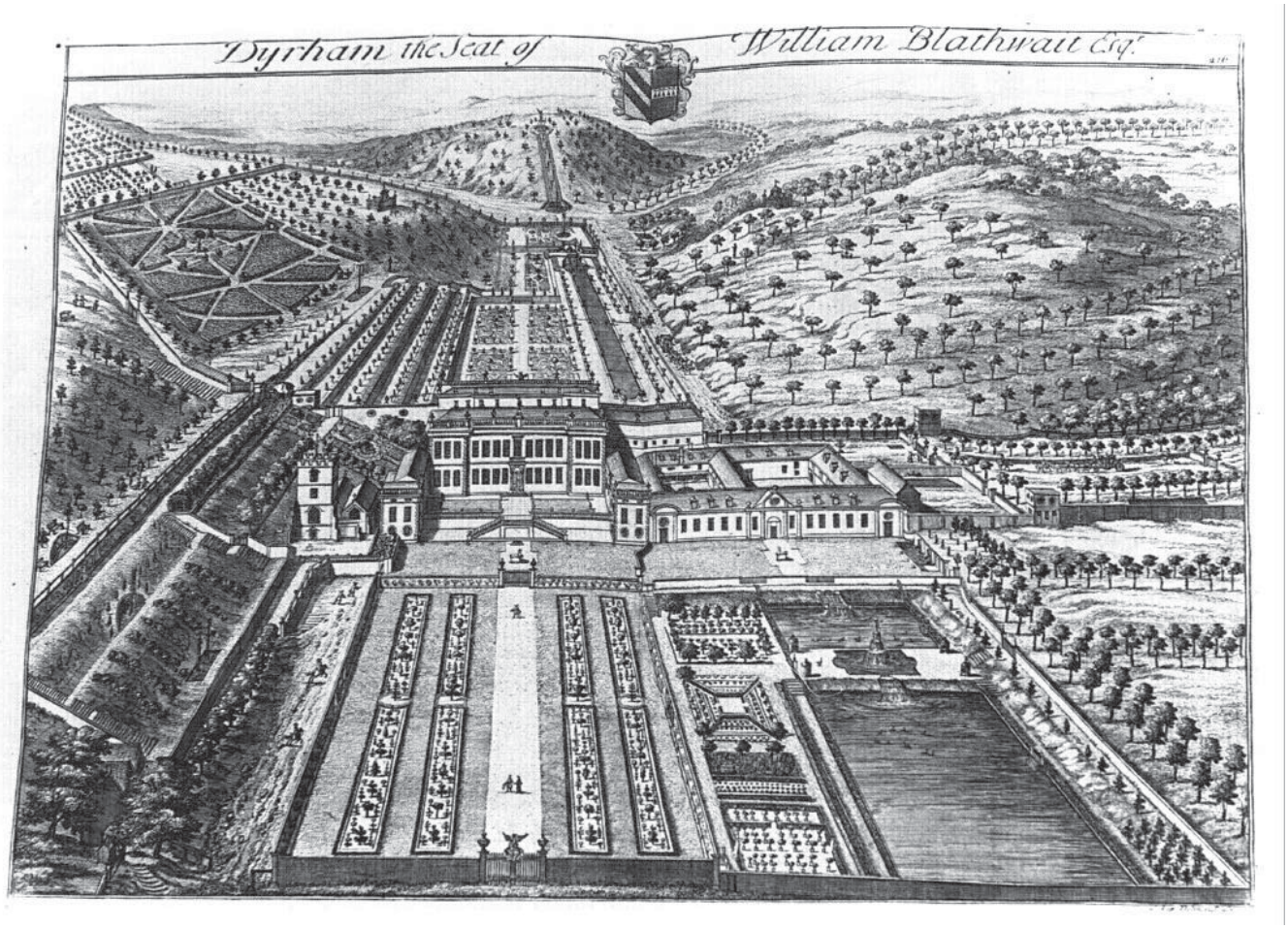

Figure 4.9 Kip's 1712 engraving of Dyrham, Avon, shows this remarkable water garden from the west. On either side of the house are formal parterres flanked on the north by terraces and on the south by ponds and canals supplied from the cascade at-the top

such as a wall, the park was increasingly being brought into the grand design, with devices such as avenues radiating out from the great house or focussing upon some distant vista. Sadly most of these magnificent baroque gardens were swept aside after the middle of the 18th century. Fortunately some record of them survives in the engravings of Kip, published for the northern part of what is now Avon by Atkyns (1712).

The temptation on the part of the artist to flatter the owner, by making his house and gardens look even grander and more elaborate than they were, means that all such illustrative sources need to be used with some caution; nonetheless, in several cases where independent corroboration exists, Kip's prospects can be shown to be reasonably faithful representations of contemporary reality

The accession of William of Orange to the English throne in 1689 resulted in Dutch influences, typified by the use of formal canals, avenues and small enclosed gardens placed without any special regard for symmetry, entering English garden design (Hunt and de Jong 1988).

Some remnants of the vast formal scheme in the Dutch style at Dyrham, laid out in the 1690s for William Blathwayt (Fig 4.9), can still be detected. Blathwayt was an able linguist, fluent in Dutch, who began his career in 1688 as secretary to the ambassador at The Hague, Sir William Temple (himself an influential writer on gardens and creator of an important garden at Moor Park in Surrey). In 1692 Blathwayt became Secretary of State to William III, regularly accompanying the king on his continental campaigns; he retained permanent quarters at the Dutch palace of Het Loo and would have been familiar with the gardens there. Blathwayt had acquired Dyrham by marriage in 1686, and in 1691 brought in George London and Henry Wise of the Brompton Park nurseries to lay out new gardens there.

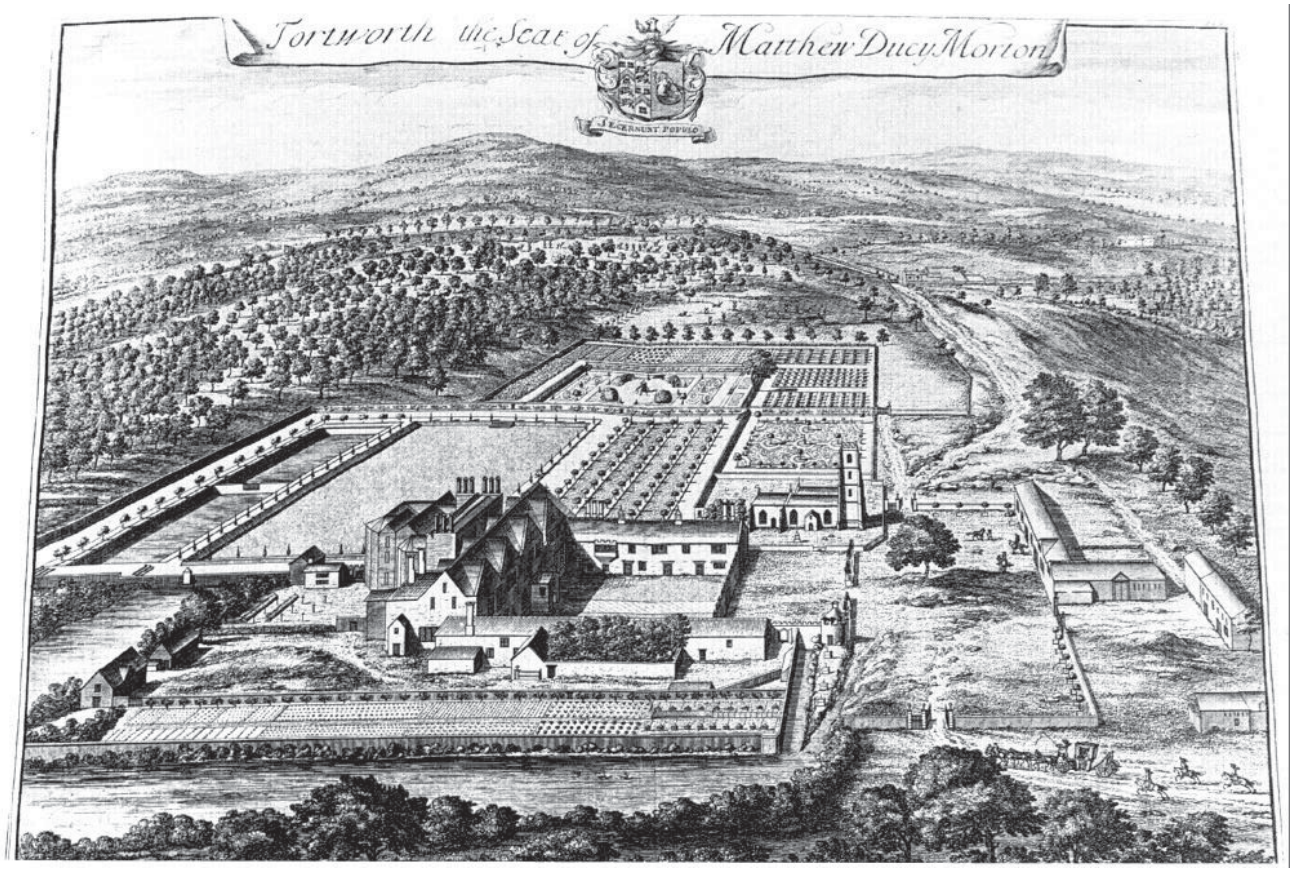

Figure 4.10 Kip's 1712 engraving of Tortworth Court, Avon, shows the house still partially enclosed by a moat, with a small formal garden to the south

London channelled a stream rising on the Cotswold scarp down a long stepped cascade, with a statue of Neptune complete with trident and tritons in a round pond at the top, descending through fountains and round basins to a long canal on the eastern side of the house.

Below and to the west of the house was a further series of rectangular ponds and fountains. Enclosed formal gardens were laid out on either side of the house north of the waterworks. The main parterre on the east was divided into four grass squares by gravel walks, each planted with round-headed laurels, bays and pyramid yews, the whole bordered by holly and yew. Above this was a second parterre with more round-headed laurels and pyramid yews and an octagonal pond with a fountain. Further terraced gardens climbed up the lower flanks of the scarp above the main parterre, and above these was a formal wilderness with a small garden at its centre, containing seats with book stands so that Blathwayt could study there on fine days, looking out over the view towards Bristol.

Below the west front of the house were yet more terraces, fountains, walled gardens, orchards, and kitchen-gardens. Elm and chestnut avenues continued the formal theme, extending outwards across the deer park, where there were further ponds and fountains. Thomas Hurnall, the head gardener, with George London's advice, planted phillirea, piracantha, yew, juniper, Virginia pine, and tulip tree, herbs including marjoram, thyme, sorrell, hyssop, and chervil, and flowering plants such as Sweet William, red and white valerian, and pinks (Mitchell 1977). Orange and lemon trees, phillirea, and round-clipped bays grown in tubs were placed in rows along many of the walks in summer, and given refuge in the orangery during the winter.

The veracity of Kip's engraving of Dyrham is well attested by contemporary letters and descriptions, notably the detailed account by Stephen Switzer in *Ichnographia Rustica,* published only six years after Kip's view (quoted in full by Mitchell 1977, 18–26, and by Hunt and de Jong 1988, 332–4). Although much of this design was 'neglected and going to decay' by 1779 and was relandscaped in more naturalistic style in the 1780s, the basic outline of the 17th century layout shown by Kip west of the house and of the cascade and canal to

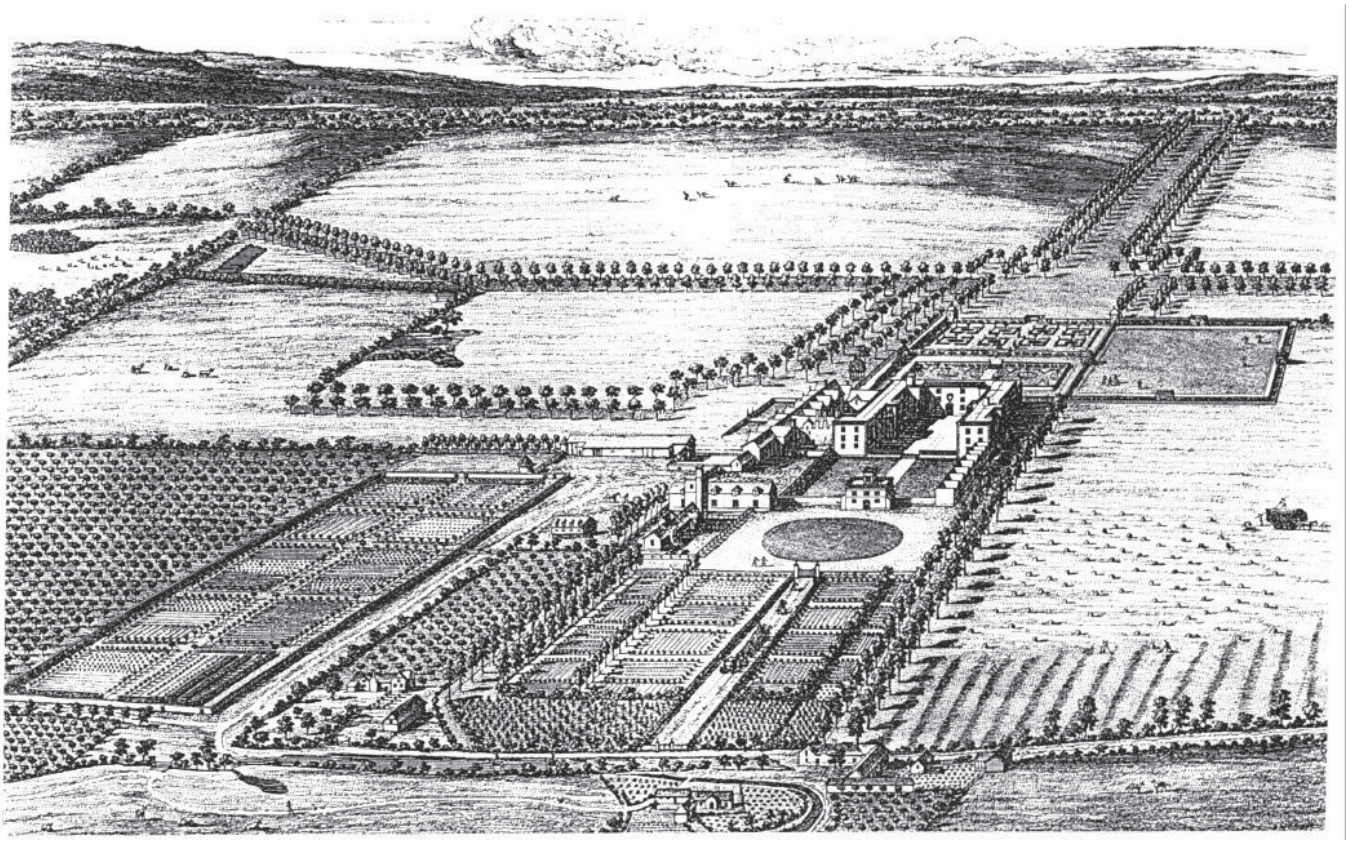

Figure 4.11 Kip's 1707 engraving of Orchard Portman, Somerset, shows an elaborate parterre and bowling green behind the house, with extensive kitchen gardens and orchards to the left

the east, can still be traced; the statue of Neptune is the only substantial feature to remain *in situ,* but the sites of some of the ponds, fountains and garden walls sometimes show up in drought conditions; and vestiges of the elm avenues in the outer parts of the park survived until the outbreak of Dutch Elm disease in 1976 (Mitchell 1977; Sales 1980, 58–60).

London and Wise were also responsible for the vast geometric layout illustrated by Kip at Badminton. Close to the house was a series of enclosed gardens where Mary, Duchess of Beaufort (d 1715) built up what was then one of the finest collections of exotic plants yet seen in England. There were also more spacious parterres, for which various designs survive, clipped topiary mazes and a short canal. The park beyond was laid out with radiating and intersecting avenues (Hunt and de Jong 1988, 242–4). Badminton was altered first by Kent and then by Brown in the 18th century, and virtually nothing of the formal design survives.

Kip's illustrations also cover many smaller houses, such as the old Tortworth Court (Fig 4.10), with what appears to be part of a medieval moat in the immediate foreground. In the centre, and on the further side of the Court, are the new formal gardens with raised walkways, a large flat lawn, parterres, tree-lined walks and a canal to the left. Beyond is the deer park enclosed within its own wall.

At Henbury an extensive property was purchased in 1675 by a wealthy lawyer, Sir Samuel Astry, who enlarged the existing house and laid out formal gardens to the north. Kip shows two rectangular parterres beyond the forecourt, and beyond them a great square walled garden with cruciform walks and a central pool and fountain. South of the house a double avenue led at a slight angle up to a summerhouse on top of Blaise Hill. All vestiges of this scheme have been removed by later landscaping (Eveleigh 1987).

In Somerset the layout at Orchard Portman was illustrated by Kip in his *Britannia Illustrata* (1707). The family estate was recovered by Sir William Portman after its sequestration by Parliament, and he added a new range to the house between 1660 and 1690, probably beginning the new gardens at the same time (Mayberry 1986). Kip shows an elaborate formal parterre west of the house approached across the park by a long double

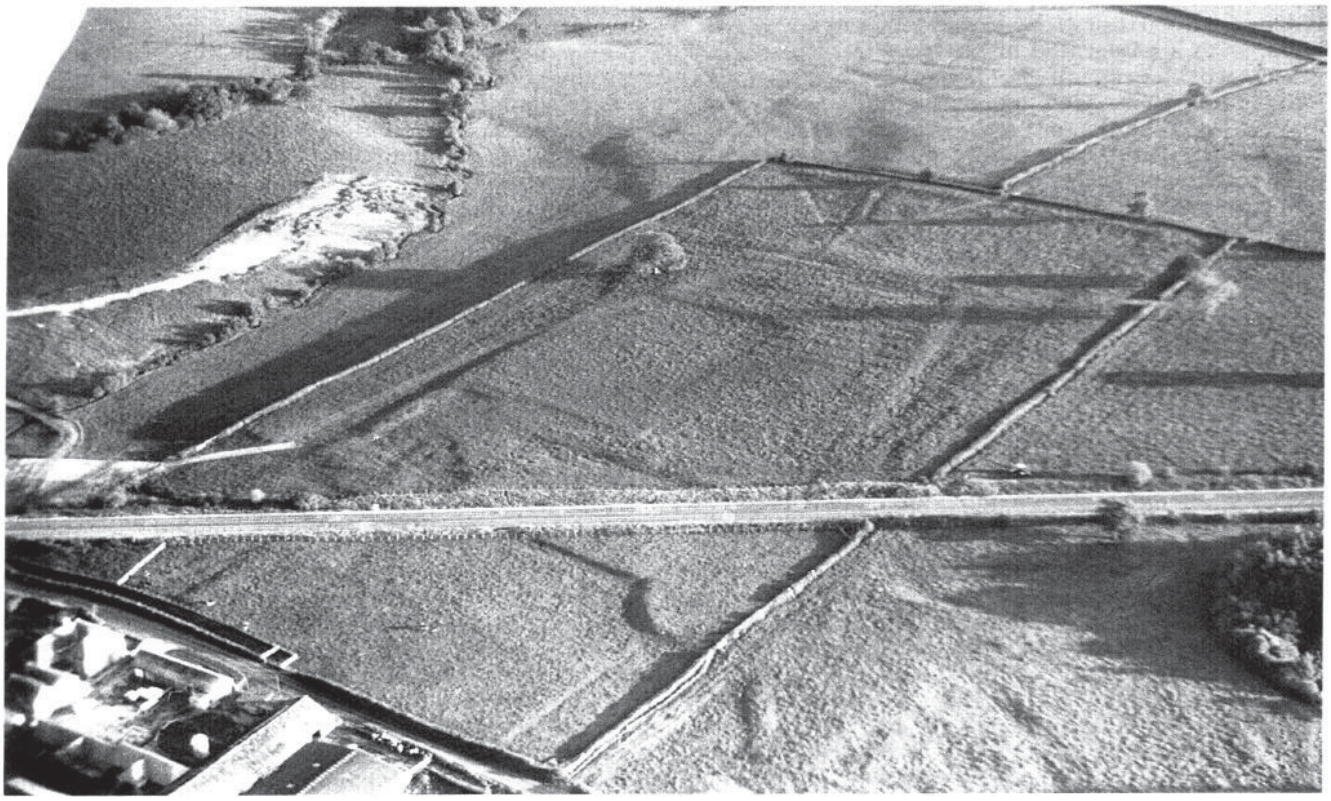

Figure 4.12 Witham, Somerset: aerial view showing the earthworks of the early 18th century formal garden towards the bottom left, overlying the earthworks of the medieval Charterhouse in the centre, both cut by the Great Western Railway's Weymouth line (Copyright M Aston)

avenue, with a bowling green immediately to the north (Fig 4.11). Subsidiary avenues meet the main approach at right-angles in front of the parterre. Before the east front of the house is a gravelled forecourt with a circular lawn and beyond that further formal gardens extending up to the present road. A large walled kitchen-garden and extensive orchards lie to the south. Some of the buildings shown by Kip, notably the church and rectory, survive, but otherwise there are only slight terraces and lines of some of the enclosure walls. There is also a Kip engraving of Brympton d'Evercy, where some elements — forecourt, south terrace and bowling-green — survive from the 17th century layout despite extensive later remodelling.

Contemporary with the early stages of the restoration of Orchard Portman is Redlynch Park near Bruton, where the house was rebuilt in 1672 by Sir Stephen Fox. In enlarging the grounds he appears to have removed the village, replacing it with estate cottages on the main road (Havinden 1981, 235). Redlynch was further landscaped in the 18th century, and little of the earlier pattern remains apart from the orangery.

For the second phase of the Low Ham gardens there are no contemporary detailed prospects, although an estate map of 1779 gives some impression of the new house, which lay immediately east of the church in what Collinson calls 'a very low and bad situation' (Collinson 1791, iii, 444–6; Aston 1978, 17–27). The property had passed by marriage from the Hexts to the Stawells in 1625. Collinson tells us that John, 2nd Lord Stawell, pulled down the Hext mansion in about 1690 and replaced it with 'a most sumptuous and expensive edifice, 400 feet in length and 1 hundred in breadth'. Stawell died in 1692 at the age of 24, by which time the new mansion had already cost him over £100,000, and he had found it necessary to sell most of his other estates to pay for it. The uncompleted house was in ruins by 1823 and had disappeared entirely by 1838. New gardens had

been commenced at the same time as the house, and a letter from James Bobart dated 26th July 1690 mentions some of the work in hand: a broad terrace with a flight of steps leading up to a higher terrace where there was to be a canal spanning its centre, with further steps ascending to two higher levels, with a wilderness at the summit. It is today difficult to identify all the features mentioned by Bobart, but there is a most impressive series of terraces and banks on an east-west orientation climbing the hill to the south of the church, at an angle to the earlier Hext gardens but in alignment with the church, which would presumably also have influenced the alignment of the adjacent Stawell mansion (Figs 4.7, 4.8).

Formal gardens continued to be made through the first half of the 18th century. At Witham a major new garden was designed for the house built by William Talman for Sir William Wyndham in 1710–17 (McGarvie 1981), and the earthworks of its front parterre with its perimeter walk and concave-curved outer corners still remain, cut by the railway and partly overlying the earthworks of the medieval Charterhouse (Fig 4.12).

Sir Abraham Elton, who inherited Clevedon Court in 1727 but probably began work on the property before that date, appears to have extended the existing terraces, supporting one with a revetment wall and building another boundary wall higher up the slope. When the work was complete he commissioned an unknown artist to paint a bird's-eye view of the court and its grounds. This painting, which still hangs in the house, is a valuable source for its appearance prior to the later 18th century and modern alterations. Fruit trees are pleached against the brickwork of the lower terrace wall, planting is beginning on the slopes above the boundary wall, and there were three long fishponds in front of the barn, of which vestiges can still be seen (Dennison and Iles 1985, 43–4; Elton and Elton 1986).

At Marston Bigot, which had become the principal seat of the Earls of Orrery after 1690 when their great house at Charleville in Co Cork was burnt down by James II's forces, major works were carried out in 1724–39 by Stephen Switzer. These included cascades south of the house, two circular pools before the main front, a vast walled parterre to the rear of the house and lines of trees to provide a windbreak in this exposed situation. Although the general outline of the parterre is strictly geometrical, a more sinuous and irregular pattern of walks was just beginning to appear in two of its compartments, heralding the approaching end of formality. New landscaping later in the eighteenth century swept away Switzer's garden, though its general appearance is known from an undated print by R Parr, probably made in about 1740 (McGarvie 1974; 1987).

Plans for a baroque landscape of canals, basins, cascades and formal wooded walks were still being mooted at Ven House near Milborne Port as late as 1739, and some remains of the formal scheme can still be identified there, though much modified in the later 18th century (HBMC 1985b).

Smaller country gardens

The extent to which the style of the grand formal gardens was imitated on a smaller scale at houses of sub-manorial level remains largely unknown. The best written evidence of gardening activities tends to come from parsonages. Adrian Schaell, who arrived for his induction as rector of High Ham in 1570 to find the rectory house in a severe state of decay, annotated the parish register in 1598 with a record of his achievements. In addition to his work on the house, he tells us 'concerninge the orchardes and gardens, what wisedome and diligence I have used in fencinge and stoppinge them, in graffinge of trees and plantinge of diverse sortes of hearbes wth greate diligence sought out of sundry places' (Crossman 1894, 119). Similarly, Martin Strong records that, on his institution as vicar of Yeovil in 1690, he found 'the Vicarage House and gardens miserably ruinous and out of all repair', and forthwith began repairing the house and planting 'all the codlin-hedges, archichoacks, asparagas, goosberries, cherries and hedges'. He planted a new hedge of codlings (a small, hard apple, probably used for cider) in 1703 (Goodchild 1932, 113, 116). Such records, while interesting, reveal no information about the layout of the garden.

An exceptional representation of a small farmhouse garden in formal style survives on a painted wooden panel over a fireplace at Charity Farm, Lovington, near Castle Cary. This painting, probably dated *c* 1700, depicts the east face of the house with a railing and a row of clipped shrubs immediately in front. To the fore of this are two geometric flowerbeds each divided by gravel walks into quarters, with their central islands each containing a large shrub. At the outer end of the grass walk between the two beds is a sundial on a pillar. On the northern side of the garden is a stone wall with a row of bee boles containing skeps. This wall, with its eleven bee boles, is the only feature of this garden to survive today (Gilson and Williams 1982, 90; Crane 1983, 119, fig 138).

Town gardens

Like the smaller country gardens, early town gardens have been little studied, though there is no doubt that from the late Middle Ages onwards most of the bigger houses in towns like Bristol and Bath would have had their own small gardens. Invariably they had a formal layout, and this tradition continued well into the eighteenth century. They are depicted on early large-scale town maps, such as James Millerd's plan of Bristol (1671–3), James Gilmore's plan of Bath (1694) and William Simes's plan of Wells (1735). None of these

early town gardens have survived, but there have been two recent attempts to recreate examples, at the late 16th century Red Lodge in Bristol and at no 4 The Circus, Bath. The latter example is particularly noteworthy, since it is based not only on documents, but also upon archaeological excavation, which revealed the original flowerbeds and paths of this small Georgian garden (Bell 1990).

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5 Roman gardens in Britain

R J Zeepvat

That the creation and use of gardens in the Roman period was a common pastime is evident from the frequency with which the subject occurs in classical literature. Pliny, in particular, waxes lyrical in several of his *Letters* on the subject, with relation to the gardens of his Tuscan villa:

> The exposure of the main part of the house is full south...a wide and proportionably long portico, containing many divisions... In front of the portico is a terrace, divided into a great number of geometrical figures, and bounded by a box hedge. The descent from the terrace is a sloping bank, adorned with a double row of box trees cut in the shape of animals; the level ground at the foot of the bank is covered with...acanthus: this lawn is surrounded by a wall enclosed with dense evergreens, trimmed into a variety of forms...The whole is fenced in with a wall masked by box trees, which rise in graduated ranks to the top. **(V,** letter 6)

Pliny also talks of his 'well-stocked kitchen garden' **(II,** letter 17), and mentions the use of plane, bay and cypress trees, of fountains and artificial streams and ponds, and of gardens laid out to appear 'natural':

> 'Beyond the wall lies a meadow which owes as many beauties to Nature as all I have been describing within does to art'. **(V,** letter 6)

Details such as these from classical writers present a clear picture of the gardens of town and country houses in Italy, augmented by archaeology with the excavation of houses and their surroundings in Pompeii and Herculaneum, of Hadrian's villa at Tivoli, and of the splendid country houses in Gaul, such as the Villa Urbana at Montmaurin, with its gardens laid out in formal style with trees, bushes, pathways, and specialised garden structures (Fouet 1969). It is apparent that gardening in the Roman period embraced similar concepts to those in vogue in more recent times; the rigid 'formal' garden, the 'natural' garden, and the utilitarian kitchen garden.

Turning to Britain itself, the archaeological evidence for gardens is at present sparse, and mainly limited to villa sites. There are several possible reasons for this. The first is that, until quite recently, excavators have tended to concentrate on the major structures on Roman sites, particularly on villas. Secondly, excavation on urban sites has generally been on severely limited areas, too limited to give a good picture of a garden layout. Finally, the features that provide the clues to any garden layout — bedding trenches, gravel paths, walls, and fences — are often open to a number of interpretations, even supposing that they survive. Bedding trenches, for example, only survive where the topsoil depth was insufficient for planting, or where badly drained subsoil has been broken up by 'double digging'. Hopefully this situation has changed in recent years, despite some of the above limitations, with increasing emphasis being placed on landscape and environmental archaeology, as well as the large scale excavation of selected sites.

Probably the best known example of a Roman garden in Britain is at Fishbourne, excavated by Professor Cunliffe during the 1960s (Cunliffe 1971). This was the site of a palace, built for the royal house of Tiberius Claudius Cogidubnus, client king of the pro-Roman tribe the *Regni* in *c* AD 75–80. By the Flavian period the palace covered an area of some 4ha, centred on a colonnaded courtyard measuring 77 x 98.5m, containing the garden (Fig 5.1). The garden is described in detail by Cunliffe (1971).

Fishbourne is of course an exceptional site in Romano-British terms, having more in common with the massive villa establishments found on the continent than with even the larger British villas. Few of these larger villas have, as yet, produced evidence of gardens, probably because most were excavated in the 19th or early 20th centuries, with all the limitations of technique and approach then prevalent, At some sites, such as Brading (Price and Hilton Price 1881) and Chedworth (Goodburn 1972), the presence of a garden is suggested from the layout of external features, such as courtyard walls, though no definite garden features were identified.

There is, however, more definite evidence of gardens associated with several of the smaller villa establishments of Roman Britain. At Frocester Court, Gloucestershire, excavations directed by Capt H S Gracie revealed a winged corridor house 39m in length, facing south-eastwards across a walled courtyard area 56 x 53m, fenced on the south-east (Fig 5.2). The excavator observed that bedding trenches excavated beside the path (Fig 5.2) '..contained potsheds, broken bones and jewellery, especially hairpins, which suggested that the garden beds had been manured with compost from the kitchen refuse dump, and that the ladies

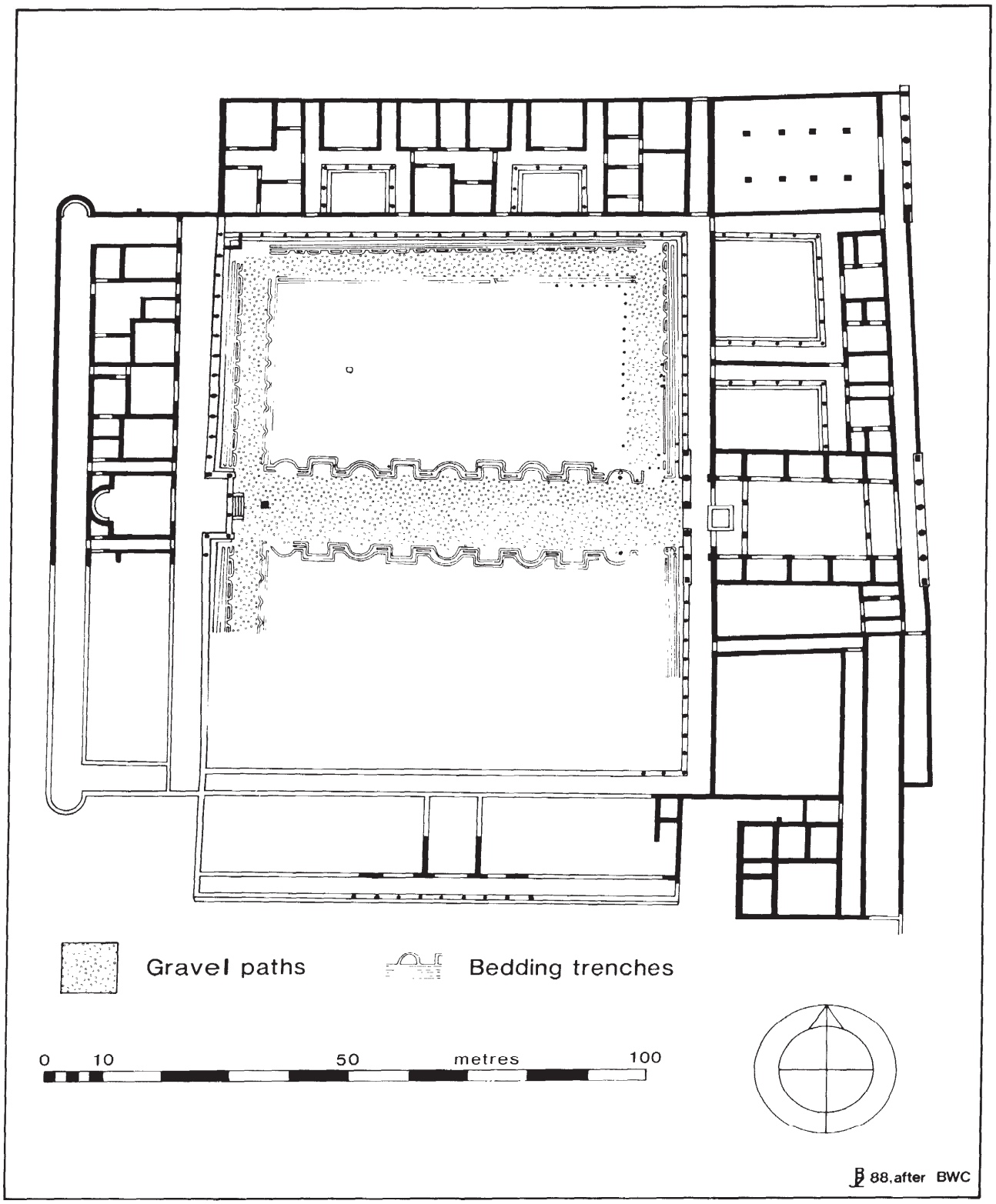

Figure 5.1 *Fishbourne, Sussex: ground plan of the Flavian palace, showing garden layout (after Cunliffe)*

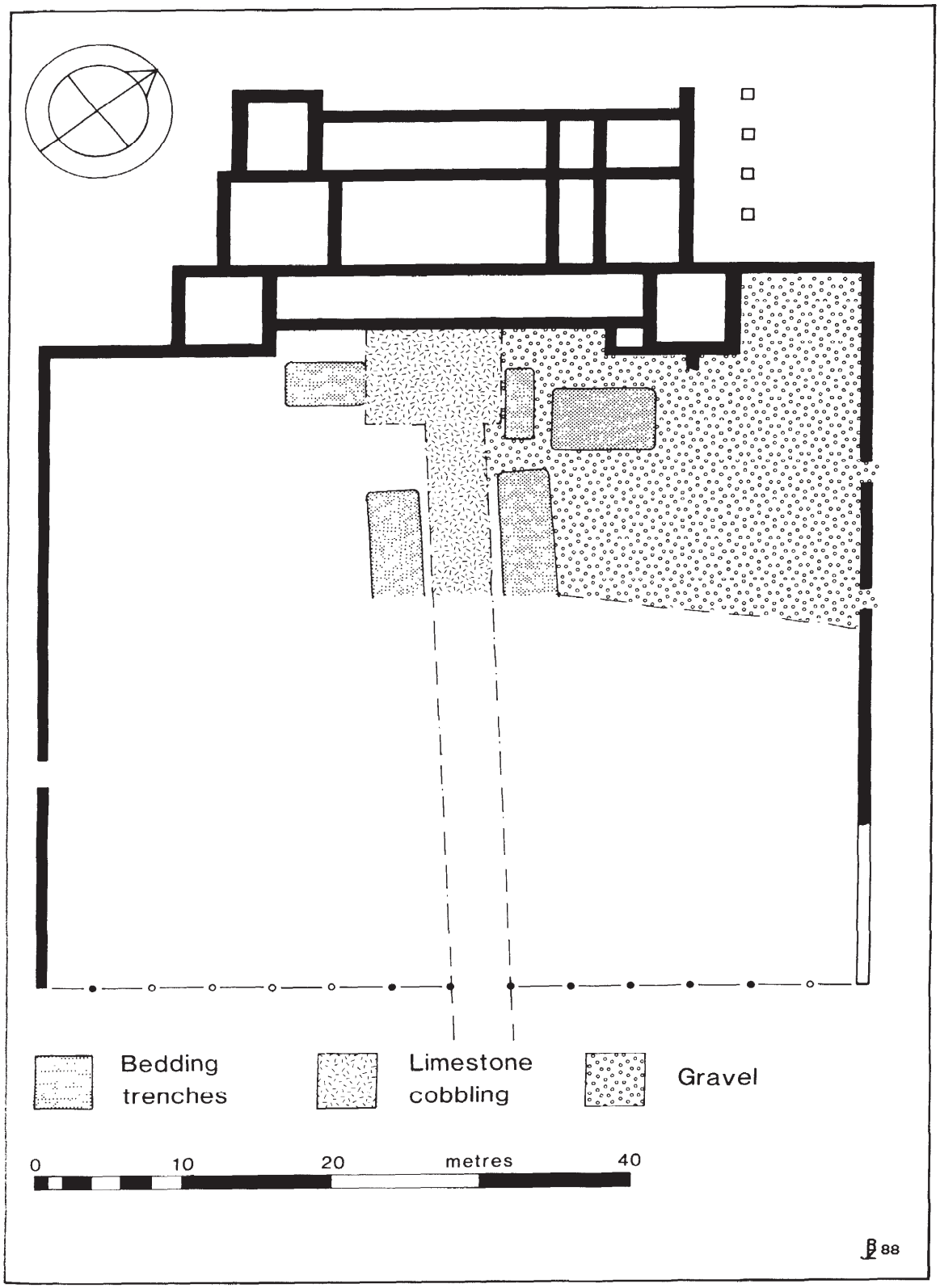

Figure 5.2 Frocester Court, Gloucestershire: the villa and gardens in the 4th century (after Gracie)

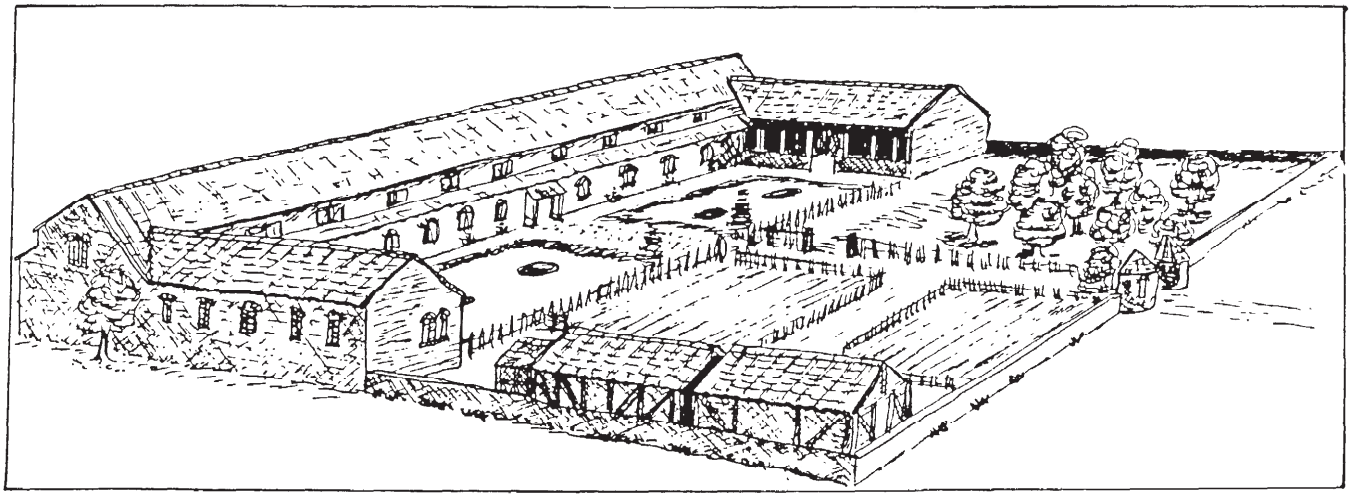

Figure 5.3 Latimer, Buckinghamshire: reconstruction of the house and garden c *AD 300 (after Branigan)*

took an interest in the flowers' (!) (Gracie 1971; Gracie and Price 1979).

These flower beds were laid out during the 4th century. Unfortunately we are not able to say what varieties of plant were grown in them.

Formal garden layouts were not, as we have already noted, the only type of gardening practised in the Roman period. From his excavations at Latimer, Buckinghamshire, Keith Branigan noted areas fronting the house that were kept free of cattle and sheep, and of at least the more ugly farm buildings. In these areas, just inside the boundary wall of the courtyard, were found traces of at least six bedding trenches, running parallel to each other for at least 5m. These he interpreted as vegetable gardens or small orchards. It is interesting to note that Branigan's reconstruction drawing of the villa, *c* AD 300, also suggests a formal garden area closer to the house (Fig 5.3; Branigan 1973, 88–9).

Another smaller villa establishment containing evidence of both formal and kitchen gardens was excavated by the writer at Bancroft, Milton Keynes, Buckinghamshire, between 1983–86. There a simple but substantial house, originally constructed in the late 3rd century, was refurbished and extended in the mid 4th century, becoming a winged corridor house facing east across the valley of a tributary stream of the river Ouse (Fig 5.4). From the north-east and south-east corners of the house two walls ran eastward, forming the sides of an enclosure 37m wide, fronting the house, much the same arrangement as at Frocester. In the centre of this enclosure, identified as a walled formal garden, was a rectangular fishpond measuring 13 x 2.6m internally, constructed of limestone, with an operational depth of about 0.5–0.6m. The location of the pond, 15.5m from the boundary walls of the garden and the front of the house, leads to the conclusion that the east end of the garden, of which no trace remained, was 15.5m east of the pond, giving a total length of 46m. The pond was fed with a continuous supply of water by a series of tile, lead and timber drains running from an overflow in the large cold plunge bath at the south end of the house (Zeepvat 1988, 18–20, and for references to other Roman garden ponds).

Despite extensive examination of the area surrounding the pond, no bedding trenches or similar features were found. This may be explained by the well-drained gravel subsoil underlying much of the garden, and a depth of topsoil sufficient for most plants. The only other features noted in the garden was an area in front of the central porch measuring 4.5 x 2m, paved with rectangular limestone slabs.

Two buildings flanked the garden to the north and south, of which the latter was probably associated with the garden. This was an octagonal structure, with stone walls probably carrying a timber superstructure, its major axes measuring about 8m. Though originally thought to be a shrine, this building could equally have been a gazebo, taking into account its location on the south side of the garden. Opposite the gazebo, a gate in the north wall led to the other building, a small house intended for a farm manager or bailiff.

Some 40m south-east of the house adjacent to the stream, was found a second walled enclosure measuring some 20 x 43m, on a south-east to north-west alignment. The pitched limestone footings of the enclosure wall, lm wide, could have supported either stone or cob walls. Once again, excavation within the enclosure failed to reveal any diagnostic features, probably for the reasons already given. Like the other structures described at Bancroft, this enclosure has been dated to the 4th century (Zeepvat 1987, 74–5). The most convincing interpretation for its function, as a

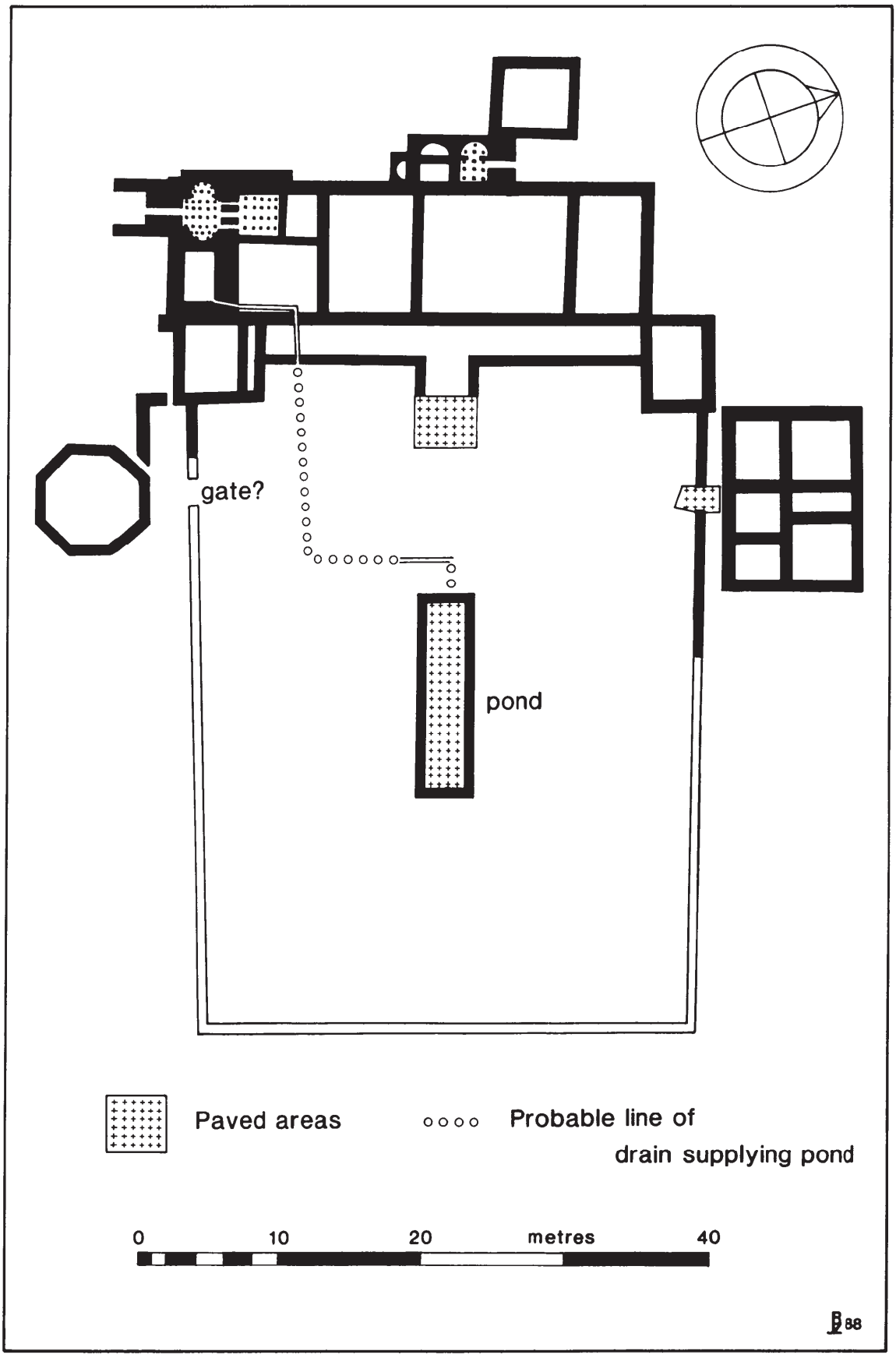

Figure 5.4 Bancroft, Milton Keynes, Buckinghamshire: the villa andgardens in the mid–late 4th century

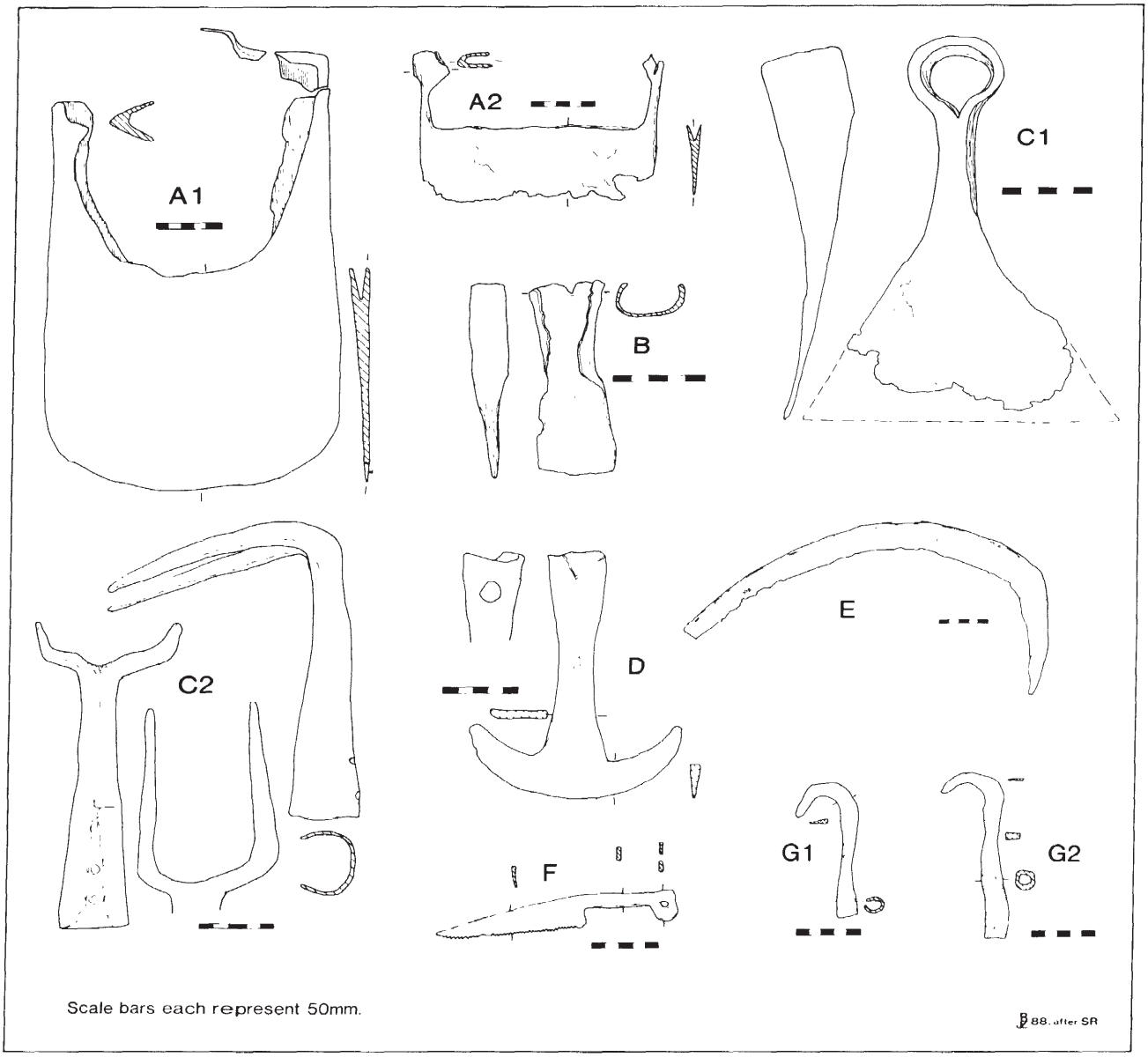

Figure 5.5 A selection of Roman gardening tools: A) spade blades; B) spud; C) hoes — adze type and bidens; *D) turf cutter; E) sickle; F) pruning saw; G) pruning hooks (after Rees)*

kitchen garden or orchard, is based partly on its size and location, as well as on the discovery of a pruning knife, identified as a type used in growing fruit trees or in viticulture (Mynard 1987, 161, fig 53, no 209).

As in more recent times, gardens in Roman Britain were not limited to rural locations. Despite the generally cramped nature of most Roman towns, opportunities must have existed for urban gardens more ambitious than a pond and a few pot plants in a classically styled 'atrium'. Perhaps the best known example comes from London, beside Cannon Street station, from the complex of first century structures known, with some good reason, as the 'Governor's Palace' (Sorrel1 1981, 62, 63). The character of the buildings is both domestic and ceremonial, and is centred on two large courtyards enclosed by colonnades. In the south courtyard a large walled pool, with its floor 1.8m below the courtyard level, was identified. On its north side, in a rounded projection, was a fountain; indeed, given the Roman passion for symmetry, two fountains may be suggested. Alan Sorrell's reconstruction of this, though sombre, gives some idea of what may have been an oasis of tranquillity in the heart of the province's busiest city.

Turning from the plans and construction of the gardens themselves, a further aspect of gardening worth examining is the types of tools used. The extensive study by Sian Rees (Rees 1979) of both prehistoric and Roman agricultural implements provides perhaps the most detailed picture of the types of tools employed in both agriculture and horticulture and their uses, augmented more recently by W Manning's comprehensive catalogue of Romano-British iron artefacts (Manning 1985), so there seems little need to go into much detail here. Spades were one of the most important implements, and were generally made of wood, the blade being reinforced with a straight or curved iron cutting edge. Spuds, used normally as a weeding implement, are common finds on Roman sites, and crescent-shaped iron bladed turf cutters, though identified by some authorities as a military tool, do occur on civilian sites. Iron hoes of the adze type were also common weeding tools, as well as two more specialised hoe types, the *ascia-rastrum* and the *bidens,* both described by classical writers (Rees 1979, 309–12). Sickles and scythes were used for grass cutting, and a variety of pruning hooks, knives and saws, some very specialised, were used for trimming shrubs, trees and vines. If the art of topiary, as described by Pliny, reached Britain, it would have required the use of shears, which are commonly found, though usually associated with sheep-shearing or other non-horticultural functions. A selection of tools is illustrated in Fig 5.5.

Finally, let us turn to consider the types of plants grown in Roman Britain. As regards the 'pleasure' gardens, the available evidence is slight. With respect to flowers, many would be domestic versions of native wild plants, and as such would not be distinguishable in environmental analysis. At Fishbourne, Cunliffe has suggested the rose, rue, and the madonna lily as possibilities, while at Latimer Keith Branigan has put forward the rose, pansy, violet, and poppy. Moving on to shrubs, the ubiquitous box was used as a hedging plant throughout the western Empire, while other shrubs used were hawthorn and juniper. Indeed, box leaves have been identified from many Roman sites in recent years, including the villa establishments at Winterton, Lincolnshire, and Stanwick, Northamptonshire, as well as the extensive native site at Claydon Pike, Oxfordshire, reinforcing the widespread use of the shrub for hedging. Trees were often grown for both their fruit and their blossom, so walnut, sweet chestnut, apple, pear, plum and damson, and sweet cherry, might appear in both formal and kitchen gardens.

However, the evidence for fruit and vegetables is far more prolific. Indeed, the cultivation of vegetables appears to have been introduced by the Romans, and includes cabbage, carrot and celery, turnips, and parsnips (for a list of garden crops, see Table 8.2). A multitude of herbs were grown for both medical purposes and for cooking, including coriander, dill and fennel. In addition to these mostly native plants, a few exotic species appear to have been introduced where growing conditions permitted. Evidence of peaches and cucumbers have been found in London, and mention has already been made of viticulture. Outside the Balkerne Gate at Colchester nine small raised beds of topsoil, overlying a demolished building and of 2nd and possibly 3rd century date, are considered to have been used for the cultivation of vines, herbs, or vegetables (Crummy 1984, 138–40). Attempts may also have been made to grow the Mediterranean stone pine, the seeds of which were used in cooking, as evidence of it has been found at sites as diverse as London, Claydon Pike, and Bancroft. Finally, one other activity not unconnected with gardens — the art of beekeeping — may have been introduced by the Romans, as a honey bee was found in a sealed first century context on a native site at Caldecotte, Milton Keynes. (I am indebted to Mark Robinson for the above botanical information),

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6 Towards the restoration of a period garden

An interim report on archaeological excavation and related investigation at Kirby Hall, Gretton, Northamptonshire, 1987–8

Brian Dix

The reintroduction of original plant varieties and their correct planting within the surviving fabric of an historic garden give living form to otherwise esoteric elements and heighten the enjoyment of them for today's student and visitor. Modern restorations range in type from large scale reconstruction like that of the 17th century royal gardens at Het Loo, Netherlands (van Everdingen-Meyer 1985), to smaller schemes which combine conservation with appropriate replanting, as at Westbury Court and other places in southern England (Harvey 1988; Mitchell 1988). Most such undertakings, however, are based chiefly on the evidence of surviving pictorial representation in addition to old plant lists and other contemporary records. Archaeological investigation is generally regarded as a means of corroborating those forms of evidence and most often occurs as the by-product of other earthmoving. Proper examination of the physical remains of an individual garden, however, can greatly increase the understanding of its development and former management, and it is the sole method of interpretation for those many gardens where the records are either inadequate or lacking.

An early occurrence of archaeological work in an historic garden, if not also its first instance, was at Kirby Hall in Northamptonshire, where excavations were undertaken by the Ancient Monuments Branch of HM Office of Works following guardianship of the property in 1930 (Chettle 1947, 18; Harvey nd). Investigation led to the recovery and recreation of a plan of the paths and beds in the Great Garden which lay to the west of the house (Fig 6.l), While appearing to echo the design of the garden in the middle of the 17th century, the restoration is unfortunately anachronistic since the layout and immediate surroundings can be shown to have been considerably altered by the end of the century.

Current proposals by English Heritage to recreate part of the late 17th century garden design have therefore prompted a reappraisal of its remains through new archaeological investigations which began in September 1987. The work is intended to identify any constraints to reconstruction in addition to providing specific details of the garden's development and former appearance. The results from the first stage of investigation to November 1988 demonstrate the range and types of evidence which may be preserved in an historic garden.

Kirby Hall and its gardens

Kirby Hall (NGR SP 925 927) is an Elizabethan Renaissance house built between 1570–5 by Sir Humphrey Stafford of Blatherwycke and completed by Sir Christopher Hatton, who was Chancellor to Elizabeth I from 1587 and in whose family it remained (Chettle 1947; Chettle and Leach 1986).

The house lies on the floor of a narrow valley with a small stream to the south which divided the now deserted village of Kirby. Maps of the area made by Ralph Treswell in 1584 and 1586 show a series of cottages at either side of the stream and located slightly to the west of the Hall beside an irregular but approximately rectangular land-parcel which is labelled respectively 'Garden' and 'Garden and Orchard' (cf Fig 6.2. See also RCHME 1975, pl 13; Sladen 1984, 139 with figs 3 and 4).

A further survey of 1587, however, depicts a large rectangular enclosure bordering the west side of the house and extending to the stream, thereby enclosing part of the village and its church (Fig 6.3). Although it is unclear whether the boundary represents an actual feature or proposed development, it may be significant that its limits coincide with those of later gardens.

The reputation of the gardens in the 17th century as among the finest in England (BL Add 29574 331) probably derived not so much from their overall design, which in likelihood was typical for the period, but from the cultivation of unusual plants and exotic varieties. A long series of documents attests the special interest which members of the Hatton family devoted to horticulture from around 1660 onwards (Sladen 1984, 148–54). The early enthusiasm of Sir Christopher III was maintained by his two surviving sons, another Sir Christopher who succeeded to the estate in 1670 and Charles Hatton who became renowned as a plantsman (cf Turner 1965).

The preserved correspondence between the brothers contains much horticultural information, including detailed instructions for growing the many rare plants and seeds which were sent to

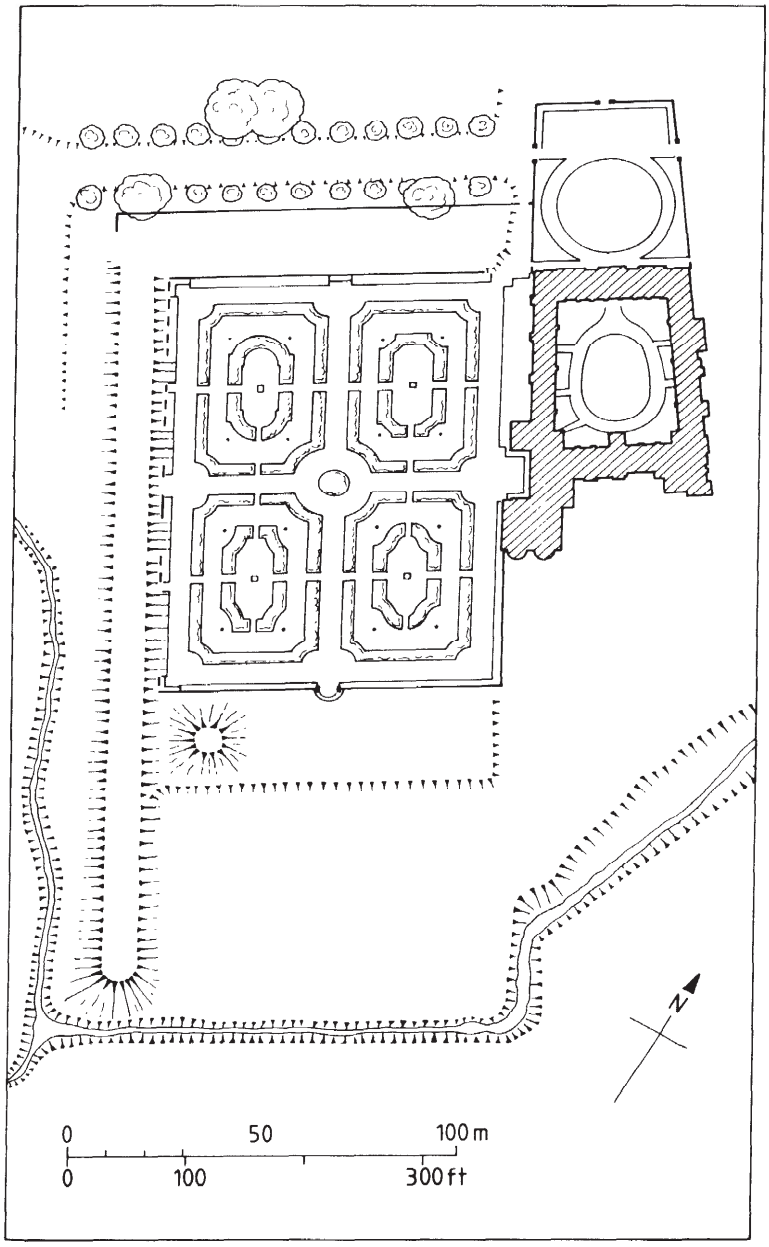

Figure 6.1 Kirby Hall, Northamptonshire: the Great Garden as restored in c *1935*

Kirby. In addition, the letters and other documents show that major alterations of layout were made towards the end of the century (Sladen 1984, 152–4).

In their final arrangement the gardens beside the house extended southwards across the stream for a total distance of almost 17000ft (*c* 0.5km). They were complemented by avenues of trees and included orchards together with a Wilderness which was begun on the valley-slope in 1689 (BL Add 29573 234). A map of *c* 1720–40 at Deene Hall shows the layout of the area which was planted with 'almost the whole variety of English trees and ranged in an elegant order' (Bridges 1791, 314; cf Fig 6.4). Today, however, only fragmentary earthworks survive in pasture.

Following the death of Sir Christopher IV in 1706 little new work appears to have been carried out in the gardens. Succeeding owners chose mostly to live elsewhere and, despite the refurbishment of the Hall towards the end of the 18th century (Chettle 1947, 6), the gardens were largely left to

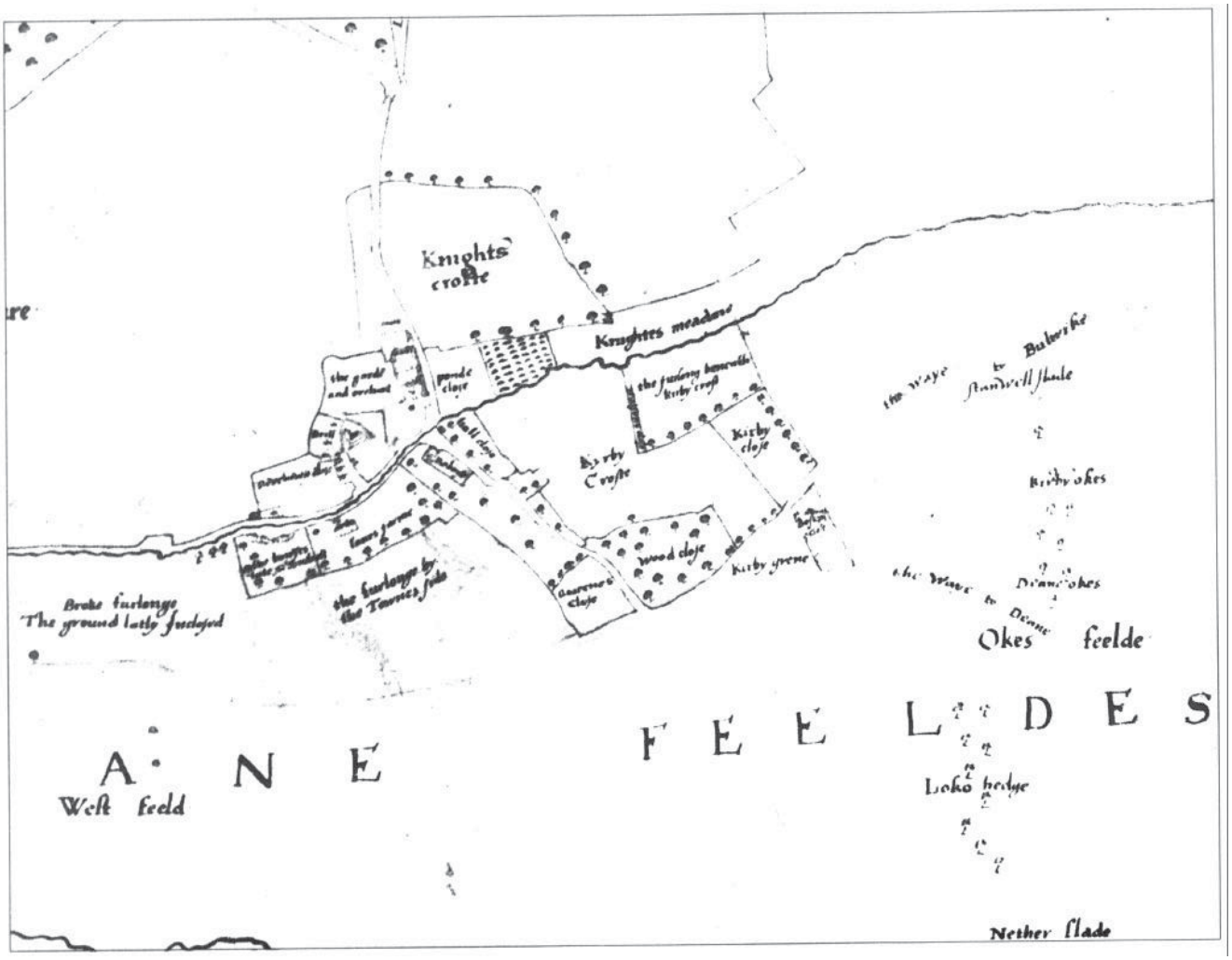

Figure 6.2 Kirby in 1586 from a map by Ralph Treswell (NRO, FH 272: reproduced by permission of the Northamptonshire Record Office and the Trustees of the Winchilsea Settled Estates)

decline (cf Morton 1712, 493). Neglect and subsequent decay, with the concomitant overgrowth of vegetation, eventually obscured their details; while backfilling and demolition, involving removal of architectural ornament, trees and other features, led to the impoverishment of the landscape setting. Most remains survive largely as earthworks, which are now protected under HBMC guardianship or by scheduling as an ancient monument (RCHME 1979, 59–61).

Excavations 1987–8

The present plans for restoration at Kirby provide an excellent opportunity to link archaeological examination with the consolidation of the physical remains of an historic garden. Despite initial excavation and partial reconstruction in the 1930s, many points of interpretation have still to be resolved. Few records have survived from the previous work, so that the accuracy of its results can be checked only through re-examination of the evidence in the ground. While the identification of details relating to the gardens in the late 17th century is a major objective, it is necessary for understanding to investigate the other stages of garden development. At the same time, however, it is essential that the scale of any new excavation should be restricted in order to leave substantial areas undisturbed, both for preservation and the use of future archaeologists.

Excavation carried out from September 1987 to November 1988 has largely concentrated in the border and path areas of the Great Garden with an examination of the adjacent part of the West Terrace. Together with a similar bank at the north and partially reconstructed walls along the south and east sides of the garden, the terrace encloses a flat rectangular area, *c* 120m (400ft) north–south by *c* 88m (280ft), beside the western facade of the house (cf Fig 6.1).

A symmetrical arrangement with the building was clearly intended. The mid-point of the garden was aligned on the axis of a doorway (now blocked)

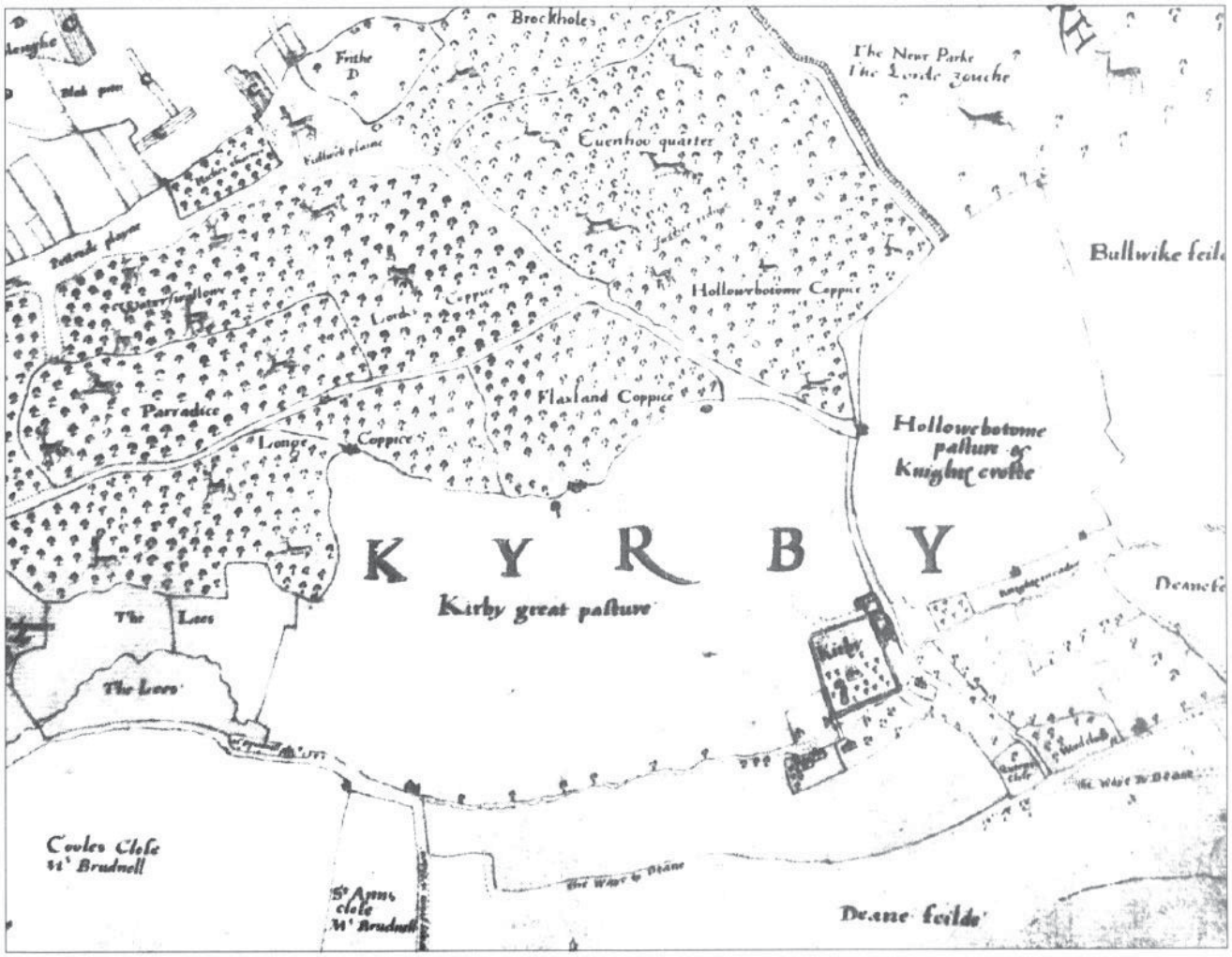

Figure 6.3 Ralph Treswell's additional map of Kirby in 1587, depicting a large rectangular enclosure to the west of the hall (NRO, FH 272: reproduced by permission of the Northamptonshire Record Office and the Trustees of the Winchilsea Settled Estates)

placed midway between the two projecting stair-towers on this side of the house, with the result that the southern part of the garden continued well beyond the building. Prior to restoration earlier this century a scarp defined the adjacent corner of the garden, creating the aspect of an elevated platform up to 1.20m (4ft) high.

The general surface level within the enclosed garden area is remarkably even and though partly the product of modern restoration appears to follow original intentions. Excavation at the west, by exposing traces of the ground surface which existed before the Great Garden was formed, shows that the previous topography was very different. The original landscape appears to have featured a knoll which was occupied by part of the old village of Kirby, comprising the church and a group of cottages beside a slade or small valley (cf Fig 6.2). Elements of the earlier contours survive outside the West Terrace; where the land rises perceptibly to the south, and medieval features have been found in the original ground surface beneath parts of the terrace bank.[2]

The earliest changes may have arisen from the extraction of stone and other materials for use in the house construction and from the establishment of the first garden which probably required some levelling out. The creation of the Great Garden, while partly covering such traces, appears to have involved a greater scale of earthmoving. Materials quarried from the village area on the highest ground towards the south-west were probably used to infill and build up the lower lying areas in preparation for subsequent development.

Early features

The area now occupied by the Great Garden and surrounding terraces is shown as a garden and

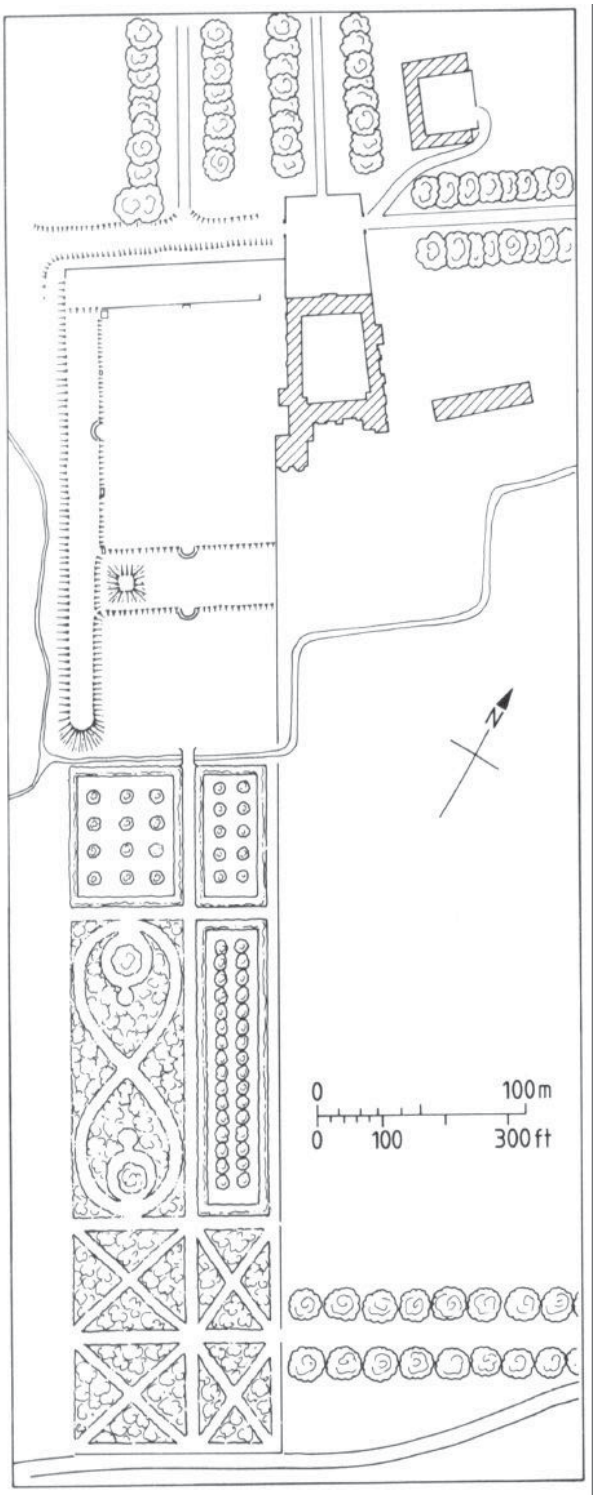

Figure 6.4 The gardens at Kirby, c *1700. Details of the stream canalization and Wilderness to the south based on an 18th century map at Deene Hall (cf NRO, Map 3281B)*

orchard in the late 16th century surveys (Fig 6.2), but there is otherwise little information concerning its layout. An overall area of *c* 1.5ha (3.75 acres) appears to have been enclosed and at the south bordered on neighbouring cottages, the village church, and a separate parcel of land before connecting with the area in front of the house.

Although it is unclear when these buildings were actually abandoned, most of their traces were undoubtedly swept away during the formation of the Great Garden, so that only fragmentary remains may be expected to survive. A hollow preserved within the old soil horizon beneath the West Terrace at the southern end of the garden is of indeterminate purpose, but its location appears to coincide with that of a boundary depicted in the Elizabethan surveys. It may be significant that the feature occurred near a fragmentary limestone wall which could represent part of the foundations of one of the cottages also shown in those maps.

Apart from these remains and occasional traces of late Iron Age and early Roman ditches, which nowhere have been observed in sufficient detail to make a meaningful plan, the principal feature in the area was a subterranean passage or 'tunnel' which survived beneath the West Terrace within *c* 15m (49ft) of the south-west corner of the later garden. Part of the tunnel had been breached by the construction-trench of the limestone wall which formed the outside of the subsequent terrace, and one of its sides was used to support a stretch of that walling. Within the garden, the stone foundation of the inner terrace-revetment similarly cut through and blocked the passage; it had been additionally broken into and was further backfilled during later remodelling of the bank.

The course of the tunnel ran approximately east-west, veering slightly southwards as one point. It comprised a long, roomy passage, *c* 1.32m (4ft 4in) high and 0.9m (3ft) wide, which was skilfully constructed in horizontal courses of largely undressed stone bedded in yellow sand. The vertical sides rose to a carefully contrived barrel-vault (Fig 6.5). The floor of natural bedrock was covered by only a thin layer of silt between 60–100mm thick (2½–4in), but the dimensions of the feature are such that it could have been scoured periodically. The roof had collapsed at a point *c* 14m (46ft) from the inner edge of the West Terrace and close upon a possible niche in the south side as denoted by a lintel which was reddened by heat and smoke-blackened on the underside.

At a further distance of *c* 5m (16ft) to the west, where the tunnel was exposed at the outer wall of the later terrace, the passage turned northwards at almost a right-angle to terminate in a rectangular chamber *c* 1.68m long by 0.69m wide (5ft 6in x 2ft 3in). The roof-gap was here bridged by long lintel-slabs which were subsequently used to support the retaining wall of the terrace where it oversailed the west side of the chamber.

Beneath the overhang of the later wall, the side of the chamber was built of ashlar blocks around a large, roughly square opening, *c* 0.61m high and 0.58m wide (ie, approximately 2ft square), which connected the northern end with a rock-cut channel

Figure 6.5 Kirby Hall: tunnel beneath part of the West Terrace

outside. The soil and stones which filled this latter had spilled into the aperture and partly within the chamber where they overlay a discontinuous layer of mortar that had splashed onto the surface of a thin basal silt. Backfilling therefore appears to have occurred when the terrace wall was constructed, implying that the tunnel was a feature of the existing garden.

The opening into the tunnel appears to have been located along a former boundary represented elsewhere by a limestone wall of varying construction and quality which was similarly oversailed by the later terrace revetment. If the early wall was of the same extent as its successor, it could have formed part of a large secure enclosure, possibly of the type represented in the 1587 survey (Fig 6.3). Without additional excavation, however, it is unwise to speculate much further, beyond noting the apparent existence of contemporary levels within the garden interior which might denote simple terracing and other features.

Outside the garden, the channel beside the tunnel opening connected with a wider disturbance which had been quarried out of the underlying natural limestone, possibly to supply building material. It appears to have contained water fed by an adjacent stream, thereby suggesting that the purpose of the tunnel was to form a culvert across the corner of the early garden. The slight fall in level towards the garden and house, however, together with the lack of evidence for abrasion and other erosion of the sides of the tunnel, indicates that it probably did not carry a great volume of water and was thus unlikely to have serviced fountains.

The subsequent construction of the West Terrace necessitated a diversion of the water-flow which appears to have been rerouted to the south where it eventually joined the altered course of the main stream in the valley-bottom (cf Fig 6.4). A requirement of future work will be to investigate the date at which canalization formed a series of right-angled bends around parts of the garden enclosures. (By the early 19th century, however, some of these bends had been removed and a broader canal running obliquely had been dug in view from the house. Its form suggests an attempt at landscaping which may also have included the planting of elm trees and yews on the West Terrace if a single tree-ring date of *c* 1826 is a reliable guide.[3])

The West Terrace and the development of the Great Garden

As subsequently laid out, the Great Garden formed a rectangular enclosure which was encompassed by terraces around its north and west sides with free-standing walls elsewhere (cf Fig 6.1). Excavation has shown that the West Terrace continued beyond the southern limit of the Great Garden, but its original extent is yet to be determined. With its counterpart at the north, it appears to have been retained by a stone wall at the outside and by a brick wall in the garden. The top was probably flat and *c* 14.60m or approximately 48ft wide; the surface appears to have been metalled and traces of a sub-base of fissile limestone survived in places.

Where examined, the bank of the West Terrace was composed of freshly quarried sand and limestone which had been laid down in a series of fairly horizontal layers with other deposits of earth and rubble. It rose to a height of at least 2m (6–7ft) above the level of the adjacent garden.

The outer or west side of the terrace was retained by a limestone and mortar wall, *c* 0.60m (2ft) thick, which was carefully faced on the outside but more ragged at the interior where the materials of the bank abutted. In contrast, the inside or garden-edge of the terrace was formed by a brick wall which largely rested on an unmortared stone foundation. The brickwork was of English Bond, generally two bricks thick (18–20in). It had been inserted into the front of the bank and was secured by regular piers or 'counterforts' which ran behind at right-angles (Fig 6.6).

Figure 6.6 Kirby Hall: view looking south along the inner edge of the West Terrace in the Great Garden

The wall was divided into two lengths at either side of a central feature at the end of the cross-axis from the doorway in the house. At the mid-point of each section stonework had been added in front of the wall to support statues or other ornament. and similar stone bases also existed in the corners. Several of them incorporated drains and the way in which their positions were respected by the paths and borders indicates that they were conceived as an integral element of the formal garden design.

The brick wall appears to have been constructed beginning at the north-west corner, possibly so that two gangs could work simultaneously with one building southwards while the other progressed along the North Terrace towards the house. Initially the wall rested upon a shallow offset of two courses of limestone thickly bedded in mortar. Within *c* 16m (52ft) along the west side, however, the design was altered by increasing the size and nature of the offset or foundation (cf Fig 6.7).

An early problem of waterlogging in the corner appears responsible. It seems to have led to the drastic measure of inserting a drainage channel behind the completed length of walling which perforce was partly taken down and rebuilt. The

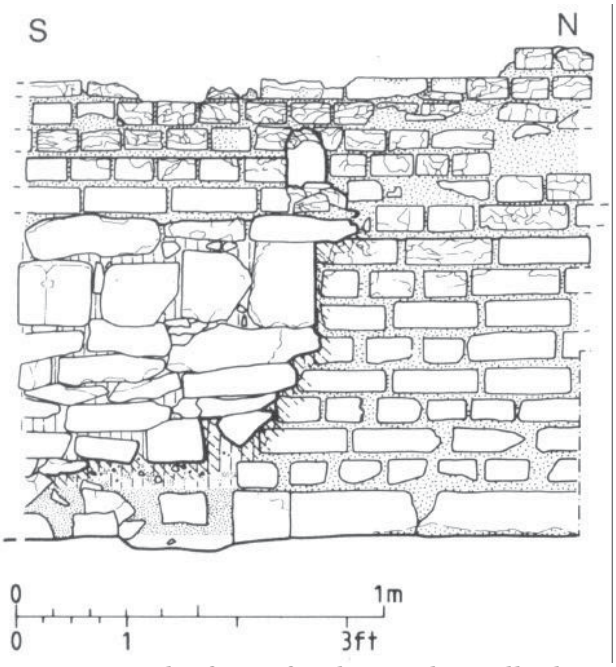

Figure 6.7 The Great Garden, Kirby Hall: change of foundation in the brick wall of the West Terrace

local counterforts were also remodelled with built-in channels which opened into a new series of drains via holes specially punched through the remaining courses of original brickwork (Fig 6.8). Superfluous water thus removed from the bank was carried away in a series of specially widened drains beneath the garden path.

As the result of such experience, the foundation of the terrace wall appears to have been modified, and its continuation employed unmortared stone in a greater number of horizontal courses: being loosely laid, it will have possessed more efficient drainage qualities. The stonework incorporated many used pieces, possibly from the demolished church. A series of 'weep-holes' immediately above the base of the succeeding brickwork further facilitated drainage from the bank into the earth border which ran alongside.

A network of stone-built drains, commencing in the border, connected with others beneath the adjacent path and had apparently been constructed during the final stages of levelling. Of two channels running into the garden from either side of the central opening in the terrace-revetment, that at the south was joined almost at right-angles by another which continued into the south-west corner of the garden,

In that corner, the terrace-revetment terminated in a greater depth of brickwork which was toothed to provide a junction with the south garden wall (cf Fig 6.11). This boundary was free-standing and buttressed on alternate sides at regular intervals of up to *c* 1.82m (6ft). Like the greater length of the wall along the inside of the West Terrace, it was built of brick in English Bond above a substantial limestone foundation which appears to have been

Figure 6.8 Kirby Hall: early improvements for drainage in the NW corner of the Great Garden. Note extension to the wall of the North Terrace, right background, carried out during the later 17th century remodelling

incorporated in the make-up of the garden. The occurrence of natural limestone close to the surface would in itself have provided a suitable base for the brickwork to rest upon. That it was cut away, however, and replaced by coursed stonework presumably indicates a further measure to facilitate drainage.

The border beside the West Terrace was between 1.47m and 1.53m wide (4ft 8in–5ft). Some of the kerbstones which defined its edge still survive, though many appear to have been reset during restoration in the 1930s when missing examples were replaced in artificial stone. The depth of soil in the border varied between 0.30–0.70m *(c* 1ft–2ft 4in) according to requirement, but the filling was clearly intended to cover the stone foundation (or brick offset where appropriate) and apparently extended to the lowermost brick-courses. It thus formed a raised or sloping bed of soil, 150mm (6in) above the level of the adjacent 'walk' or path which was denoted by a layer of fissile limestone on top of the garden build-up.

Dating

The close relationship between the construction of the parterre of the Great Garden, the terrace, and the surrounding walls indicates a single purpose of design, though the individual stages of development could have taken place over several seasons.

At the end of the modern cross-walk, directly opposite the former doorway which led from the house onto the principal east-west axis of the garden, a solidly built foundation is likely to have supported a major focal feature. The footing was over 6.10m (20ft) long and *c* 1.10m *(c* 3ft 8in) wide, and its individual limestone blocks, each averaging 0.60m (2ft) long and 0.25m (10in) thick, had been carefully laid in a trench which penetrated a series of deposits relating to earlier stages of levelling up. Its introduction at this point appears to represent either a correction or an improvement in the initial design of the garden, for it replaced part of the narrower stone foundation which elsewhere was intended to support the brick-revetment at the inside of the terrace. It was nevertheless in position before the upper parts of the wall were constructed since the brickwork rested partly upon it. It is significant that an opening was left in the terrace behind it (Fig 6.9).

At either side the brick wall was carefully faced in order to provide a straight butt-joint with what was probably a masonry structure, since mortar impressions on the surface of the central foundation are consistent with the bedding of ashlar blocks. Later removal of the superstructure left a gap of 5.10m x 1.10m, *c* 16ft 8in x 3ft 8in, which so closely matches the dimensions of a blind archway in the North Terrace and a similar gateway now in the Forecourt at Kirby, that it may be supposed that one such formerly occupied the spot. (For illustration of each feature, see respectively Sladen 1984, fig 9; Gotch 1936, fig 35). Such architecture would be appropriate in this focal position where the opening in the terrace could have contained steps leading to the top.

Both surviving gateways are of a style which has been attributed to Nicholas Stone, the King's Master Mason, who is known to have worked on the house in the period around 1640 (Spiers 1919, 119, 125, 128–9; cf Sladen 1984, 146 and note 22; Chettle and Leach 1986, 3, 24, 32–3), Close examination of the example in the North Terrace, however, shows that Stone had apparently remodelled the face of an existing structure, since the original broken pediment is preserved at its rear. The Jacobean character of the moulding of the earlier pediment is closely paralleled by that of the open arcaded parapet now to be found around the north side of the Forecourt (Fig 6.10), and the exterior sides of the arch show that the two were once intimately connected.

The occurrence of the miniature arcade in the Forecourt probably represents secondary use, since it is supported by a wall which was itself built

Figure 6.9 The Great Garden Kirby Hall: opening in the West Terrace behind the central gateway foundation. The stonework flanking either side was added to retain the base of the subsequent glacis slope. The statue of the Rape of the Sabine was introduced in the 1930s

largely of such pieces. Likewise, the gateway there appears to have been relocated. It has two good, albeit differently modelled, faces, suggesting that it once may have connected separate areas. The original exterior is rusticated, while the grotesque or vermicular treatment of its inner face recalls the appearance of the gateway in the North Terrace. The implication that both gateways could formerly have faced each other across the same garden space gains support from the discovery in 1935–6 of an apposite type of foundation at the centre of the southern side of the Great Garden. It is possible that a gate stood there until *c* 1694 (cf BL Add 29574 331).

Such evidence as can be gathered therefore betokens a date between *c* 1620 and 1640 for the creation of the Great Garden in the outline form which it has largely maintained until the present day. At about 1640, however, the appearance of its balustraded terraces seems to have been 'modernised' either by the insertion of new gateways or through the reworking of existing facades. While confirmation for the sequence of events might be expected from future investigation of the North Terrace, it may already appear significant that a gateway was incorporated along the west side of the garden during the *first* stages of development. It was located at the opposite end of a potential axial path leading from a recently inserted doorway to the house (cf Chettle and Leach 1986, 23).

Remodelling

Most of the brickwork on the inside of the West Terrace was subsequently demolished or reduced in height, generally leaving only a few courses which were covered by a distinctive yellow-brown soil to create a slope that was presumably grassed (cf Fig 6.6). The slant can be reconstructed as rising at an average angle of *c* 25 above horizontal, although it may have slackened towards the base.

The starting point for this remodelling may have been towards the south end of the garden where the brick revetments and associated counterforts were dug out and completely removed to the level of the stone foundation. The extent of the demolition seems far greater than was necessary, and it may be significant that the operation appears to have been scaled down farther to the north. The resulting trench was backfilled with discarded materials which included much architectural stonework identical to that of the

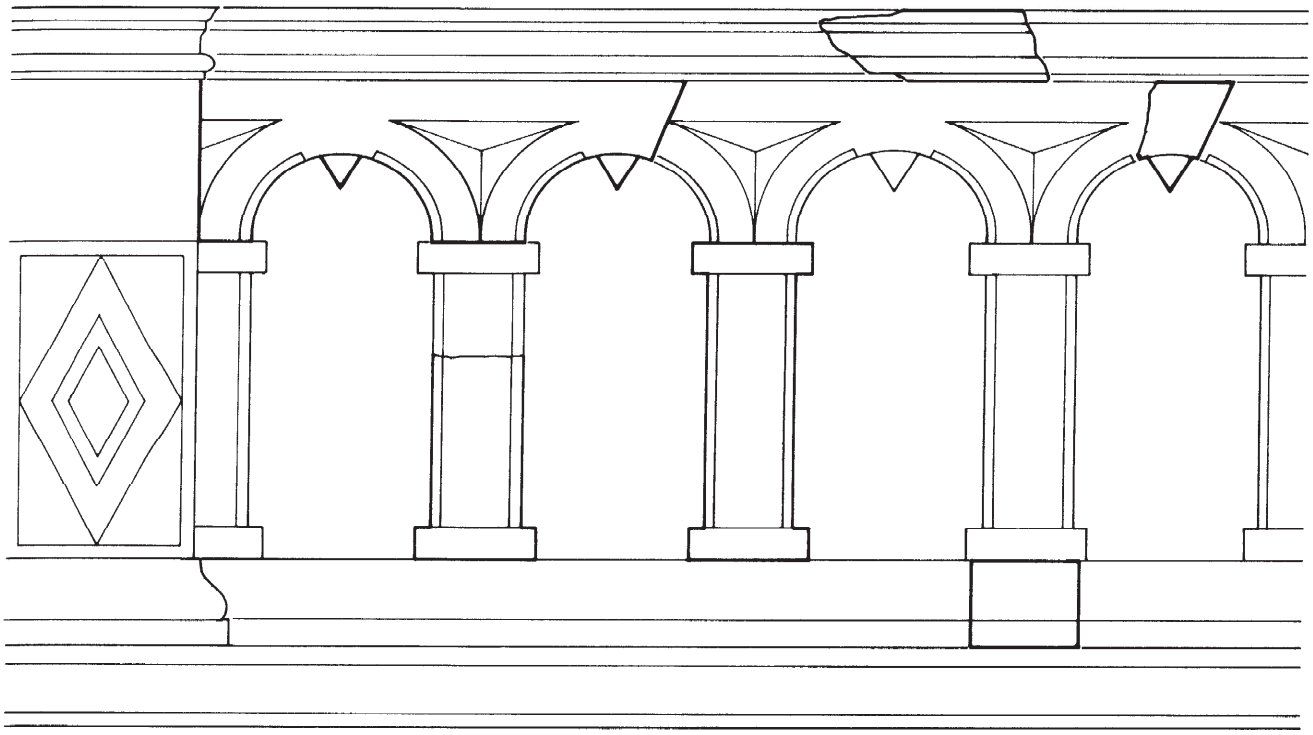

Figure 6.10 Kirby Hall: reconstruction of the balustrade, based on comparison of fragments found in the Great Garden with extant remains in the Forecourt. Scale 1:10

open arcaded parapet existing around the north wall of the Forecourt (Fig 6.9).

A fragment of the same kind of ornament was also recovered from the soil which had been introduced above the demolished remains of the stone wall on the outside of the terrace. Additional similar pieces occurred in stonework which had been added at either side in front of the central feature, presumably to retain the base of the new slope (Fig 6.10). The rebuilding of part of the brick wall immediately south of the existing gap, apparently arising from damage sustained at this time, implies that a modified form of opening still existed, although it is uncertain if the earlier gateway survived.

Previous excavation of an adjacent part of the terrace in 1985 revealed one side of an extensive disturbance which apparently had been backfilled during the 19th century (Grump 1986), although further investigation of it in 1987–8 did not produce any material dated after *c* 1700. The ramp-like form of the feature, which descended from a narrow trench across part of the terrace-top to form a wide bay directly behind the gap in the brickwork at the garden edge, suggests that a flight of steps may have been removed at some time. While there is no evidence for the original form of such, the reuse may be noted outside the Great Hall of a mutilated Italianate-style staircase which consists of two flights of segmental steps, concave in the upper flight and convex in the lower.[4]

Whatever the effect of the alterations at the centre of the West Terrace, it appears that some of the stone bases in the corners and borders of the garden were also modified in this period, with ashlar blocks being added around their edges. It is likely that short stretches of brickwork were left standing behind them, though at a reduced height, and the bank appears to have been only partly sloped at the rear. At the former south-west corner, where work may have begun, the broken slope was consolidated with rubble beside a simple stone retaining wall (Fig 6.11).

In so far as the evidence has survived, the terrace thus appears to have been recessed at several points, but otherwise the *glacis* bank rose on a gradient of approximately 1 in 2 and the profile could have been made uniform by the use of a simple template. As a result of the remodelling the height of the West Terrace was probably altered and its width across the top was reduced to *c* 9.75m (*c* 32ft). The base covered a greater area, however: in places possibly as much as *c* 19m (64ft) overall and thereby representing an increase in size of up to 2.4m (8ft) on either side.

Within the garden proper, the slope extended over the earlier border and kerb, and encroached onto the existing path. The way in which the bottom of

Figure 6.11 Kirby Hall: remodelling in the SW corner of the Great Garden

the slope was managed cannot be easily identified, owing to the destruction of vital information by previous clearance and excavation, but it is possible that the creation of the turf *glacis* was associated with a widespread relevelling of the overall garden area (see below).

The wall below the North Terrace appears to have remained standing throughout this work, though it was extended onto the new slope of the West Terrace where its continuation in reused brick below a limestone capping matched the appearance of the original revetment to form a neat aspect (Fig 6.8). A flimsy wall resting on the surface of the old terrace-top continued the alignment and could signify a change in level or 'step' between the two terraces.

An indication of the date when all this activity took place is provided by associated finds of late 17th century clay tobacco-pipes, pottery, and a prunt from a glass bottle (Fig 6.12) which, in showing the armorial bearings of Viscount Hatton, gives a *terminus post quem* of 1683 when Christopher Hatton IV received that title. Significantly, a range of contemporary documents corroborates the impression of a renewed interest in the garden towards the end of the century.

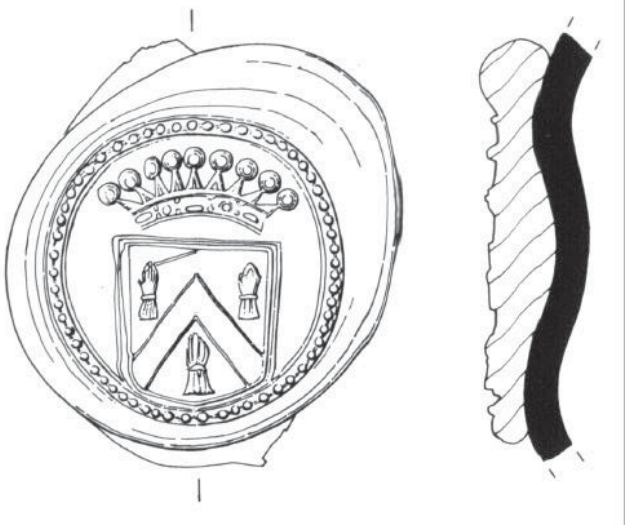

Figure 6.12 Kirby Hall: seal of Viscount Hatton on a wine bottle of very dark green glass from the remodelling of the West Terrace in the Great Garden. Scale 2:3

In addition to the surviving accounts of the expenditure incurred by work in the Great Garden in 1685–6, when craftsmen and other labourers were engaged for most of the year in 'levelling', digging and repairs (NRO, FH 2146 and FH 3439), later correspondence shows the closing years of the 17th century to have been a period of major garden redevelopment. The demolition of the south wall of the garden occurred in *c* 1693–4 (BL Add 29574 239), presumably to open up the view of the Wilderness which was being created on the opposite hill-slope, and it may be suggested that the removal of architectural features and ornament from the Great Garden provided an opportunity for remodelling part of the Forecourt (cf above). The major works denoted by the archaeological record are entirely consistent with the implied scale of activity.

The garden interior

The present layout of pathways and individual plots within the Great Garden is the result of 20th century reconstruction (see above) and an examination of their boundaries shows that most of the kerb-edgings were manufactured in moulds using a mixture of pulverised stone and cement. The overall arrangement of parterres does nevertheless reflect a stage in the 17th century garden design and the largely correct identification of its form in the 1930s was a remarkable achievement. Although detailed records are lacking, the work undertaken at that time appears to have been based upon the extrapolation of results obtained from probing and selective excavation around the garden.

Recent excavation of the modern plot in the south-western quadrant of the garden has

confirmed that its outline follows that of an earlier plat of almost identical shape and size. The present kerb in fact impinges upon part of the course of a narrow trench which appears originally to have been a continuous feature around the edges of the plot. The trench was *c* 1.10m (3ft 8in) wide and up to 0.45m (18in) deep, and had been backfilled with earth and atone rubble prior to the subsequent raising of the surrounding surface. Irregularities in the trench sides and the uneven nature of part of its base suggest that it once may have contained a hedge rather than a stone kerb.

Traces of the external paths which formerly abutted the boundary were present in the north-west corner and along the eastern side of the plot. Despite their fragmentary survival, they appear to belong in the initial design of the Great Garden and occur at the same level as the path which has been identified beside the border along the West Terrace (above). Their composition is also similar, and comprised a surface dressing of crushed limestone and gravel above a base of fissile limestone which had been laid on top of the garden foundation.

The interior of the plot appears to have been of grass except for a plate-bande, or border, which was defined by the concentric arrangement of a second trench up to 2.40m (8ft) inside the perimeter. In the centre, a rectangular setting of limestone blocks, c 1.37m (4ft 6in) north-south by 1.07m (3ft 6in), probably supported a statue; thereby completing the effect of a typical *parterre à l'Angloise* (cf Jacques and van der Horst 1988, 126–8).

The removal of its features and the consequent backfilling of the perimeter-trenches signifies a major change in design. It was accompanied by the introduction of new materials which were intended both to raise the level of the surrounding surface and to form a more complicated *broderie.* Despite partial denudation and other impairment by later activity, sufficient of the pattern has survived in the northern half of the modern plot to show that it was probably based on simple cutwork, wherein a series of timber edgings were nailed together between areas of grass and fine tilth which could have been used for low-growing flowers.

Continued investigations will hopefully elucidate the overall pattern, but it is already clear that it covered most of the preceding *plat,* and encroached onto the adjacent paths. The discovery of a related soil-horizon, containing similar pieces of crushed brick and limestone, at the base of the reshaped glacis of the West Terrace suggests that these alterations were carried out as part of the remodelling in the late 17th century.

Notes

1 The current work is being carried out by the Northamptonshire County Council Archaeology Unit on behalf of HBMC. Manual methods of excavation have been used throughout and special thanks are due to the digging team, comprising Tim Sharman (Supervisor), Alan Coulter, Phil Hampel (to December 1987), Steve Jones (from January 1988), and Steve Morris. Helpful advice and support have been given by both regional and central staff of HBMC, among whom Dr Nicola Smith, Inspector, has maintained a particularly close interest. The line drawings which illustrate the report were prepared by Mrs Cecily Marshall and, unless otherwise credited, the photographic prints were supplied by R Fielding, Northamptonshire County Council.

2 Medieval remains may also continue beneath the mount at the west end of the South Terrace (cf Fig 6.1). Its position appears to coincide with that of the church shown in the Elizabethan surveys and 'a cart load of bones' is reported to have been found there previously (Bridges 1791, 314). Wall-foundations and a series of disturbed graves have been found during subsequent investigation in 1989–90.

3 Dating by Dr C D Pigott, Director, University Botanic Garden, Cambridge was based on the counts of annual rings of a yew-trunk formed by the fusion of six shoots.

4 I owe this observation to Dr David Jacques.

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7 Archaeology as an aid to restoration at Painshill Park

Lesley Howes

The conference at which this paper was presented discussed many aspects of garden archaeology and the results of a variety of excavations which were, in the first instance at least, designed as an aid for research and interpretation. At Painshill Park an extensive field survey followed by archaeological excavation has been used to provide detailed information for the accurate restoration of landscape features and the many garden buildings.

Painshill Park is in north Surrey (NGR TQ 095 600) near Cobham (Figs 7.1 and 7.2). It was laid out between 1738 and 1773 by the Hon Charles Hamilton, who seems to have been a man of vision but little money. He appears to have borrowed extensively in order to fulfil his dream; in the end he was forced to sell the park in order to pay his creditors, and moved to Bath. His masterpiece at Painshill survived relatively unchanged except for the damage done by years of neglect and it was the survival of this layout that prompted the local council, after pressure from local and national groups, to buy the land and set up a private trust, the Painshill Park Trust. With the help of grants and sponsorship, the Trust has attempted to restore the site to its former glory. This has involved not only planting trees and dredging the lake but rebuilding and repairing many structures which were built to provide focal points in the landscape.

Initially a field survey was undertaken. This involved the detailed recording of earthworks as well as of every tree and tree stump in the park.

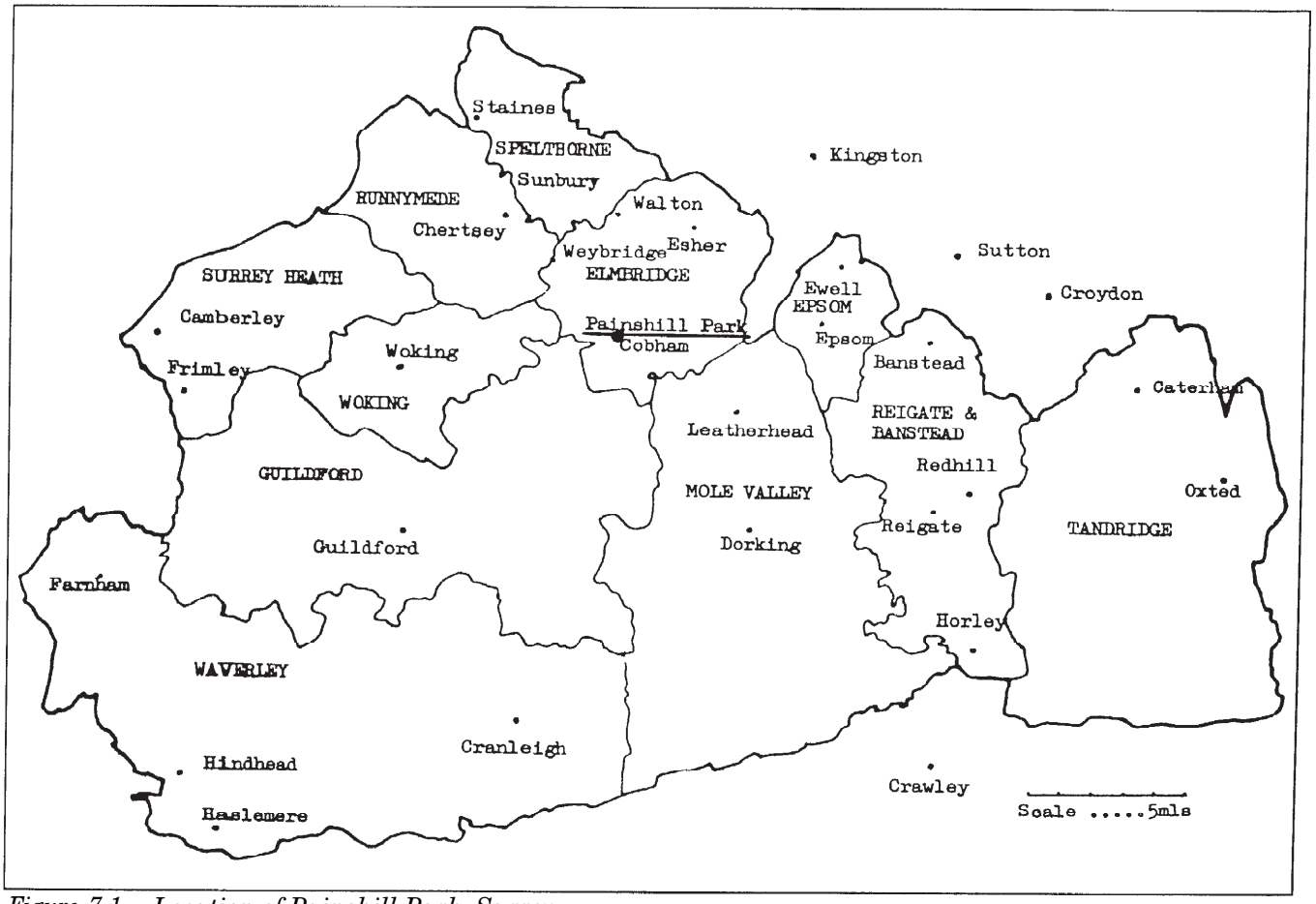

Figure 7.1 Location of Painshill Park, Surrey

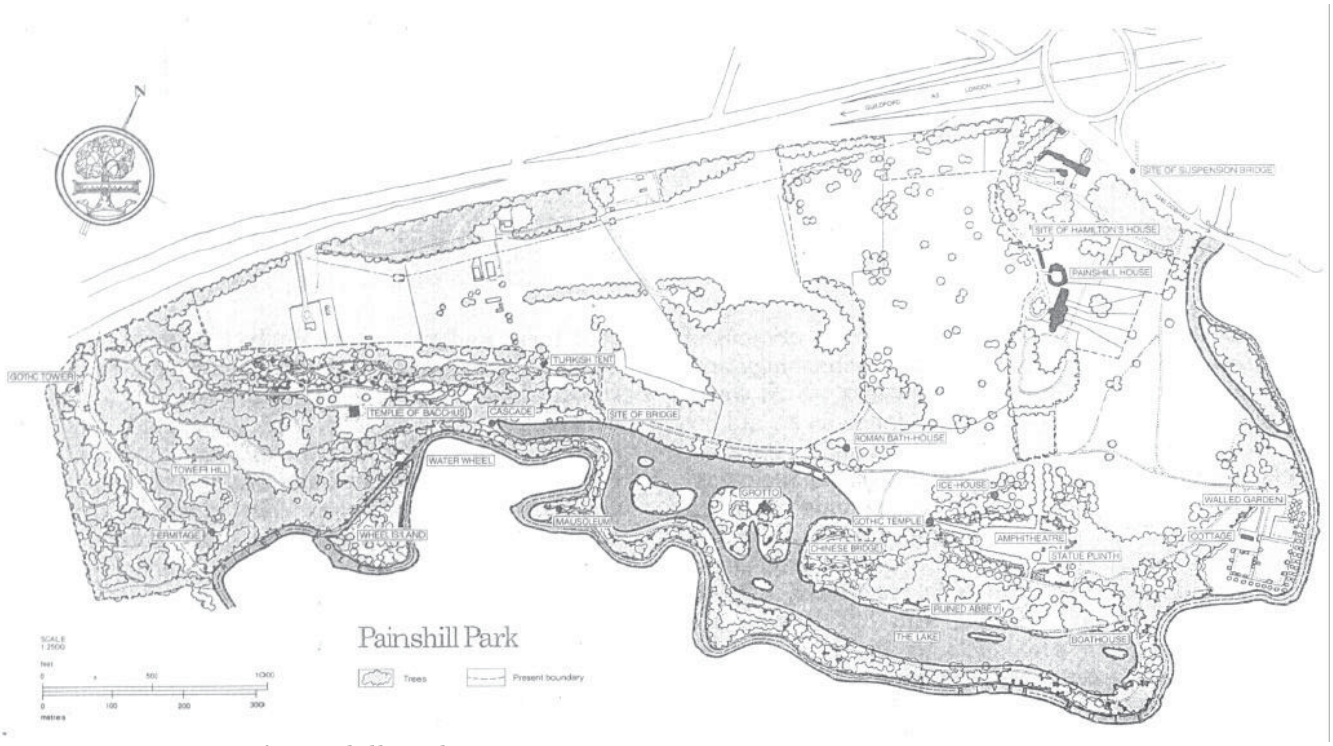

Figure 7.2 Layout of Painshill Park

This mass of information became the foundation for a restoration plan which, at the time of writing, has been in progress for six years.[1]

It was obvious from the survey and research that many of the buildings and paths had disappeared. The suggestion was therefore made that archaeological techniques could be used in order to re-establish the ground plans of the buildings, the types of building materials used, and many other features which the research had hinted at but which had not survived the passage of time. From the start the results of excavation at Painshill were intended to be used not only as an aid to research in its own right but as an aid to the physical restoration of the remains.

There were fifteen major sites to investigate, plus paths and other minor features which were identified as the work progressed. The order in which the sites were excavated was dictated in part by the programme of restoration, which was in turn dictated by the availability of funds.

Earlier work, in 1982, had resulted in the discovery of the remains of a brick kiln behind the building known as the Ruined Abbey. Subsequent archaeological excavation and documentary research showed that Hamilton had been producing not only his own bricks, tiles and chimney pots, but sugar moulds as well.[2]

At the beginning of 1983 an archaeological director was appointed and the first site to be investigated was the Gothic Temple (Figs 7.2 and 7.7). The archaeological brief for this site was to establish whether any floor, decorative material, or anything else, remained which might help restorers to establish long forgotten detail.

Remains of the stone floor were recovered, though not *in situ*. Fragments of plaster were retrieved which suggested that the original ceiling colour had been pink and some of the missing iron drops from the ogee arches were found in leaf litter surrounding the site. The timber skeleton of the structure was exposed after the removal of the plaster and the Temple has now been rebuilt with help from the information retrieved by the excavation (Fig 7.3).

The sites of bridges presented a different set of problems. Only the Chinese Bridge was still in situ and the archaeologists' brief was to ascertain whether the surviving remains were likely to be original or not; in three other instances the bridges had disappeared and the task was to establish their sites, sizes, and method of construction. Again it was hoped that this information, together with contemporary pictures, would facilitate accurate rebuilding.

In the case of the Chinese Bridge, leading from the mainland to the Grotto Island, it was discovered that there had indeed been an earlier bridge. Although this had been modified at some stage and the abutment enlarged and strengthened, the basic form of the bridge remained unchanged. Remains of a gravel path were also recorded as part of the earlier phase.

The site of the bridge leading from the Grotto Island to the south bank was established when the level of the lake fell, exposing the brick abutment. The excavation of this brickwork suggested to the excavator an alternative design from that which is popularly illustrated in an engraving by William Woolett, published in 1760.

Figure 7.3 Gothic Temple at Painshill after restoration (Photo: J Chinn)

The most informative of the bridge excavations was that of the five-arched bridge at the west end of the lake. The bridge was last recorded at the turn of the century and was a focal point in an engraving by G F Prosser dated 1828 (Fig 7.4). However, by 1983 the bridge had gone and an access way separating the head of the lake, now known as the lagoon, from the main body of water was provided by an earthen causeway. Although the lake always held water, the lagoon periodically dried up during the summer months and it was during a dry spell that the archaeological team was able to move on to the site to see if anything remained in the bed of the lagoon. The area to be excavated was established the previous summer when a brick abutment had shown up on the south bank. Auguring on the north bank had suggested that a similar brick structure was buried there.

Once the accumulated silt had been removed it was possible to recognise quite substantial timbers lying on what was once the bed of the lake. These appeared to be *in situ* and were followed by others which have been interpreted as the base plates on which the beams and uprights of the bridge stood (Fig 7.5). The evidence was consistent with a timbered framed bridge of five arches, the middle arch having been slightly wider than the others, as shown in Prosser's engraving (Fig 7.4). Dendrochronology has provided a tentative date of 1720 for the main timbers.

The remains of a brick abutment to the north were located as suggested by the earlier auguring and it was apparent that at some stage hardcore

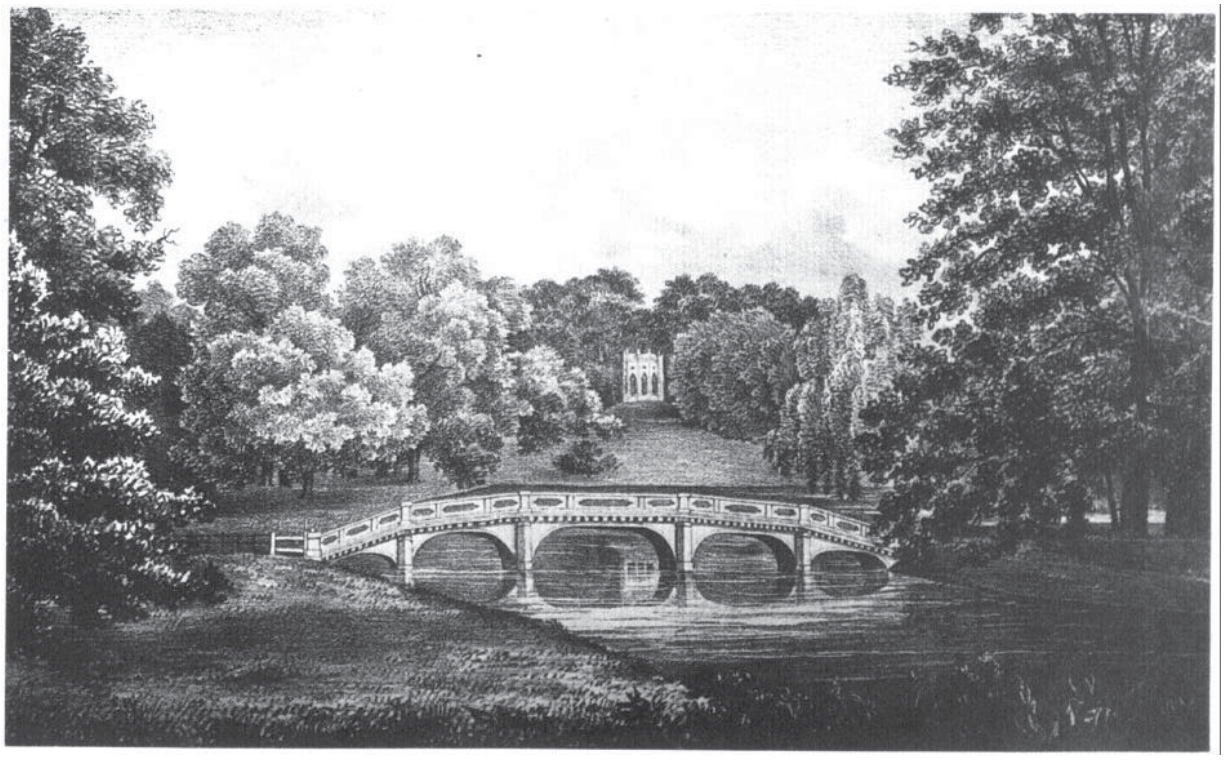

Figure 7.4 The five-arched Bridge at Painshill by G F Prosser, 1828

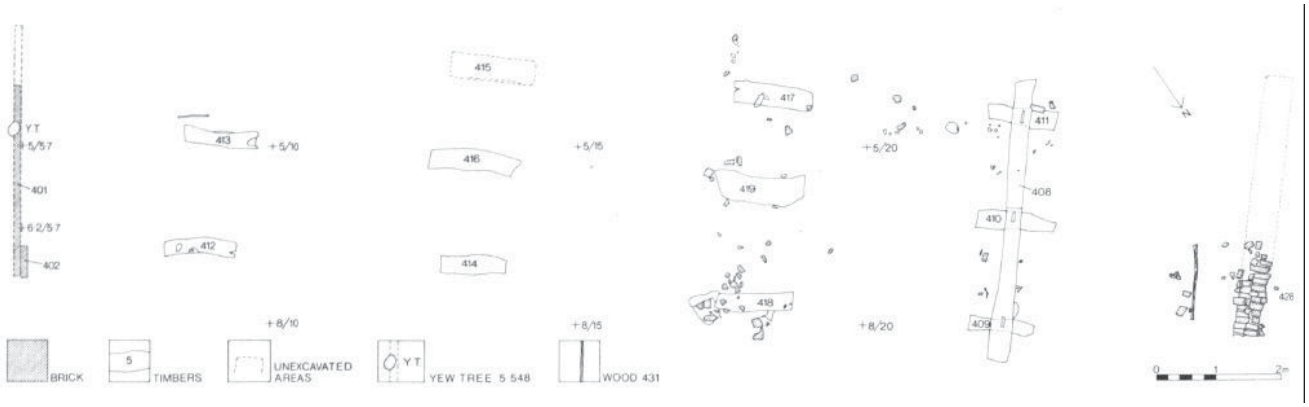

Figure 7.5 Excavation plan of the Five Arched Bridge, Painshill

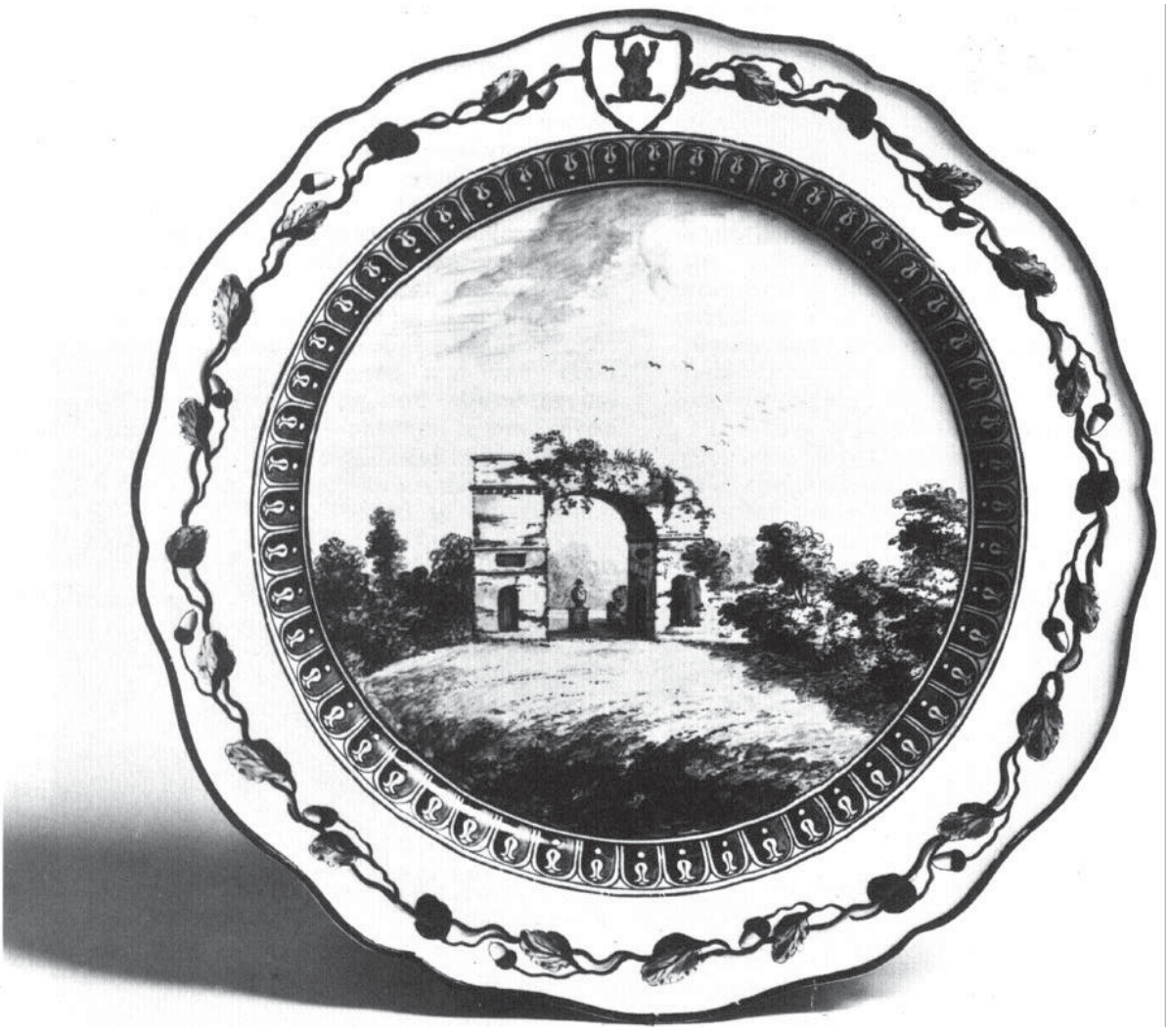

Figure 7.6 The Mausoleum at Painshill: a plate from the Imperial Russian Service, 1773

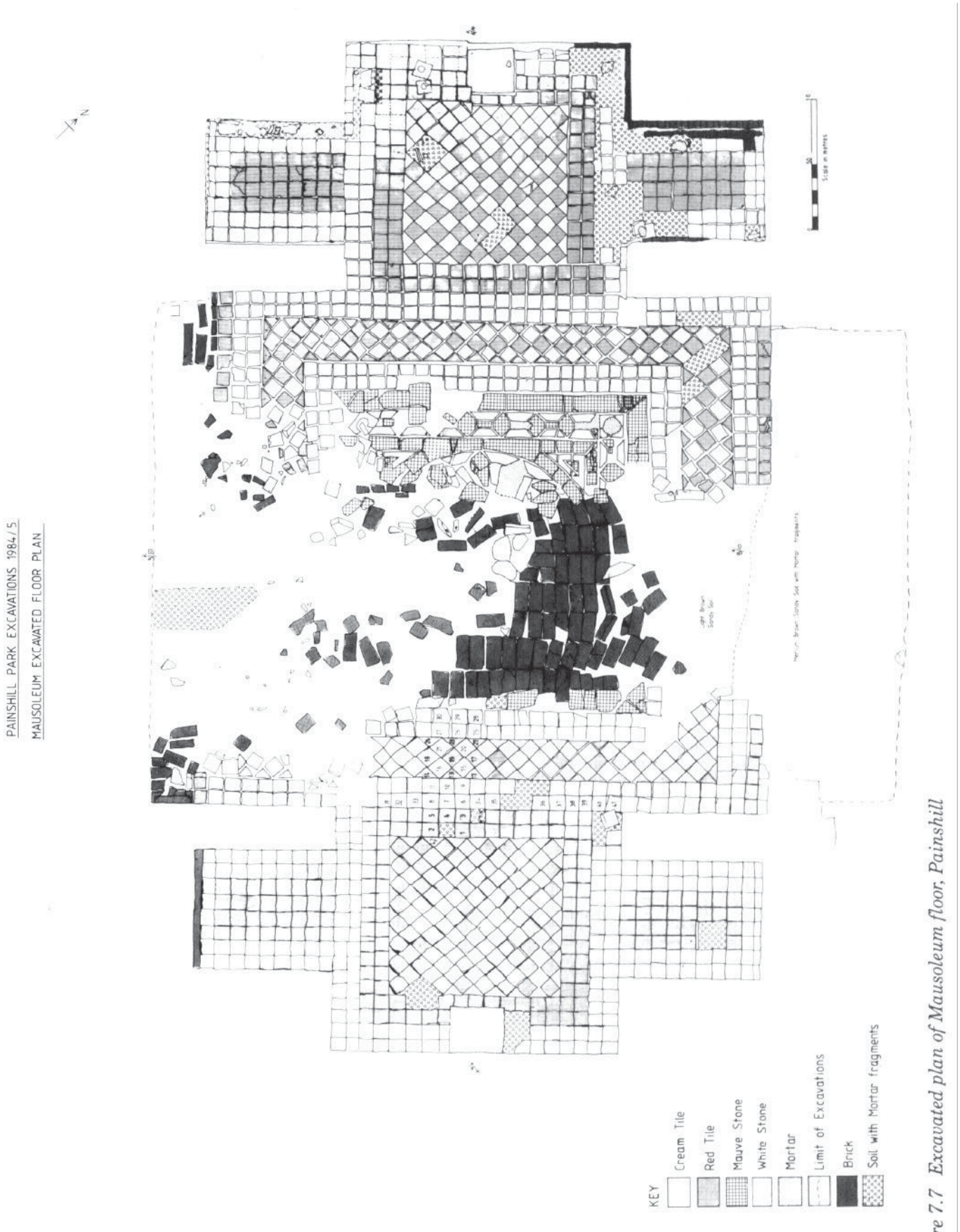

Figure 7.7 Excavated plan of Mausoleum floor, Painshill

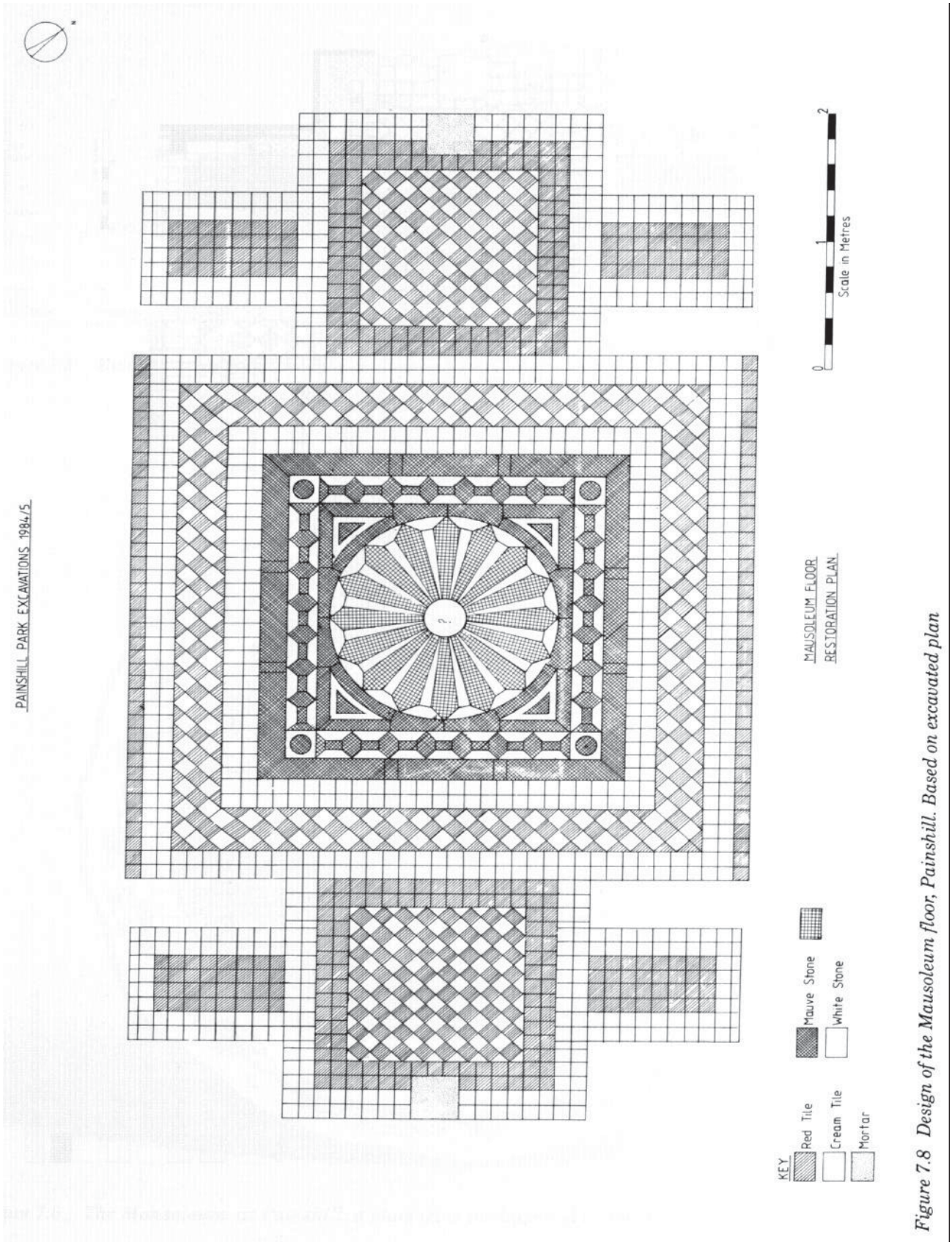

Figure 7.8 Design of the Mausoleum floor, Painshill. Based on excavated plan

Figure 7.9 Temple of Baccus, Painshill: attributed to W Hannan, 1773

had been laid down for a path. It would appear from the excavated evidence that the bridge had been deliberately dismantled.

An interesting find associated with this site was a piece of a Roman mortarium which was found when a section was cut through the bank of the causeway. This suggested that the infill for the causeway probably came from near the site of the Roman villa which lay to the south of the park below Hermitage Hill. It would also appear that the causeway was built directly over the bed of the lake.

The Mausoleum, a structure built as a ruin, was depicted on the Wedgewood green frog dinner service made for Catherine the Great in 1773 (Fig 7.6; Hayden 1985). It was built, not to house the deceased, but like the other garden buildings at Painshill, to add atmosphere; in this case the intention was to invoke a feeling of melancholy followed by joy. Pictorial evidence shows details of the interior but not of the floor. Horace Walpole described the floor as resembling painted oilcloth (Walpole 1761).

The excavations were designed to establish whether any remains of the decoration and of the floor survived. The results were particularly pleasing, since not only was part of the floor recorded *in situ* (Fig 7.7), but also sufficient survived for a reconstruction plan to be drawn, which was used as a pattern to enable the floor to be relaid.

The Temple of Bacchus (Fig 7.9) stands on the 30m (100ft) terrace of the River Mole. Built by 1760, it was, after the Grotto, the most ambitious of Hamilton's follies and had the distinction of being the only building that Thomas Jefferson admired on his visit to England in 1786.

Hamilton used the building to house some of his collection of statues. Around the walls stood busts of the Caesars and centrally placed was an antique statue of Bacchus, some 2.1m high, allegedly of Greek origin, smuggled out of Italy. The statues were sold in 1797, and four of the columns from the north portico were removed to make a loggia for Painshill House in 1925. The Temple was photographed by Oswald Siren for his book *China and the gardens of Europe in the 18th century* in 1948 and, although in a dilapidated condition, still had its ornate pediment and some of its columns in place. By 1983 when archaeological work started on the site there was little to suggest that any structure, let alone a classical temple, had ever stood there.

The unexcavated plan (Fig 7.10) shows that all that was visible on the site was a series of earthworks. These were sampled by trenches and a

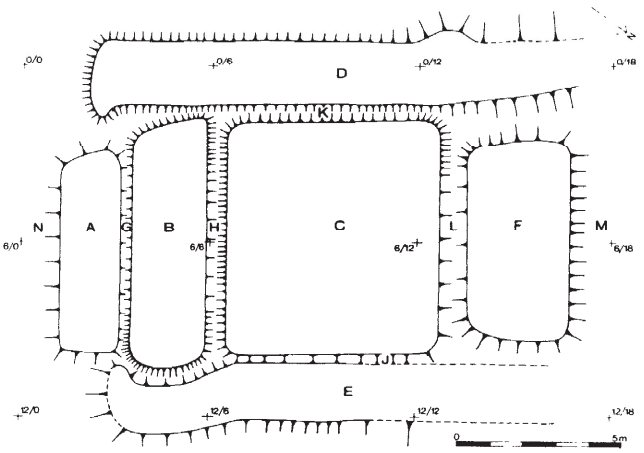

Figure 7.10 Temple of Bacchus, Painshill: plan before excavation

ground plan established for the building (Fig 7.11). The excavations also established that the building originally had six free-standing columns and that the decorative half-columns which ranged along the side walls were made of wood and plaster; their height was suggested by surviving plasterwork. Evidence for steps to the south side was recovered and showed that they were originally faced with limestone blocks and that the foundations of the main building were made of brick bonded together with a sandy cream mortar. Remains of relief plaster decoration were recovered from a pile of plaster fragments; these were probably from the ceiling and bore a similarity to designs attributed to Robert Adam. It is probable that Hamilton commissioned a design but used his own labourers to execute it.

The Grotto at Painshill, the centrepiece of Hamilton's design, is thought to have been built by Joseph Lane, who was well-known as a grotto builder of the time. A ground plan with descriptive text by the Swedish architect, F M Piper, shows the layout in 1779 (Fig 7.12; Piper 1779). Sketches by William Gilpin and Elias Martin, a Swedish artist, give additional information regarding the design and shape. A photograph taken in 1937 was particularly valuable in giving additional details of the decoration, since by 1982 the roof had collapsed and much of the plaster and crystal decoration had fallen from the walls. Although the entrance tunnel was in a good condition, the main chamber was filled with accumulated debris. The excavations were designed not only to retrieve the surviving decoration but to locate the cascades, pools and other features recorded on Piper's plan.

The photograph of 1937 showed that contrasting crystals had been used to decorate the roof, but gave no idea what the colours were. Close recording of excavated areas enabled the darker crystals to be identified as mauve fluorite, which was found in the central area, whereas the dark patterns on the

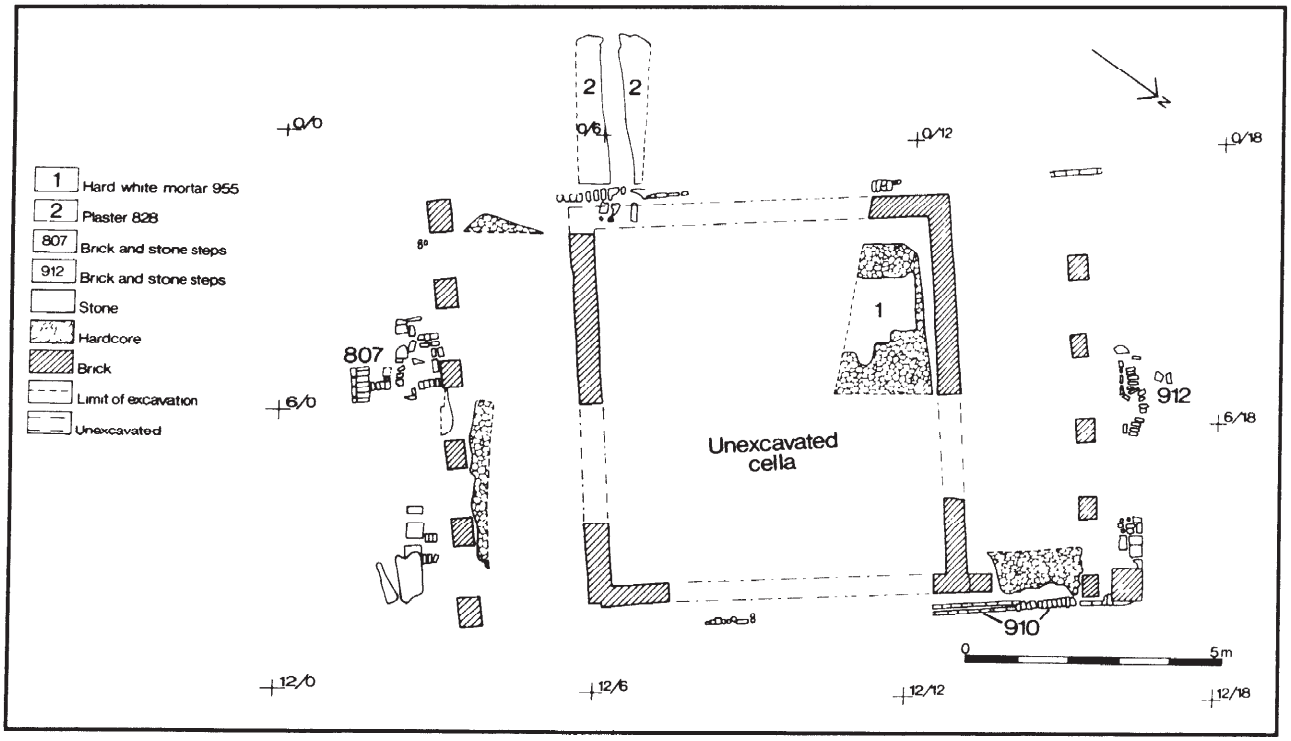

Figure 7.11 Temple of Bacchus, Painshill: excavated plan

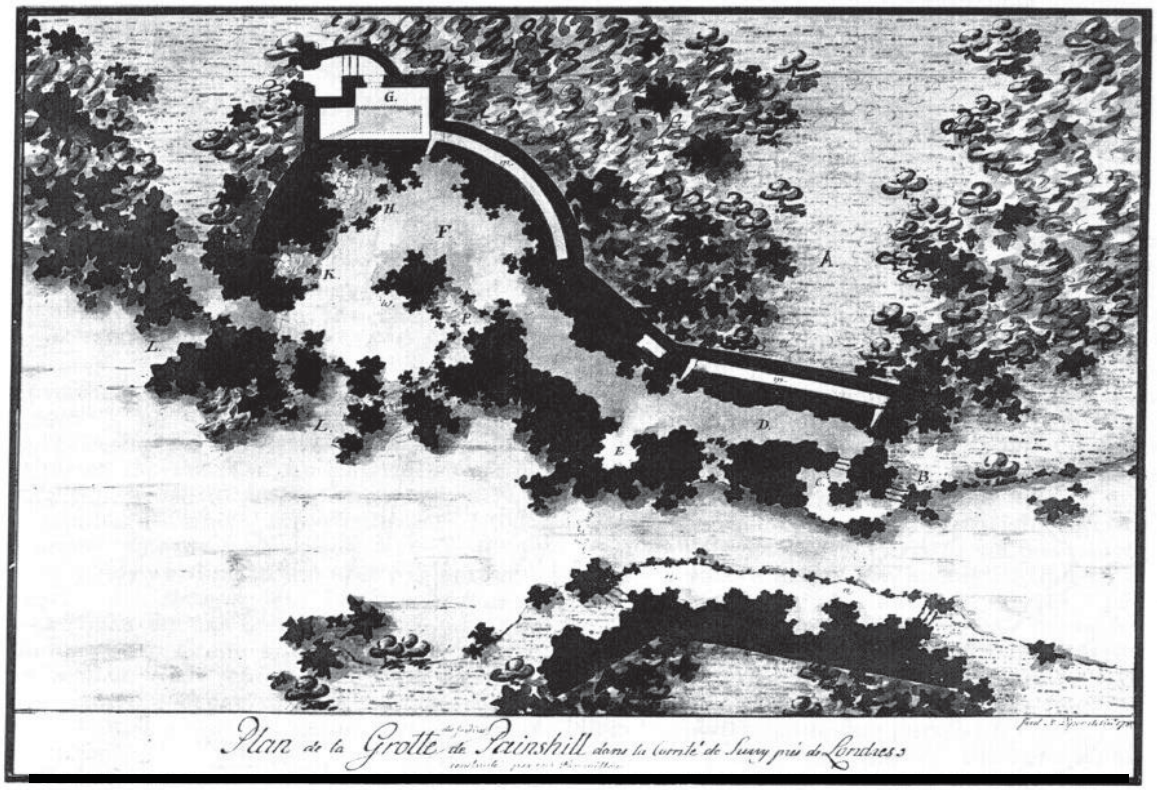

Figure 7.12 Plan of the Grotto at Painshill by F M Piper, 1779

walls, some of which were still *in situ,* were made of orange calcite,

Excavation also established that remains of the false stalactites still survived under the rubble and that examples of the crystals and corals, which were described by Piper and Robertson (Piper 1779; Robertson 1795), were still to be found, as were remains of the slate roof, but significantly no lead flashings or gutters, indicating the cause for the collapse of the roof and its decoration.

Once the debris had been cleared away, it was possible to establish that the brick floor had been covered with a dark grey mortar overlaid with gravel and shell, intended to give the visitor a feeling that this was a true cave. The floor was recorded at all stages of excavation enabling the variable degree of wear to be recognised; this suggested the route that visitors took around the grotto.

As the work progressed the pools and cascades hinted at in Piper's plan and the descriptions were revealed. Remains of brain coral and fluorite were found to have decorated the sides and edges of the pools to the east. In contrast the series of small pools and cascades to the west of the grotto were edged with oolitic limestone.

Perhaps the greatest contribution to our knowledge of the Painshill grotto in its heyday was the discovery of the previously unrecorded underfloor water system which channelled water from the lake to a small building known as the Pump House (Fig 7.13). This is thought to have housed an Archimedean screw which raised the water from a small well or sump to the back of the crystal cascades on the east side. The water was directed under the floor to reappear at the base of a central column. Our work showed that there might originally have been a fountain; eventually the water flowed down the limestone cascades and fell back into the lake.

These exciting discoveries and the recovery of structural details have helped to amplify the archive material and establish the water system which will again help with restoration of the Grotto in the future.

Conclusions

It is not possible in the space available in this paper to cover all the archaeological work undertaken at Painshill, or to discuss in detail the use of dendrochronology, resistivity surveys and mortar analysis, which were all part of the project. When evaluating the results it should be remembered that the excavations were designed specifically to provide information for restoration; there was no funding available to make in-depth studies of, for example, pollen samples and lake

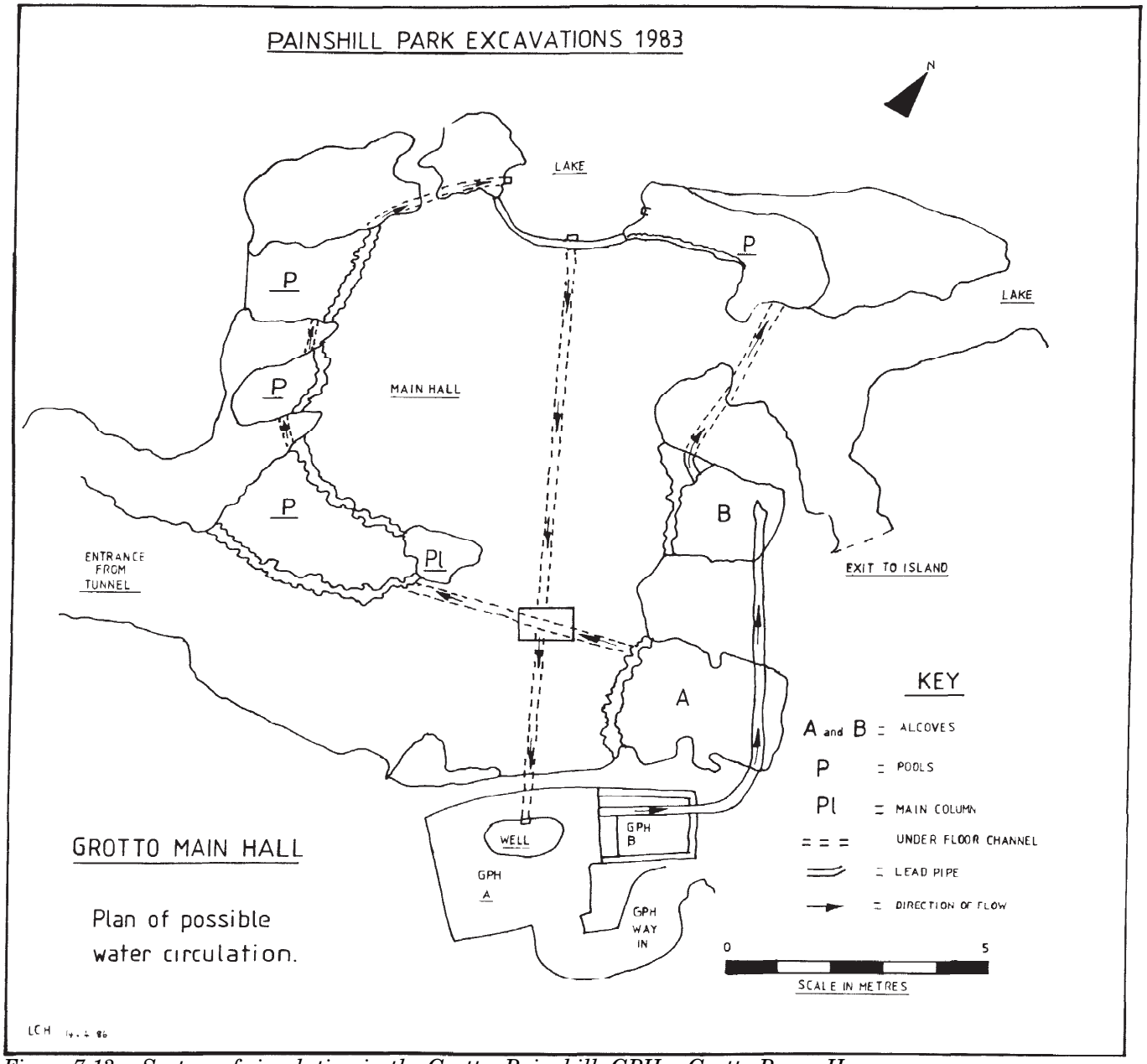

Figure 7.13 System of circulation in the Grotto, Painshill. GPH = Grotto Pump House

deposits. However, samples were taken and stored in the eventuality of resources being available to study them at a later date. A more detailed report is being prepared and will be published in the near future.

The staff were funded initially by the Manpower Services Commission as part of the Community Programme and the supervisor's last eighteen months were funded by the Painshill Park Trust whose support was essential for the successful completion of the work. Thanks should be extended to Mavis Collier, Painshill Park Trust, for documentary references, and to John Swindon for help with the production of final plans.

Notes

1 *Historic tree survey,* Painshill Park Trust
2 M Collier, pers comm, Estate Accounts, Public Record Office of Northern Ireland.

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8 The environmental archaeology of gardens

Peter Murphy and Robert G Scaife

Introduction

Environmental Archaeology is defined by Evans (1978) as 'the study of the past environment of man'. Gardens form one of the most artificial features of the human environment but nevertheless fall within the scope of this definition. There is no doubt that the various types of palaeoecological analysis now routinely used in studying aspects of archaeological sites are capable of yielding useful information on early gardens, horticulture and arboriculture. In practice, however, these techniques have not yet been extensively applied to the study of gardens. In this paper we intend to outline some relevant techniques, for the benefit of those who may not be familiar with them, and to suggest how they may be applied. With reference to some case studies we illustrate the types of information which may be gained and discuss some problems of interpretation.

We interpret the term 'garden' liberally, to include kitchen gardens, market gardens, orchards, formal gardens, landscape gardens, and parks. However, we limit our scope in space and time mainly to Europe, with an emphasis on British sites, and to the historic period. In so doing we do not mean to imply that gardening was unimportant outside Europe or in prehistory. Root crop cultivation on a horticultural scale has formed a mainstay of food production in tropical areas, such as New Guinea and Central America (Lampert 1967, 307; Bender 1975, 224–32). On a more sophisticated level gardens are, of course, an important feature of Arab and Eastern cultures.

The importance of gardens in prehistory has certainly been underestimated, largely due to lack of direct evidence. One likely indicator of intensive garden cultivation is the species composition of weed seed assemblages associated with crop plant remains from archaeological deposits. At the Late Bronze Age site of Assiros Toumba in Macedonia the weed flora in stored cereal deposits contained a high proportion of 'garden' weed species, whereas modern crop samples in the same area contained mainly typical 'field' weeds (Jones 1987 and forthcoming). This may be related to garden cultivation of cereals and other crops in prehistory, associated with more intensive cultivation, hoeing, and weeding. Glynis Jones is currently studying the weed floras of modern Greek peasant gardens, in an attempt to characterize more clearly the weed floras associated with this type of intensive cultivation (pers comm).

Even in British prehistory some forms of horticultural production no doubt existed. Indeed some authors (eg Entwhistle and Grant 1989) would argue that Neolithic crop production in Britain involved largely small-scale hoe cultivation in 'garden plots', rather than agriculture in the strict sense of the term. The remarkably early record of a carbonised grape pip *(Vitis vinifera)* from the Stepleton causewayed enclosure in Dorset, dated to 4660±80 bp (uncal OxA–1) raises the possibility that there may even have been viticulture in the British Neolithic (Jones and Legge 1987). Perhaps we have further surprises in store about the sophistication of early prehistoric food production. In later prehistory small cultivation plots, such as those from an Iron Age site at Weston Wood, Albury, Surrey (Cunliffe 1974, 171) could well have been used for horticulture. These particular examples were about 7.0 x 8.5m with spade-dug parallel furrows.

However, one of the principal difficulties in considering prehistoric horticulture, at least in north-west Europe, lies in the definition of what constituted a garden crop. The wide range of plant remains identified in the stomach contents of the Tollund and Grauballe bog bodies provides some indication of the diversity of plants consumed, at least on occasions. These included not only cereals and flax, but also many plant species nowadays considered to be weeds (Helbaek 1950; 1958). Our modern preconceptions about the edibility of plants probably obscure a more catholic approach to plant products in prehistory. The degrees of human response to potential food plants proposed by Harlan and de Wet (1965, 18) may be relevant here. They suggest the following spectrum: domesticated crops — encouraged weed crops — tolerated weeds — discouraged weeds — noxious weeds. Seen in this light our difficulty in defining prehistoric vegetable crops is not surprising. At Roman and later sites we are, at least, on firmer ground.

Soil studies

At many garden excavations the only evidence for cultivation or other forms of land use is likely to come from characteristics of soils, since conditions will frequently be unsuitable for the survival of biological remains. Consequently close attention should be paid to any soil profiles found buried beneath later deposits, as a result of terracing, the construction of other garden earthworks, or other forms of site levelling.

Field observations on such profiles can give an indication of land use prior to burial. For example, rendzina soils (shallow calcareous soils formed on chalk and similar parent materials) which have been under grassland show a characteristic stone-free A horizon produced as a result of sorting by earthworms (Limbrey 1975, 184). Cultivation, either by ploughing or digging, disrupts the topmost horizons of all soils by incorporating and mixing material from further down the profile to give a uniform, dark Ap horizon which shows a sharp contrast with the subsoil marking the lower limit of disturbance, Careful inspection of the subsoil surface may reveal plough- or spade-marks.

Indications of cultivation from buried soil profile characteristics may be particularly helpful in locating small urban gardens, which are usually unmarked by any other archaeological features. At the Magistrates' Courts site, Whitefriars Street, Norwich, for example, a narrow (probably truncated) greyish Ap horizon overlay orange sands, into which were cut early medieval graves, and was in turn covered by later occupation deposits. It resulted from artificial mixing of organic material and charcoal into the sandy parent material (Macphail 1988).

Commonly, imported topsoil is incorporated into garden soils and evidence for this practice can sometimes be found. In one of the orchard sites at Pompeii piles of topsoil, perhaps imported to the site, were found buried beneath volcanic debris (Jashemski 1979b, 255). In northern Germany and Holland mor humus (incompletely decayed surface plant litter) was collected from heathland soil and used on the floors of stables and byres during the medieval period, the resultant mixture of dung and litter being spread over fields and gardens. This process produced very deep and rich soils known as plaggen soils, in areas where soils were otherwise impoverished podzols (Limbrey 1975, 335). Plaggen soils are also known from Ireland, where the addition of calcareous sand and dung increased levels of phosphate, potassium, magnesium and sodium, eventually producing Ap horizons 1m thick over podzol subsoils at some sites (Conry 1971). In Easter Ross, Scotland, near the site of Fearn Abbey areas of deep soils seem to be related to 13th century monastic improvements: the depth and nutrient content of soil were increased by adding composted marl, fen peat and dung with mineral soil (Romans and Robertson 1983, 60).

Imported topsoil may also be found in bedding trenches, particularly at sites where landscaping produced areas of sterile subsoil, as at the Fishbourne Roman palace. The trenches were filled with a mixture of grey silty topsoil and crushed chalk, and on the surrounding planted areas a 30cm thick layer of topsoil was spread (Cunliffe 1971, 123–4).

Occasionally there is evidence for the sieving of garden soils. In an 18th–19th century garden at Wherwell Abbey in Hampshire the garden soil overlay chalk and clay-with-flints, yet the proportion of pebbles, flints, large chalk fragments, pottery, and other refuse was notably lower than in topsoil from adjacent uncultivated areas (Frank Green, pers comm).

Soil chemistry may also be helpful in reconstructing horticultural and arboricultural practices. At North Thoresby in Lincolnshire an irregular grid pattern of ditches containing Roman pottery, stones, and other refuse is reported by Webster and Petch (1967). A sample of fill has a phosphate concentration about eight times higher than that of the modern ploughsoil, and the excavators thus suggest that these ditches represent planting trenches filled with heavily manured soil. They suggest that the site may have been a vineyard though other interpretations are possible.

The determination of organic carbon may also be useful. An example comes from Culver Street, Colchester, where a layer some 45cm thick of dark reddish-brown deposit overlay destruction debris from the Boudiccan fire. This was interpreted, in the field, as a possible cultivated soil. However, with organic carbon comprising only 0.4% this layer seems a rather unpromising growing medium, and micromorphological study showed it to consist of only slightly weathered burnt and unburnt debris from clay-walled buildings (Macphail 1986).

The technique of soil micromorphology is becoming increasingly important in archaeology (Courty *et al* in prep; Goldberg 1983; Macphail 1987a). This method involves the collection of intact soil blocks which are impregnated with a plastic resin before sections, up to 13 x 4cm in size, are mounted on glass slides and ground to a thickness of 20–30µm. Examination of these sections under a polarising microscope permits recognition of characteristic features produced in soil under different types of vegetation and land use which provide information on soil history and development.

A few examples illustrate the potential of this technique. The post-Roman 'Dark Earth' commonly seen at urban sites in Britain has been extensively studied by this method. It was formerly interpreted variously as a flood deposit or a cultivated soil, but micromorphological study shows that the Dark Earth seems to be composed of building materials (brickearth and mortar) from insubstantial buildings mixed with fine charcoal and plant residues (phytoliths) reworked mainly by the activities of slugs, indicated by the presence of calcareous granules, and Enchytraeids (wireworms), which produce characteristic organo-mineral micro-aggregate excrements (Macphail and Courty 1985). Sequential changes in land use can also be demonstrated. Macphail (1987b) reports a soil buried by medieval deposits at the Redfearns Glassworks site, York, which showed micromorphological evidence for initially forested conditions, followed by open field cultivation, a dug

garden soil formed in an occupation soil, and traces of 'garden' topsoil introduced from above by burrowing organisms and roots.

From this very brief discussion of soil studies it should be clear that intensively cultivated soils, such as those in gardens, invariably have a complicated history and have been greatly modified by human activity. They are as artificial as, say, the garden plan and hence as worthy of study. Applying modern techniques to buried garden soils will undoubtedly yield information on the methods used to increase and maintain soil depth and fertility.

Plant macrofossil analysis

Plant remains visible with the naked eye, including seeds, fruits, buds, leaves, stems, and wood, are known as plant macrofossils, though microscopic examination is usually necessary for their identification. Under natural conditions macrofossils are often not dispersed very widely from the parent plant and thus provide useful information on vegetation in the immediate vicinity of a site, in contrast to pollen grain assemblages, which may include both a local and a regional component. Macrofossil assemblages resulting from human activity are commonly more difficult to interpret.

In reconstructing the vegetation of a garden it would clearly be helpful to find macrofossils of plants *in situ,* at the site where they were growing, but unfortunately this is a very rare occurrence. Garden soils are typically well-aerated, with a circumneutral pH and high biological activity. In these conditions dead plant material rapidly decays. Consequently garden soils are the very last place where one would normally expect to find identifiable macrofossils. However, macrofossils can be preserved by several processes, usually in secondary contexts, and these provide information on garden plants.

Types of preservation

Carbonisation

When plant material is heated to high temperatures in oxygen-deficient conditions it will not burn but is converted to carbon. The overall form and cell structure is often well preserved and readily identifiable. In this state the plant material is biologically inert and very resistant to physical weathering. Carbonised macrofossils are easily extracted from soil samples by flotation techniques. Carbonisation can occur by a number of means. Heating or roasting is a necessary stage in the processing of some food crops and poor temperature control can result in carbonisation. This does not, in general, apply to garden crops, but cereals are very often carbonised in this way. Disposal of plant wastes in bonfires can also result in carbonisation and charred plant material from such sources frequently occurs in hearths, refuse pits and other contexts. Examples include the seeds of asparagus *(Asparagus officinalis),* pea *(Pisum sativum),* and columbine *(Aquilegia* cf *vulgaris)* reported by Moffett (1986) from 3rd century contexts at the Roman site of Alcester, Warwickshire or the carbonised garlic clove *(Allium sativum)* from a medieval context at Beverley, Yorkshire (P Tomlinson, pers comm).

Some of the most informative carbonised assemblages, however, resulted from catastrophic events, for in these circumstances plant remains may be found at their sites of storage or production. For example, in AD 61 the Roman city of Colchester was sacked by Boudicca's troops and many deposits of plant foodstuffs were carbonised when buried beneath the burning superstructure of buildings. Of particular interest is the material from a Roman shop at 45–46 High Street (Murphy 1984): it illustrates the range of imported and/or introduced garden and orchard crops available less than twenty years after the conquest. Carbonised figs (Ficus carica), and stone pine cones *(Pinus pinea)* were found and a bag or sack of coriander seeds *(Coriandrum sativum)* was associated with fruits or seeds of opium poppy *(Papaver somniferum),* the oil seed gold-of-pleasure *(Camelina sativa),* flax *(Linum* cf *usitatissimum),* beans *(Vicia faba* var *minor),* lentil *(Lens esculenta),* celery *(Apium graveolens),* anise *(Pimpinella anisum),* dill *(Anethum graveolens),* weed seeds, and cereal remains. Some of these may have been 'weeds' in the coriander crop, others may represent spillage on the merchant's floor.

In AD 79, during the eruption of Vesuvius, the city of Pompeii was buried beneath hot ashes and lapilli and this resulted in the carbonisation of plant material. Carbonised macrofossils from the gardens of the city are of particular significance since many of them provide direct evidence for the types of fruit and nut trees grown at each site: a range of species including grapes *(Vitis vinifera),* olives *(Olea europaea),* apple *(Malus* sp), cherries *(Prunus* sp), almonds *(Prunus dulcis),* chestnuts *(Castanea sativa)* and filberts *(Corylus maxima)* has been identified. Carbonised beans *(Vicia faba* var *minor)* imply intercultivation between rows of vines and trees (Jashemski 1979a).

In general, however, carbonised plant remains from garden soils are unlikely to tell us anything about the crops grown, but rather about manuring practices. One example of this is the material from the soil of Ring Herod's Winter Palace Garden at Wadi Qelt in Jericho, which consisted of bits of pottery, bone and scraps of metal, as well as carbonised seeds and charcoal fragments. It would appear that ash and domestic refuse were used as manure (Kathryn Gleason, pers comm).

Waterlogging

Waterlogged deposits, such as those filling ditches, ponds and wells can become completely anaerobic,

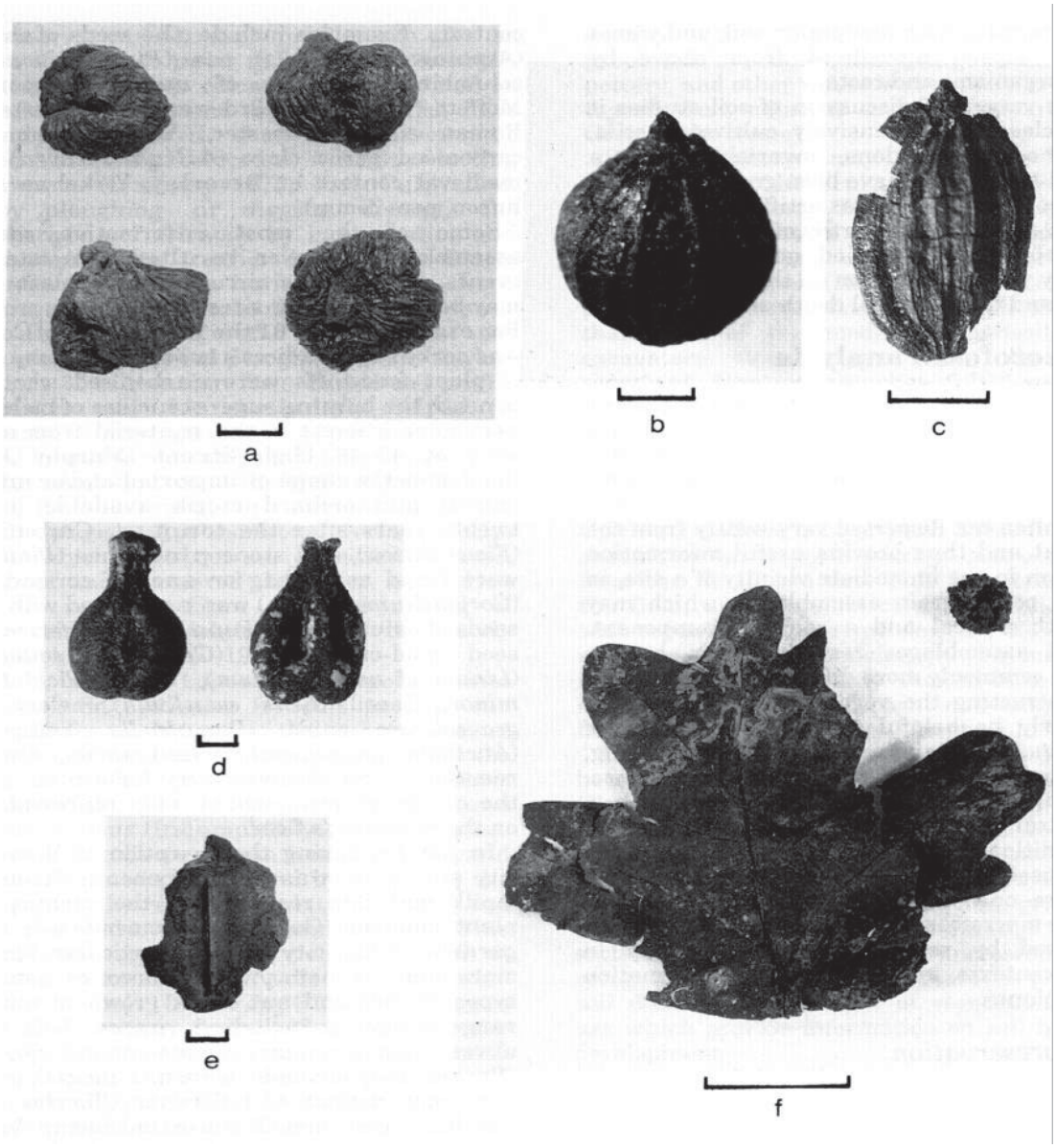

Figure 8.1 Some macrofossils of orchard and garden plants: a) carbonised figs (Ficus carica), *10mm scale; b) carbonised coriander fruit* (Coriandrum sativum), *1mm scale; c) Carbonised dill fruit* (Anethum graveolens), *1mm scale; d) grape pips* (Vitis vinifera), *1mm scale; e) fragment of bean testa with position of hilum* (Vicia faba), *1mm scale; f) leaf and immature cupule of oak* (Quercus *sp), 10mm scale; a-c) from 1st century fire destruction levels, 45–6 High Street, Colchester, Essex; d, e) from cess pits containing waterlogged and mineralised plant material at St Martin-at-Palace Plain, Norwich (d = 15th century, e = 11th century, f) from waterlogged fill of 16th century garden feature at Hill Hall, Essex)*

and since most micro-organisms causing decay require oxygen, plant remains frequently survive well in such wet deposits. They are extracted from soil samples by wet sieving techniques (Kenward *et al* 1980). Macrofossils from garden and orchard plants are not uncommon in waterlogged archaeological deposits. Medieval cess pits frequently produce a wide range of taxa, including fruits, nuts, pulses, vegetables, and herbs (eg Greig 1981; 1988). Occasionally assemblages from such contexts include 'luxury' crops implying a high social status for the cess pit users: pits of 11th–15th century date at the Magistrates' Courts site, Norwich, for example, included remains of medlar *(Mespilus germanica),* mulberry *(Morus nigra),* and walnut *(Juglans regia),* besides more commonplace

species (Murphy 1988). Similarly, macrofossils of food plants from the wet fills of 15th century drains at the Oxford Blackfriars Priory include fig *(Ficus carica),* walnut *(Juglans regia),* almond *(Prunus dulcis)* and grape *(Vitis vinifera)* — all of which could have been grown in a walled garden (Robinson 1985a).

Some assemblages from late medieval to early modern pits at Sewer Lane, Hull, produced macrofossils of an unusually wide range of garden plants and it is thought that the pits were used partly for disposal of waste from nearby gardens. Species identified are listed in Table 8.1 (Williams 1977). In addition the pits contained cereal remains, seeds of plants probably derived from animal fodder and macrofossils of several plants (eg mallow — *Malva sylvestris;* agrimony — *Agrimonia eupatoria;* cowslip — *Primula veris)* which, though wild, are also grown in gardens. This extensive range of fruits, nuts, herbs, flowers, and vegetables illustrates the diversity of crops which may have been produced in urban gardens and also, incidentally, the continuity of garden sites, in this case from *c* AD 1450–1700.

Table 8.1: Garden and orchard crops identified from macrofossils in late medieval to early modern pits at Sewer Lane, Hull (Williams 1977).

Apium graveolens L	celery
Beta vulgaris L	beet
Brassica spp	cabbage, etc
Calendula officinalis L	pot marigold
Cannabis sativa L	hemp
Coriandrum sativum L	coriander
Corylus avellana L	hazelnut
Daucus carota L	carrot
Dipsacus fullonum L	teasel
Ficus carica L	fig
Linum usitatissimum L	flax
Lepidium sativum L	cress
Lobularia maritima (L) Desv	sweet alyssum
Malus sylvestris Mill	apple
Myrris odorata (L) Scop	sweet cicely
Papaver somniferum L	opium poppy
Petroselinum crispum (Mill) Nyman	parsley
Pastinaca sativa L	parsnip
Rosa sp	rose
Rubus fruticosus agg	blackberry
Rubus idaeus L	raspberry
Verbena oficinalis L	vervain

Mineralisation and replacement

Plant material replaced by minerals — particularly calcium phosphate — from polluted ground water in cess pits and other refuse contexts (Green 1979) sometimes includes macrofossils of orchard and garden crops. Occasionally whole fruits, including the fleshy mesocarp tissue may be preserved by mineralisation, as for example in Late Saxon pits at Turret Lane, Ipswich; here intact fruits of bullace or small plum *(Prunus domestica* subsp *insititia)* were present (Murphy 1987).

At Pompeii voids left from the decay of tree root systems were filled with volcanic debris from the eruption of AD 79. Jashemski (1979b, 23) describes the process whereby these are emptied and cement casts are made. It is possible at this unique site to reconstruct planting patterns, and the overall form and size of root system casts is often sufficiently distinctive for the tree species to be identified. At a large vineyard site in Pompeii it was even possible, from casts, to establish that vines had been propagated by layering *(ibid,* 206). Jashemski also describes plant pots with root cavities in their soil filling apparently representing large shrubs or small fruit trees, *(ibid,* 295). Kathryn Gleason is currently examining similar cavities in pots from Wadi Qelt, Jericho (pers comm).

Desiccation

Plant material preserved by desiccation occurs, of course, most frequently in areas of arid climate. Some funerary wreaths buried with Egyptian mummies, for example, are discussed by Newbury (1983). The wreaths of the Pharaoh Tutankhamen were made of flowers, leaves, and fruits of both garden and wild plants, including wild celery *(Apium graveolens),* cornflower *(Centaurea depressa),* mandrake *(Mandragora officinalis),* blue water lily *(Nymphaea coerulea),* olive *(Olea europaea), Picris coronopifolia,* willow *(Salix safsaf),* and woody nightshade *(Solanum dulcamara),* fastened to strips of papyrus and date-palm leaves.

Perhaps surprisingly, desiccated plant material also occurs in temperate Europe, but only in standing buildings. The use of cereal straw and chaff as insulation was widespread in medieval and later timber-framed buildings, and it frequently survives. One particularly interesting deposit of desiccated plant material was found during renovation work at Romsey Abbey in Hampshire in a cavity in a masonry wall. It included leaves of box *(Buxus sempervirens)* together with a specimen which enjoyed a brief fame as the 'Romsey Rose'. Subsequent examination showed this to be, in fact, a bulb of the genus *Allium,* possibly garlic: the fleshy leaf-bases of the bulb had splayed apart as they dried, to produce an object resembling a dried rose (Frank Green, pers comm).

Identification and interpretation

A few words on the problems associated with identification and the limitations which these place

Table 8.2: Garden and orchard crops identified from macrofossils at Roman sites in Britain

Anethum graveolens	dill	*Mespilus germanica*	medlar
Apium graveolens	celery	*Morus nigra*	mulberry
Asparagus officinalis	asparagus	*Papaver somniferum*	opium poppy
Beta vulgaris L	beet	*Pimpinella anisum*	anise
Brassica spp	cabbage, etc	*Pinus pinea*	stone pine
Castenea sativa	chestnut	*Pisum sativum*	pea
Corylus avellana	hazelnut	*Prunus avium*	cherry
Coriandrum sativum	coriander	*Prunus cf cerasifera*	cherry-plum
Cucumis sativus	cucumber	*Prunus cf cerasus*	sour cherry
Daucus carota	carrot	*Prunus domestica* s l	bullace/damson/plum
Ficus carica	fig	*Prunus persica*	peach
Foeniculum vulgare	fennel	*Pyrus communis*	pear
Fragaria vesca	strawberry	*Rubus fruticosus*	blackberry
Juglans regia	walnut	*Rubus idaeus*	raspberry
Linum usitatissimum	flax	*Vicia faba var minor*	horse-bean
Malus sp	apple	*Vitis vinifera*	grape

Main sources: Godwin 1975; Greig 1976; Helbaek 1964; Hillman 1978; Jones 1977; Lambrick and Robinson 1979; Moffett 1986; 1988; Murphy 1977; Willcox 1977
Ornamental plants, such as box *(Buxus sempervirens)* or columbine *(Aquilegia* cf *vulgaris)* have also been reported, but are omitted from this list as are exotic species unsuited to the British climate. Some other garden crops have been claimed as Roman introductions to Britain but macrofossil records substantiating these claims cannot be found

on macrofossil studies may be helpful. The vast majority of identifications are based on fruits or seeds, since these are distinctive and readily identifiable in most cases. However, there are difficulties. For example the genus *Brassica* is of great horticultural importance, but unfortunately specific identification of *Brassica* seeds is far from easy, being based on fine details of the testa (Berggren 1981, 111). Even determination of a seed to the species *Brassica oleracea* is of limited use for the numerous cultivars of this species — cabbages, kales, sprouts, cauliflower, broccoli, etc — cannot be distinguished from seed morphology.

Some other plant parts are identifiable without undue difficulty. Leaves, for example, are quite distinctive, though it appears that leathery evergreen leaves are more likely to survive than leaves of some other species. Leaves and clippings of box *(Buxus sempervirens)* have been reported from several Roman sites in Britain including Winterton villa, Lincolnshire (Dimbleby 1978; R Goodburn, pers comm) and Farmoor, Oxfordshire (Lambrick and Robinson 1979, 127), from Romsey Abbey, and from 15th century contexts at the Oxford Blackfriars Priory (Robinson 1985). Leaves of this species, together with American holly, have also been reported from a well dated to *c* AD 1780 at Williamsburg, Virginia (Noel Hume 1976).

Identification of epidermal tissue fragments, which are virtually the only residues which can be expected to survive from vegetables once they have passed through the human gut, is more difficult. However, Tomlinson (forthcoming) working on material from the organic deposits of Coppergate, York, has begun to define criteria for the identification of such material, particularly *Allium* epidermis (leek, onion, or garlic), which now seems to be a common component of human cess deposits at many sites (eg Greig 1988).

A final problem of interpretation is whether the plants identified from macrofossils were, in fact, wild or cultivated. This difficulty is concisely illustrated by Robinson's comments on material from the Roman deposits at Farmoor. Whilst the box leaves are very likely to have come from bushes grown as low hedges, he identified several other species including rose (Rosa sp), ox-eye daisy *(Chrysanthemum leucanthemum)* and flax *(Linum usitatissimum)* which might have been garden plants, wild plants or field crops. As he notes 'it would be possible to construct a very pretty garden' with such species, 'all of them being grown in modern English gardens' (Lambrick and Robinson 1979). Unfortunately, there is no way of demonstrating conclusively that they were grown in Roman gardens at Farmoor.

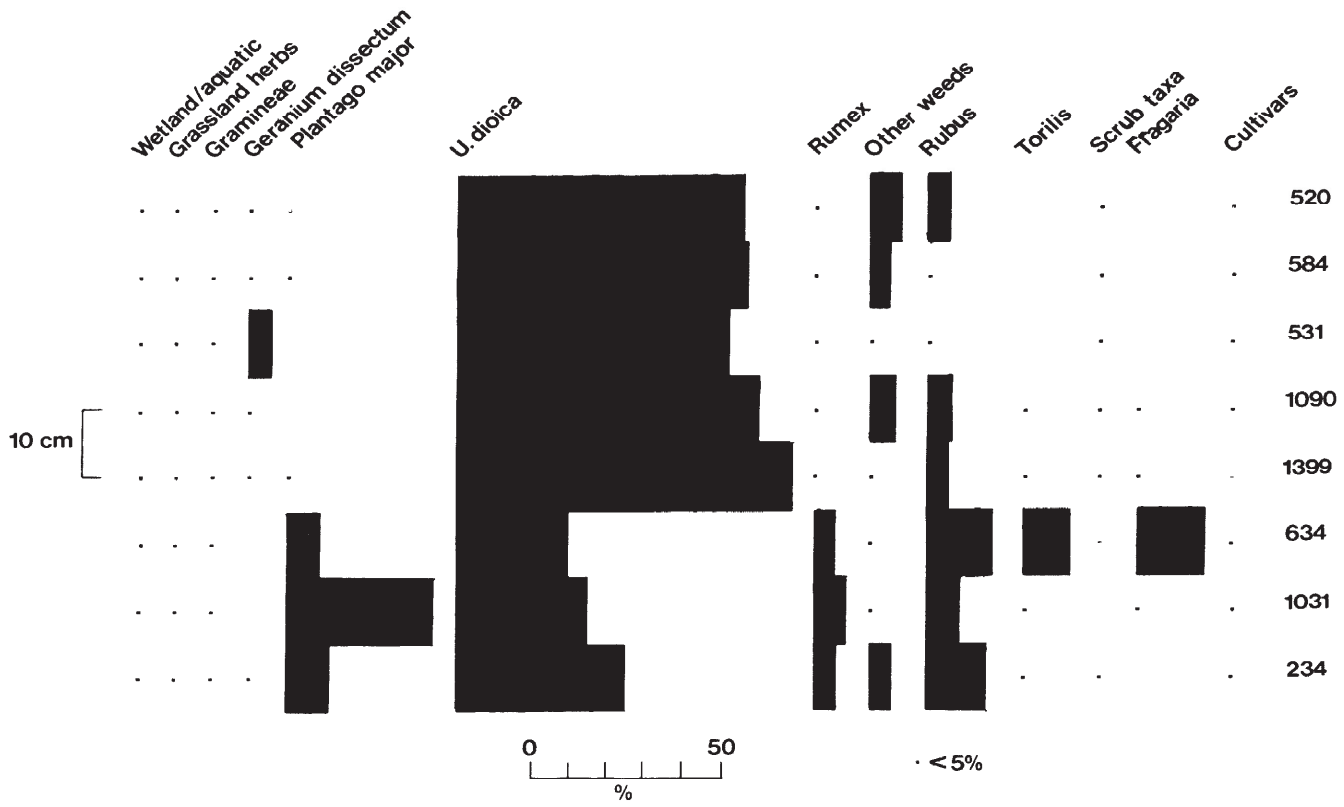

Figure 8.2 Dimensions (mm) of carbonised bean seeds (Vicia faba) *from some sites in East Anglia*

Key: B = cotyledon breadth (mm) L = cotyledon length (mm)
A) Seed from Spong Hill, Norfolk (Early Saxon)
B) Seed from Brandon, Suffolk (Middle Saxon)
C) Seeds from Middle and Late Saxon contexts at Ipswich, Suffolk
D) Seeds from Saxo-Norman soil profile at Anglia TV extension site, Norwich, Norfolk
E) Seed from post-medieval context at Ring Street, Norwich
F) Seed from Heigham Street, Norwich

The uses of macrofossil identifications

Macrofossil identifications can be used to compile lists of garden plants known from individual sites (eg Table 8.1) and for particular regions and periods. For example a list of garden and orchard crops known from Roman Britain is given in Table 8.2, and a similar list of crops from medieval sites in southern England can be found in Green (1984). Lists of this type tend to become outdated almost as soon as they are compiled, as new records are constantly being reported. However, they do at least provide a factual basis to replace the unsubstantiated assertions that certain species were introduced at particular times, which abound in the literature.

Compilation of such lists poses a number of problems. Clearly records of exotic species which will not grow, or grow poorly, in the British climate (eg date, *Phoenix dactylifera:* Murphy 1984; olive *Olea europaea:* Willcox 1977; lentil, *Lens esculenta:* Willcox *ibid,* Murphy 1977) must be related to imports rather than introductions; and plants which are generally grown as field crops (eg cereals, hemp, *Cannabis sativa:* Willcox 1977; gold of pleasure, *Camelina sativa;* Willcox 1977; Murphy 1977) should also be omitted. Species whose wild forms are not readily distinguishable from cultivated forms on seed or fruit morphology (eg *Daucus carota,* carrot; *Rubus idaeus,* raspberry) may be tentatively included as may crops such as flax *(Linum usitatissimum)* or pea *(Pisum sativum)* which are grown on both a field and garden scale. What, though, of ornamental plants? Moffett's (1986) identification of a carbonised seed of columbine *(Aquilegia* cf *vulgaris)* from a Roman context seems a likely record of a garden plant, but, as noted above, it is quite possible that many other native 'wild' plants were grown in gardens. Their status has to be assessed on a site-by-site basis, and at best can only be stated as a probability.

Such lists may be helpful in the interpretation of archaeological features. Crummy (1984, 138–41) describes some linear cultivated beds buried beneath later layers at Balkerne Lane, Colchester, which apparently represent part of an extra-mural market garden. The beds were about 2m in width, separated by 'furrows' 70–200mm deep. There is no evidence for the crop grown, but Crummy notes the close resemblance of the beds to asparagus plots interplanted in modern vineyards. When he made this comment, macrofossils of asparagus had not been reported from Roman Britain but the plant has now been reported by Moffett (1986), which provides some support for this interpretation.

Species lists also give a basis for authentic replantings of gardens whose plans have been recovered by excavation. For earlier periods macrofossil identifications may be the only reliable source of information: the comments by Roman writers on horticulture, for example, refer to conditions in Italy and cannot be applied reliably to other areas. Even in more recent times it is not safe to assume that, say, Gerarde's (1597) description of sunflower or 'marigold of Peru' *(Helianthus annuus)* indicates that it was at all widely grown in the 16th century, Only macrofossil records from contemporary garden sites (or very particular historical sources such as estate records) would confirm this.

Metrical studies of macrofossils can provide some information on varieties of crops grown — again information needed to avoid anachronisms when restoring and replanting gardens. The detailed work of Behre (1978) on the fruitstones of the genetically diverse species *Prunus domestica* (bullace, plum, etc) from Haithabu and Alt-Schleswig resulted in the definition of several forms perhaps in a loose sense equivalent to varieties which seemed to, be related to the chronology of the sites. Similarly at Amsterdam Paap (1984) distinguished three 'varieties' of the subspecies *insititia,* one of which originated in the 14th century. The true plum, *P domestica* subsp *domestica,* was not recorded at Amsterdam before the 17th century. The *Prunus* fruitstones from the wreck of the *Mary Rose* have been studied by Dodd (1983). He compared the overall morphological characteristics of these stones and also their surface detail, as seen under the scanning electron microscope, with modern reference material and concluded that five 'varieties' were present: Catalonia, Greengage, Mirabelle, Myrobalan, and Yellow Cherry Plum.

Similarly information can also be obtained from macrofossils of vegetable crops. Dimensions of carbonised bean seeds *(Vicia faba)* from some East Anglian sites are shown in Figure 8.2. Seeds from Saxon and medieval contexts are always very small and rounded, representing field beans *(V faba* subsp *minor).* However, a 16th century pit at Heigham Street, Norwich, produced a notably larger and flatter seed. A single seed obviously gives no idea of the size range of the crop from which it came. However, this could be of the larger-seeded bean *Vicia faba* subsp *faba* variety *equina.* Körber-Grohne (1987) discusses at length the development of this and other crops.

Finally macrofossils of the wild flora, particularly weeds, may be helpful in reconstructing phases of use and disuse in gardens, and cultivation practices (as noted above), whilst remains of grassland plants may in certain circumstances be derived from animal dung and thus suggest manuring. Examples are given below.

Pollen analysis

Pioneer work at the end of the 18th century and early 19th century in Scandinavia showed that fossil pollen was present in peat bogs and lake sediments. Research by Fruh, Lagerheim, Von Post, and Erdtman (see Erdtman 1943) showed that this pollen could be extracted and identified, thus allowing the character of the past vegetation which produced the pollen to be elucidated. It became quickly apparent to these workers that vegetation development during the 10,000 years since the last glacial period has undergone many successional changes. Pollen analysis thus became a tool for dating sediments and for providing a regional picture of changes in the forest composition. Two factors have changed this emphasis. Firstly, the advent of radiocarbon dating now provides accurate absolute dating of organic material and secondly, the technique of pollen analysis (palynology) has become more refined and has been applied to specific problems in palaeoecology. One of these has been to study in detail the effects of man on the vegetation and to study his agricultural activities in the landscape through time. The pollen analyst studying gardens may be interested in a range of activities which might include looking at evidence of trees, shrubs and flowers grown for aesthetic reasons, herbal gardens associated with early medicines or backyard plots where local smallholdings may have grown vegetables or crop plants on a small scale.

The key to the preservation of pollen lies in the extremely resilient character of the pollen wall (exine). This wall is composed of sporopollenin, a substance which is closely allied to chitinous compounds. Preservation is not, however, universal. Although it is highly resistant in acid and waterlogged environments, it is highly susceptible to alkaline and oxidising conditions which may rapidly degrade and destroy this compound wall. Consequently, pollen analysis has generally been carried out on peat mires, lake sediments and acid soils. Many depositional environments are not suited to pollen preservation. This is unfortunately true of many garden environments because:

i) Fertile soils have a well developed soil 'crumb' structure and hence fine aeration properties. This may therefore be a highly oxidising environment which is detrimental to pollen preservation.
ii) The soils of fertile gardens are usually of high pH. In these conditions, earthworms and other micro- and mesofaunal elements play a vital role in creating this soil structure through constantly ingesting and turning over the soil (Darwin 1881). Consequently, this continuous soil mixing means that pollen falling on the ground surface is rapidly disseminated throughout the profile and rapidly destroyed.

In addition to the physical problems of soil character described, there are important factors of pollen production and dispersion which may be largely responsible for the absence or under-representation of pollen in fortuitously preserved soils. These points have been discussed by Dimbleby (Dimbleby in Jashemski 1979a; Dimbleby in press) in his studies at Pompeii and may be summarised as follows:

i) Pollen can rarely be identified to species level. It is thus impossible at present to distinguish some taxa of cultivated plants from their wild counterparts using pollen alone.
ii) Some plants in gardens are not allowed to flower. Box *(Buxus)* for example has often been made into hedges and kept well trimmed. Thus, its pollen is rare (there are however a number of macrofossil records).
iii) Wind pollinated plants (anemophily) such as birch, pine, hazel, and walnut can produce large numbers of pollen grains. It is estimated that a single birch catkin may produce as many as seven million pollen grains (Faegri and Iversen 1975). Such plant taxa are therefore often over-represented in pollen spectra in relation to insect pollinated plants. The latter do not need to produce vast quantities of pollen since transport of the male pollen is less 'hit and miss' by insect vectors. In order to attract insects, their flowers are often colourful and are thus likely to be those plants grown in gardens. As Dimbleby notes in his work at Pompeii (Jashemski 1979b; in press), the pollen of *Carpinus* (hornbeam) and *Juglans* (walnut) found at a number of sites had probably travelled some distance and were not therefore constituents of the garden make-up. Conversely, for insect pollinated (entomophilous) taxa to be found usually requires the plants to have been growing in close proximity to where the samples were obtained. This proved to be the case at Pompeii with *Olea* (olive) which was also found.

Garden environments thus present many problems to the pollen analyst interested in the plants which might have been grown. These factors have meant that few people have attempted to study the pollen which might be present in garden soils. However, there is a growing awareness that in some cases valuable data can be acquired from garden environments. For this to be so, certain environmental conditions must pertain. Garden environments which may be suitable for pollen analysis and other potential sources of data relating to garden activities may be summarised thus:

i) Where soils are of acid, preferably podzolic character. This is rare given the typically fertile character of garden soils. Where soils do have pHs of less than *c* 5.4 earthworms are not present. Thus, soil turn-over is less efficient and consequently, pollen falling on the ground surface may become broadly stratified in the soil.
ii) Where a ground surface has been buried and effectively 'fossilised'. This might occur from the construction of banks/ditches or burial by spoil heaps. Numerous pollen analyses of soils underlying archaeological monuments (eg burial mounds) have been carried out. Pollen may also be preserved where an old land surface (eg garden soil) is buried underneath soil or building structures. Even in calcareous soils such as on the chalklands, small quantities of pollen may also be preserved (Dimbleby and Evans 1974).
iii) In waterlogged features in gardens such as lakes, ponds, wells, and ditches where there is a progressive build up of sediments under anaerobic conditions.
iv) In addition to direct preservation in garden environments, indirect evidence for the cultivation of aesthetic and food plants may be of importance. Pollen obtained from such archaeological features as waterlogged ditches, sewers, and cess-pits may similarly provide an insight into food plants which may have been grown and consumed. This has certainly been the case with plant macrofossils (see above).
v) Natural peat mire and lake sediments may contain the pollen of introduced trees, shrubs and herbs. This is only likely to occur if the taxon is a strong producer of pollen or if the locality of the sample site is in close proximity to garden areas.

The pollen evidence

The first pollen evidence for man's use of plants and/or flowers for aesthetic reasons comes from the classic work of Leroi-Ghouran (1975) on the Neanderthal cave burial sites of Shanidar IV, Iraq. Pollen analysis of soils from around the burial illustrated the placing of plants around the body. Clusters of pollen grains derived from flowers with

strong colouration were found and included *Senecio Alchemilla* type, *Muscari* and *Centaurea.* It is thought that these accompanied the body which was laid upon a platform of *Ephedra.*

The first palynological evidence for gardens has been suggested by Groenman-van-Waateringe (1978) for the Neolithic of the Netherlands. Here, the presence of Prunetalia hedges enclosing areas of cultivation and settlement has been postulated. Whilst these are unlikely to have been gardens in the modern sense, such fenced or hedged areas are the forerunner of small sedentary settlements for individual or family use.

Garden soils

The exceptional case of burial by volcanic ash at Pompeii has provided the best example of pollen preserved in garden soils. The classical gardens of Greek and Roman civilisation are well documented by contemporary writers and it is from these sources that much information is forthcoming. This has prompted a number of archaeologists to seek botanical evidence for those plants discussed by these writers. Professor G W Dimbleby (Dimbleby in Jashemski 1974; 1979a; Dimbleby 1976; in press) has analysed samples obtained from the excavations of Jashemski at Pompeii. One of the most notable features is the pollen of *Olea* (olive) which was found in clumps in the soil of a number of gardens. In the case of Garden I.xxi.3 values of 94.6%, 88.3% and 87.9% of total pollen were recorded (Dimbleby in press). These are exceptionally high when it is considered that olive is insect pollinated and produces only small quantities of pollen. This evidence therefore attests the presence of Olea within the garden environment. Other pollen spectra, however, contained few other exotic taxa and were instead dominated by weed taxa and tree and shrub pollen derived from areas outside of the gardens; that is, those taxa with much higher pollen production and better dispersal characteristics.

In the garden of Torre Annunziata, Oplontis, high *Pinus* values (37.7%) may have been produced by ornamental pines (perhaps *Pinus pinea,* also useful for its pine kernels) growing in the garden. Soil samples taken adjacent to the walls of garden I.xiv.2, produced high quantities of the Polypody fern (93% *Polypodium).* Thus it can be envisaged that the walls of this garden were covered with this fern. In spite of these findings, Dimbleby (in press) has concluded that 'pollen investigations have contributed little to our knowledge of the horticultural activities in these gardens'.

In England, work on Fishbourne Roman Palace, West Sussex (Greig 1971) and Combley Roman Villa, Isle of Wight (Scaife in press) attempted to highlight the possibility of ornamental plants being grown in the formal garden of the villa. These studies were less successful than Dimbleby's and failed to find pollen of exotic taxa which might have been grown near the villas (box, cypress and vine). Many weeds of waste and arable ground were, however, found. Reasons why this might have been so are discussed below.

Urban archaeology

Much evidence for cultivated plants has come from indirect sources. In recent years many environmental analyses have been carried out on urban archaeological contexts. These have provided much data on the food plants consumed by people at different times. Attention has already been drawn to the plant macrofossils which have provided an insight into cultivated food plants. As noted below, pollen is less satisfactory than are plant macrofossils because it is rarely possible to delimit herb pollen taxa to species level. Thus, many plants grown for aesthetic or culinary reasons may have pollen grains which appear the same as natural taxa. However, in rare cases food or medicinal plants may be identified. For example, Greig (1981) in his study of the Worcester barrel latrine has identified the pollen of broad beans, borage, and hop.

The medicinal value of certain herbs is well known. Recent studies have attempted to corroborate the documentary evidence which exists (eg Culpepper's *Herbal).* The presence of mallow pollen in some urban cesspits has been noted. The high pollen frequencies encountered contrast strongly with numbers recovered from natural sedimentary environments (peat bogs and lakes). This enigma has been interpreted as the use of mallow flowers as a tea with mild laxative effects. Detailed studies are being carried out at Soutra, Scotland where the medieval infirmary is being excavated. It is hoped (Brian Moffat, pers comm) that results of analyses of herb, kitchen gardens, and priory gardens will provide more detailed information on various aspects of medieval gardens.

The English county maps of John Speed drawn in the late 16th century and early 17th century provide valuable town plans in which many buildings and land plots are recorded. Studies of medieval Newport, Isle of Wight (Tomalin and Scaife 1987) attempted to isolate those plants which may have been grown in urban areas. A very diverse pollen spectrum was obtained from medieval deposits and compared with the layout shown in Speed's town plan. From this and other similar studies of urban areas, (see, for instance, Greig 1982), the pollen spectra tend to be dominated by those plants introduced through activities other than gardening (eg building materials, straw, bedding and floor covering, human and animal food, and food processing waste) and weeds typical of waste ground areas. It is, however, hoped that greater recourse can be made to the town plans of Speed's maps when investigating urban garden areas.

Evidence from natural sediments

It is clear that the pollen record for cultivated garden plants is scarce. Evidence of introduced 'exotic' trees has, however, been forthcoming from the more typical pollen records obtained from peat mires or lake sediments. *Juglans* (walnut) is a good example of a plant thought to have been introduced to England by the Romans and whose pollen suddenly makes an appearance in the record at this date (Godwin 1975). The spread of *Juglans* as a cultivated plant has been a subject of much interest. Bottema (1980) has discussed the spread of *Juglans, Castanea* and *Platanus* in southern Europe and particularly in relation to the Mycenaean culture at the time of the Santorini eruption. All of these taxa are though to have been introduced to Europe by man (Beug 1962; Filopovitch 1975). These taxa occasionally occur on English Roman and post-Roman sites (Godwin 1975). Thus for example, *Juglans* pollen has been found at the Temple of Mithras, London (Scaife 1982). *Castanea* being insect pollinated, produces little pollen and has only rarely been found in recent sediments where sweet chestnut has been grown on a large scale as a coppice and not food resource (eg Macphail and Scaife 1988).

Faunal remains

The fauna of gardens includes both wild species, exploiting a garden on a permanent or temporary basis, and also domesticated animals kept for economic or aesthetic reasons. Wild species may colonize a garden either because in some way it mimics their natural habitat or because it provides suitable food plants. Species in the latter group can attain artificially high populations and become pests. Macrofossils of the wild fauna are capable of yielding information on the structure and species composition of garden vegetation. The two main invertebrate groups commonly used for such studies are the molluscs and the insects, particularly beetles, though some other groups may provide useful data in particular circumstances. Bones of small mammals, amphibians, and reptiles are also useful indicators of features of the habitat, and bones of fish, birds, and mammals may tell us something of the domestic stocking of a garden. In this section we will consider briefly the potential value of macrofossils from each of these groups.

Molluscs

Mollusc shells are composed mainly of calcium carbonate — either aragonite or calcite — and hence are well preserved in calcareous deposits derived from chalk, limestone, or calcareous till. In neutral or acid deposits there is no shell preservation. Although shells of the larger species can be collected by hand during excavation fully representative shell assemblages can be obtained only from soil samples from which they are extracted by wet sieving (Evans 1972, 23, 41–5).

Land molluscs have been used extensively in environmental studies in archaeology. Some species, such as the garden snails *Helix aspersa* and *Trichia striolata,* and the slugs *Deroceras reticulatum* and *Arion hortensis* are familiar pests. Remains of synanthropic species are commonly abundant in archaeological deposits and no doubt will prove to be common on garden excavations. Some other species are potentially more informative since they require specific conditions of shade, moisture or soil stability To give an example, Evans (1972, 143) notes that *Vertigo pygmaea,* typically a chalk downland snail, is common in lawn-like grassland, as at Longleat House, Wiltshire. It should be possible to use assemblages of land molluscs, particularly from buried soils in gardens and parks, to indicate land use — whether it was grassland, cultivated land or planted with shrubs or trees. It might even be possible to learn something of grassland management in parks, for different management regimes have effects on the mollusc fauna. Robinson (1988) has shown that it is possible to distinguish between meadow and pasture from subfossil mollusc faunas. The edible snail, *Helix pomatia,* is the only 'domesticated' land mollusc introduced to Britain, and it has been recorded from Roman deposits.

Freshwater molluscs, recovered from the fills of ditches, ponds, and lakes, are useful indicators of water quality and flow: some species are confined to well-oxygenated flowing water whilst others can tolerate stagnant conditions and periodic drying (Boycott 1936; O'Connor 1988). The mollusc faunas of garden water features would undoubtedly yield information on the effectiveness of drainage systems, and water quality in ponds and other features.

Shells of some small marine molluscs and other invertebrates may shed some light on manuring practices. Bell (1981) notes the importance, in coastal areas, of seaweed as a horticultural manure. The weed itself will not usually survive in the soil but Bell has shown that the presence of invertebrates associated with seaweed or strandline litter in archaeological deposits gives an indication of manuring with seaweed. In Roman deposits at Culver Street, Colchester, for example, shells of the molluscs *Hydrobia ulvae, Macoma balthica* and very small immature shells of *Cerastoderma* sp, *Mytilus edulis* and *Ostrea edulis,* together with cheliped fragments of the shore-crab, *Carcinus maenas,* and numerous barnacle plates are thought to provide evidence for importation of seaweed to the site (Murphy forthcoming). The Roman writer Pliny specifically recommends seaweed manuring for cabbages (White 1970, 144).

Insects

Insects have an exoskeleton of chitin, which usually survives well in waterlogged anaerobic deposits. In gardens suitable deposits would occur in ditches, ponds and wells. Insect remains are extracted from soil samples by paraffin flotation (Kenward *et al* 1980). They may also be preserved by mineralisation or carbonisation.

Insect assemblages, like molluscs, can be used to provide general habitat information, but in addition some phytophagous species are confined to particular species or groups of plants. Several native genera of trees have beetles that are restricted to them, for example, the weevil, *Curculio glandium* which develops in young acorns. Some introduced conifers, particularly spruce, have beetles associated with them. The bark beetle *Hylastes cunicularius* is almost confined to Picea. However, since it is a bark beetle it could be brought to a site in timber, rather than living in an ornamental tree. The bark beetle *Xyloceptes bispinus* only occurs on *Clematis,* but this could include the native *Clematis vitalba* (Old Man's Beard).

Weevils of the genus *Sitona* are often pests of peas or beans. They are frequently identified from waterlogged archaeological deposits, but they also occur on a range of vetches. Most of the other fruit and vegetable pests have other hosts, for example various flea beetles (pests of cultivated *Brassica* spp), such as *Phyllotreta nemorum,* also occur on cruciferous weeds. However, the asparagus beetle *Crioceris asparagi* is restricted to asparagus, which grows naturally only on coasts. Inland records ought to suggest asparagus cultivation. As yet there are no archaeological records of *C asparagi,* but its elytra (wing-cases) are very distinctive and ought to survive in waterlogged deposits.

There are similar problems with trying to use beetles to provide evidence about garden flowers. *Apion aeneum,* A radiolus and A malvae can frequently be found on hollyhocks and have been identified in several Roman wells, but these weevils also feed on other mallows. *Lilioceris lilii* feeds on *Lilium, Fritillaria, Convallaria,* and *Allium,* and the weevil *Miarus campanulae* on Campanulaceae (bell-flower family) but so far have not been found in archaeological deposits. There is a species of chrysomelid, *Donacia crassipes* which is restricted to feeding on *Nymphaea* and *Nuphar.* It has been found in riverine deposits, but if found in a garden pond would be indicative of water lilies.

There are a few archaeological records of the honey bee *(Apis mellifera)* extending back to the Iron Age (Robinson 1984; 1985b). The discoveries are only of individual heads and are insufficient to confirm beekeeping on these sites, but do raise the possibility of pre-Roman apiculture. In later periods beehives were, of course, common in gardens.

Vertebrate remains

Large fish bones are often collected by hand during excavations but effective retrieval can be achieved only by wet-sieving large bulk samples (Kenward *et al* 1980). Fish bones occur both in primary contexts, such as lake and pond sediments where they give information on the resident fish fauna, and in secondary refuse contexts, in which they are derived from human food waste. In such secondary contexts, however, it may be impossible to ascertain whether fish-farming or natural fisheries in rivers and lakes are indicated.

From a pit only 1.4 x 1.4 x 1.2m deep in deposits filling a medieval fishpond at Owston Abbey, Leicestershire, Hayne (1983) recovered bones of rudd *(Scardinius erythrophthalmus),* bream *(Abramis brama),* chub *(Leuciscus cephalus),* roach *(Rutilis rutilus)* and scales of pike *(Esox lucius)* and perch (Perca fluviatilis). However, it is by no means certain that all pond deposits will produce such diverse bone assemblages: detritus at the floors of ponds may be very acidic (pH 3–5.5) resulting in bone destruction. Furthermore silt was often regularly removed from ponds when they were in use: at Southwick Priory, Hampshire post-medieval ponds associated with the earthworks of a 17th century formal garden had been systematically cleaned out until the abandonment of the garden in the 18th century (C K Currie, pers comm). Currie considers that garden ponds before about AD1500 would have been largely functional, often being used as holding ponds rather than for breeding. Medieval ponds were often incorporated into post-medieval gardens; some continued as fish holding ponds, but the emphasis shifted towards the decorative and, by the late 17th century, ponds were also used for sport fishing. He also notes that documentary sources indicate the replacement of bream as the most popular fish by carp about 1540.

Domesticated and semi-domesticated birds often associated with formal gardens include the dove *(Columba livia),* peafowl *(Pavo cristatus),* and duck *(Anas platyrrhynchos),* whilst common domestic fowl and geese would perhaps generally be expected to occur in gardens and backyards of lower status. There are numerous records of bones of these species from British sites (Barbara West, pers comm) though a systematic survey of published records will not be given here. Suffice it to say that bones of peafowl are known from Roman sites including Portchester Castle (Eastham 1975) and from several medieval urban and rural excavations; stock dove or feral pigeon (bones of which are difficult to separate partly due to interbreeding between wild and domesticated populations) are very frequently reported at Roman and medieval sites; and large duck bones believed to be from domesticated birds or at least birds reared in captivity were found at Fishbourne in Roman contexts (Eastham 1971). A late introduction from the New World was the turkey,

bones of which occurred in 17th century contexts at Alms Lane, Norwich (Harman 1985).

Other domesticated animals in gardens include various pets. Jashemski (1979b, 102) gives a delightful account of pets in the Pompeiian gardens, and notes the presence of bones (and one body cast) of large watchdogs, smaller dogs, cats, and even the shell of a tortoise *(Testudo* sp).

A final category of fauna1 remains which might occur comprises mineralised coprolites of domestic animals. These are not uncommon in refuse contexts at settlement sites and, if found in garden contexts, might be related either to manuring or to the maintenance of grassed areas by grazing.

Two country-house gardens: Hill Hall and Audley End, Essex

These two gardens, of 16th and 19th century date respectively, have been chosen for discussion because they illustrate well both the types of information which may be gained on gardens associated with large country houses and the problems of interpretation which may arise. They also provided sharply contrasting preservation conditions for macrofossils.

Hill Hall

Excavations at this site by P J Drury have revealed garden features, including ditches/watercourses and ponds, sealed beneath layers associated with the construction of a 16th century building. The fills of these garden features consisted in general of wet clay loam, slightly stony, with fragments of mortar/plaster, brick and tile, domestic refuse (shell and bone), charcoal, and varying amounts of wood, twigs, thorns, and leaves. Waterlogged anaerobic conditions had been maintained since the infilling of these features, and macrofossils in samples from one linear garden feature *(1252/1267* Section 2) are summarised in Figure 8.3. Remains of specifically cultivated plants make up only a small proportion of the total 'seed' counts from this and other features: wild plants predominate. However, remains of the wild flora provide information on the garden and the latest phases of its history.

The wild flora

Weeds (Fig 8.3)
In the lowest samples from feature 1252/1267, seeds of *Plantago major* (rat's tail plantain) are quite common, up to 39% of total seeds. This plant is extremely resistant to trampling (Pennington 1969, 89) and the high frequencies of its seeds near the base of the feature imply the proximity of trampled ground, probably a well-used pathway in the vicinity. Above this, however, this species declines in frequency and fruitstones of *Rubus fruticosus* (bramble) and fruits of *Torilis japonica* (upright hedge parsley) become relatively abundant. Whether this indicates hedgerow or scrub development directly alongside the feature or more widespread development of taller vegetation is unclear. The upper fills of the feature and their macrofossil assemblages are quite different. At this stage a mass of trimmings of *Prunus spinosa* (blackthorn) was dumped into the feature and a weed flora dominated by *Urtica dioica* (nettle) developed. It is thus quite clear that only the lowest fills are at all likely to have been contemporary with cultivation of this part of the garden, and most fills probably represent a very late stage of infilling. Remains of garden plants from these dumped layers may represent self-seeded relics of cultivation or refuse from parts of the garden which remained in use.

In samples from other garden features, including a second linear feature *(3616)* and a pond *(3650, 3655)* seeds of plants common as segetals or cornfield weeds, such as *Anthemis cotula* (stinking mayweed) were associated with rachis and straw fragments of wheat, implying that some cereal crop-cleaning waste had been dumped into them.

Aquatic and wetland plants
Macrofossils of aquatic and wetland plants were quite rare in Section 2 (Fig 8.3) and indeed, in other garden features sampled. The sparse mollusc assemblages from these features likewise include few shells of freshwater species. This seems to be a consequence of the origin of most deposits as dumped layers: whilst they were being backfilled the features clearly did not contain a rich aquatic flora, and by inference there was no permanent standing water. It would seem that most sediments formed under water prior to backfilling had been cleaned out of the linear features and pond.

Grassland plants
Grassland plants are sparsely represented in the samples summarised in Figure 8.3. However, in another section through this feature (Section 1) quite large numbers of grass (Gramineae) caryopses and calyces of clover derived either from animal dung used as manure, or from local grassland vegetation, were present. In the linear feature 3616 macrofossils of a very diverse grassland flora were present, including *Ranunculus acris/repens/bulbosus* (buttercup), *Ranunculus flammula* (lesser spearwort), *Lychnis flos-cuculi* (ragged robin), *Trifolium* sp (clover), *Filipendula ulmaria* (meadowsweet), *potentilla* cf *erecta* (tormentil), *Agrimonia eupatoria* (agrimony), *Rhinanthus minor* (yellow rattle), *Linaria vulgaris* (toadflax), *Prunella vulgaris* (self-heal), *Plantago lanceolata* (ribwort plantain), *Bellis perennis* (daisy), *Chrysanthemum leucanthemum* (ox-eye daisy), *Leontodon* sp (hawkbit), *Juncus* spp (rushes), *Carex* spp including *C flacca* (sedges), and Gramineae (grasses). These indicate the proximity of floristically diverse grassland.

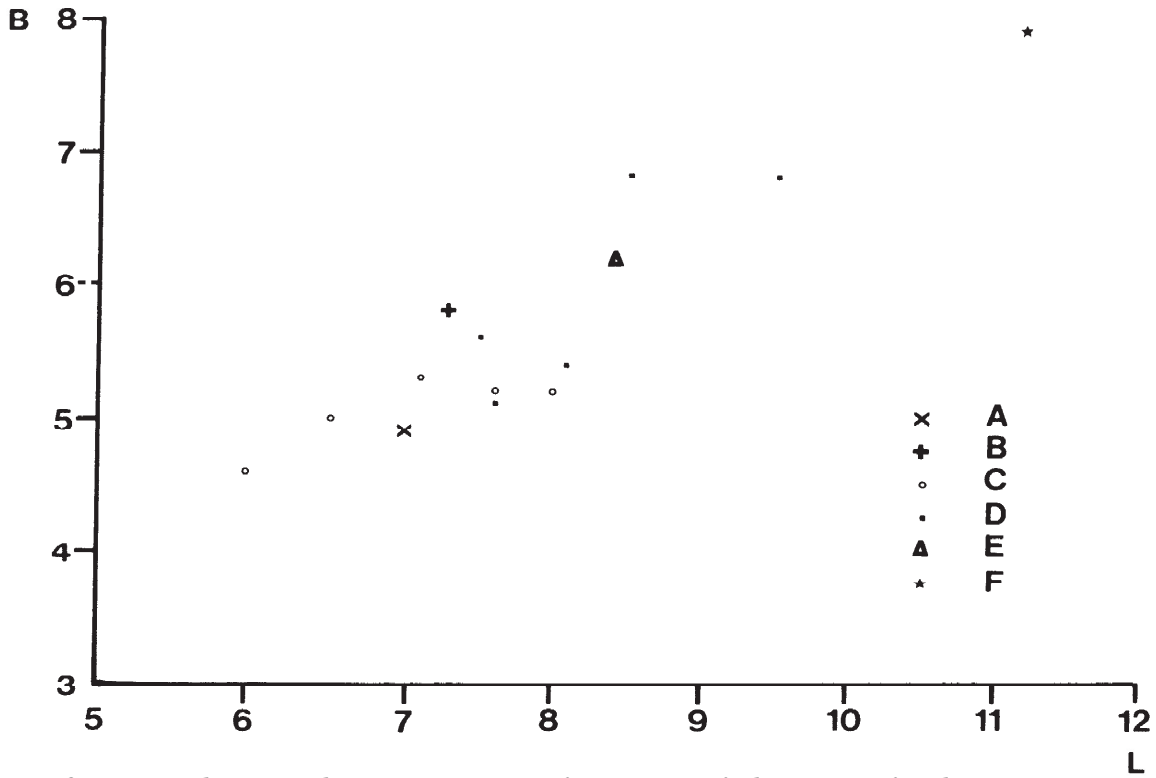

Figure 8.3 Summary diagram showing percentage frequencies of plant macrofossils in contexts 1252/1267 (Section 2) at Hill Hall, Essex

Trees and shrubs
Beside the blackthorn trimmings other remains of trees and shrubs identified from wood, thorns, leaves, fruitstones and seeds include *Prunus avium* (cherry), *Prunus domestica* subsp *insititia* (bullace), *Rosa* sp (roses), *Corylus avellana* (hazel), *Carpinus betulus* (hornbeam), *Ilex* sp (holly), and *Quercus* sp (oak). These may have come from standard trees in the garden whilst the blackthorn trimmings could perhaps indicate a perimeter hedge.

Cultivated plants
A full list of cultivated and possibly cultivated plants is given in Table 8.3. Not all the taxa identified are specifically garden crops: hemp and wheat are typically field crops and their presence in these features is presumably related to refuse disposal. The seeds of fig were associated in one sample with testa fragments of corn-cockle *(Agrostemma githago)*. These are both common plant residues in medieval and later cess pits and it seems possible that some sewage was incorporated into the garden features. In this case the fig seeds could have come originally from imported dried figs. However, the remaining species can be interpreted with greater or lesser certainty as garden crops.

Conclusions
It seems clear that the fills of the garden features samples relate mainly to phases of dereliction and backfilling. The features were infilled with a variety of refuse including hedge trimmings, cereal threshing waste, and domestic refuse, probably including some sewage. However, it is possible to reconstruct some features of the garden from the material present. It seems that there was a perimeter hedge of blackthorn and that trees and shrubs in the garden included cherry, bullace, rose, hazel, hornbeam, holly, and oak. In the cultivated areas there was a range of herb and vegetable crops and some areas were under grass.

Clearly the conclusions reached at this site were severely limited by the character of the deposits available for sampling. Unfortunately this may prove to be a general problem, and consequently deposits which can be shown to be contemporary with the use and cultivation of a garden rather than its abandonment, are of considerable importance

Audley End

Since 1985 Carol Cunningham has been excavating parts of the gardens of Audley End House, Essex for the Historic Buildings and Monuments Commission. In 1986–7 a 19th century parterre with its flower beds was excavated, in the course of which elements of earlier gardens were found. The parterre was laid out in 1832. Rows of flower beds to the north and south were subsequently abandoned and 'sealed' by a gravel path. Samples

Table 8.3. Crop plants identified from macrofossils in the garden features at Hill Hall

Apium graveolens	celery
Beta vulgaris	beet
Brassica spp	cabbage, etc
Calendula officinalis	pot marigold
(Cannabis sativa)	hemp
Corylus sp (wood only)	hazelnut
Dipsacus fullonum	teasel
(Ficus carica)	fig
Frugaria vesca	strawberry
Humulus lupulus	hop
Linum usitatissimum	flax
Prunus avium	cherry
Prunus domestica subsp *insititia*	bullace
(Triticum aestivum)	bread wheat
Verbena officinalis	vervain

Species listed in brackets are not thought to have been grown in the garden: some or all of the others may have been. Some other remains of 'wild' taxa, including *Malva sylvestris* (mallow), *Agrimonia eupatoria* (agrimony), and thorns of *Rosa* sp (rose), could possibly represent cultivated plants

were collected from these 'sealed' beds in the hope of retrieving macrofossils.

The samples were of sandy clay loam, slightly stony, with small fragments of chalk, limestone, slag, mortar, brick, coal, charcoal and flower pots. As had been feared the path though 'sealing' the soil in an archaeological sense, had not prevented intrusion of modern roots and other plant debris including shoots of an indeterminate conifer, mosses, deciduous leaves and weed seeds. Synanthropic and open-country mollusc shells occurred but were not studied in detail. The only plant macrofossils present which might relate at all to 19th century activity were oospores of charophytes (stoneworts) which might have been introduced into the soil during watering. This very negative result is mentioned here to emphasise the difference between 'sealed' deposits in an archaeological and palaeoecological sense: recent contamination is likely to be a problem in all poorly sealed contexts in gardens.

Concluding remarks

We hope that in this paper we have given some idea of the wide range of palaeoecological techniques which may be applied to garden studies. It should, perhaps, be emphasised in conclusion that at any given excavation only a limited number of these techniques is likely to be applicable. To assess which types of analysis are likely to be useful it is essential that consultants in the various branches of Environmental Archaeology should be involved in excavation projects at a very early stage — preferably at the planning stage of the project. There is very little point in collecting samples for subsequent submission to consultants: sometimes such samples may be useful, but often it will emerge that samples were collected from inappropriate deposits or were collected in the wrong way. Only by full integration of environmental studies into the project can the potential of palaeoecological work be realised. By this means it will be possible to reconstruct (in reality, we hope, not just on paper) the range of plants and animals which together comprised living gardens, and the soil management practices which supported them.

Acknowledgements

We are most grateful to the many colleagues who have allowed us to refer to their unpublished work or who have brought to our attention useful references. In particular we wish to thank Chris Currie, Carol Cunningham, Geoffrey Dimbleby, Paul Drury, Roger Goodburn, Kathryn Gleason, Frank Green, Andrew Jones, Glynis Jones, Richard Macphail, Mark Robinson, Phillippa Tomlinson, and Barbara West.

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9 Ceramics in the medieval garden

Stephen Moorhouse

Much has been written recently about medieval gardens which has revolutionized our understanding of them (Dyer 1989). The books by Teresa McLean (1981) and John Harvey (1981), drawing mainly on the wealth of untapped documentary evidence, have transformed our views of the aristocratic and institutional gardens. Their earthwork remains can now be recognised in the landscape (eg Taylor 1983, 33–40). Even the more functional and subsistence-based gardens of the peasantry were not as empty or as simple as once thought (eg Moorhouse 1981, 822–30). However, despite the wealth of evidence, little has been said about how medieval gardeners managed their gardens and, in particular, the tools and equipment which they used. In this age of presenting past landscapes, monuments, and lifestyles to the public, such details are essential if restored gardens are to become more than static displays. They cannot be understood from the evidence of one discipline alone. This paper examines the combined documentary and archaeological evidence for an important but seemingly unusual material in the medieval garden — earthenware — and its apparent wide and varied use.

Before examining these various uses of ceramics it is worthwhile discussing the validity of some of the documentary sources. The traditional view, that the few surviving medieval horticultural treatises copied or translated during the Middle Ages from classical sources were merely perpetuating classical tradition and not reflecting medieval knowledge and practices, is no longer tenable. Much of the advice given in, for example, the Middle English translations of the 4th century author Palladius (Lodge 1873; Liddell 1896; Fussell 1969; Rodgers 1975; Howlett 1977), where applicable to this country, can be confirmed from other evidence. The medieval works of 'Jon the Gardener', Friar Henry Daniel and Nicholas Bollard (Amherst 1894; Rigg 1968; Harvey 1981, 159–62; Braekman 1985) and many other anonymous authors, are based on first hand practical experience and knowledge.

There are many hundreds of recipes and short pieces of horticultural advice written down in late medieval commonplace books and other miscellaneous manuscript compilations, the medieval equivalent of the notebook. These were practical hints to remind the author or subsequent reader about procedure or a particular method, in much the same way that today a note may be added to a 'Mrs Beeton's' on how grandmother pickled eggs! These medieval *aides memoires* are often found repeated in different manuscripts but varying in detail and emphasis in such a way as to suggest that they are the result of practice, rather than written down as literary curiosities. Like the treatises, many are not derived from surviving classical sources: an example of the many different descriptions for growing and watering the gourd is given below (pp 107–8). Such prescriptions provide a medieval ancestry for material included in the earliest printed horticultural books of the 16th and 17th centuries (Braekman 1985, 21–6). Similarly the wide ranging manual prepared by the Goodman of Paris for his young wife about 1393 was practical advice based on personal or related experience (Power 1928).

The importance of the medieval garden is reflected by the position of the royal and manorial gardener in their respective households, while even the moderately sized monastic house would have a separate officer or obedientiary to cover the varied horticultural activities. Gardening was thus an important aspect of medieval life, with a respected body of people who practised a highly skilled profession. The meagre surviving literature suggests that medieval gardening was a highly developed and efficient science, with a vast depth and breadth of horticultural knowledge that can only be hinted at in what has survived in contemporary documents. It is also important to remember that medieval society practised life according to the extent of its science and technology. Gardening practices acceptable to medieval gardeners and the ways in which they were achieved may now be frowned upon. It is against this background that the tools and equipment used in the medieval garden should be seen.

Plant pots

Perhaps one of the commonest uses of ceramic pots in the medieval garden was in the overwintering of plants and the propagating of seedlings and young plants ready for outdoor planting. The historical and archaeological evidence is almost silent, but sufficient indirect evidence suggests that they were in common use. A variety of written sources, in particular account rolls, show that medieval gardeners would buy-in often large numbers of young plants or young trees for grafting. In 1264/5 the gardener creating the new garden on the Bishop of Winchester's manor at Rimpton (Somerset) bought in 119 'young plants purchased

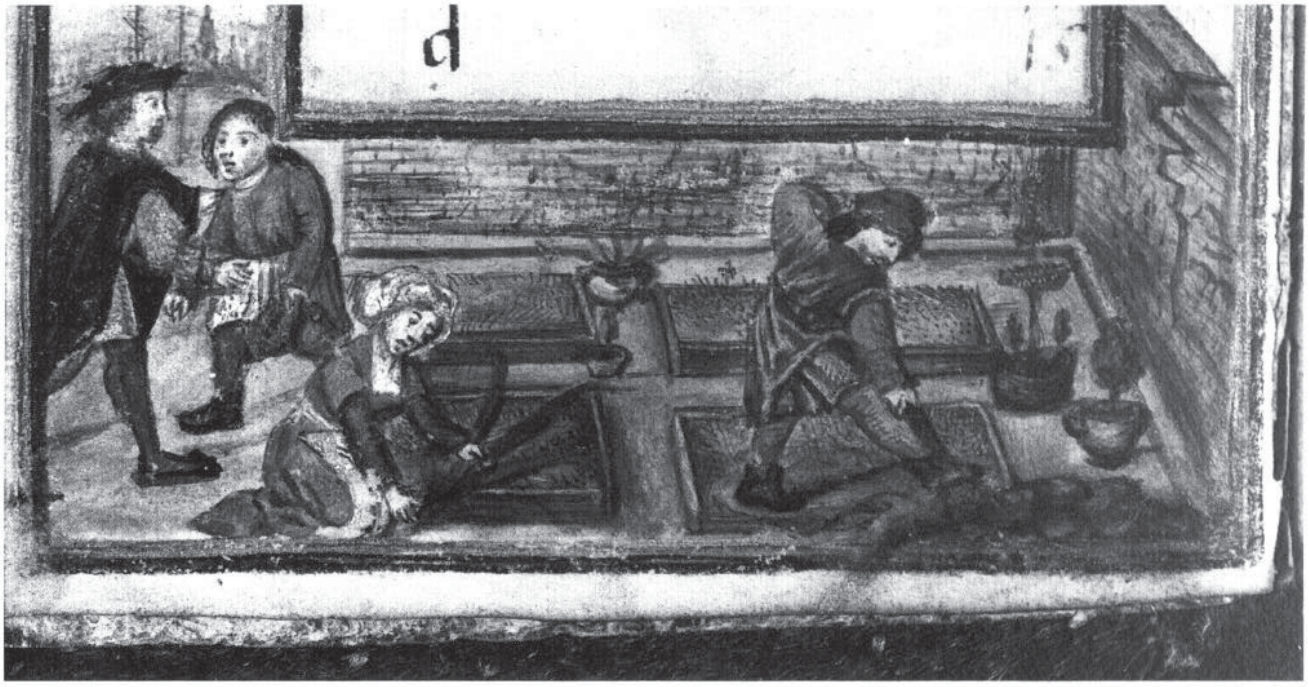

Figure 9.1 The month of March from a late 15th century Flemish Book of Hours, showing a set of four raised beds edged with planking, and one wickerwork and three ceramic plant holders. In the possession of Southampton City Museums (Photo: Southampton City Museum)

for planting in the new garden', while in the following year two successive entries record that 129 young pear and apple trees were bought for the new garden and that 1*s* was paid to the gardener for grafting the fruit trees over eight days (Hunt and Keil 1960, 92). Like today, transporting ready growing plants would require some form of container. Manuscript illustrations suggest various sizes and shapes of wickerwork baskets were widely used (eg see Fig 9.1). Medieval illustrations, however, rarely show ordinary domestic ceramic vessels, yet the documentary evidence shows that they were in common use.

The documents hint that ceramic plant pots were far more common than other sources suggest. Friar Henry Daniel's detailed description of growing the bottle gourd suggests that the young plant is potted in pots of a quart or gallon size, which were then set on broad thin stones, wetness on the stone or base of the pot being wiped away with the hand or a cloth (Harvey 1981, 160). The Goodman of Paris refers to planting in earthen pots as if it were commonplace. When referring to violets and gilliflowers he says that when the frost comes they should be replanted in pots and kept under cover and away from the cold in a cellar. When fennel and marjoram were beginning to show the 'stuft' should be replanted separately in pots (Power 129, 197). The influential late 12th century treatise of the famous Moorish gardener Ibn al-'Awwan describes one method of planting violets in new perforated flower pots, laying a bed of crumbled brick (in this country tile would be more accessible in many regions) and builders' rubble mixed with the same quantity of pigeons' dung (Harvey 1981, 42).

Palladius illustrates the varied uses of earthen pots in the growing of plants, trees, and vegetables. Large pomegranates could be produced by enclosing a blossom on a bough with a pot, which is then tied to a stick to prevent the fruit from getting out (Lodge 1873, 117, 1. 359–64). The grafts of young orange trees were planted in earthen pots, while roses could be grown out of doors protected in clean pots *(ibid,* 120, 1. 464; 157, 1. 222). Apples were grown from tubers by taking a cutting, planting it and enclosing it with a skep or pot which is then covered with dunged compost *(ibid,* 3, 185, 1. 178). Plum stones were kept for the future in new earthen pots, while chestnut tree saplings were grown in earthen pots *(ibid* 214, 1. 213; 218, 1. 301). Palladius' advice often gives a number of alternatives. As today, each skilled gardener has his own methods, and this was probably true in the Middle Ages. The different advice for watering gourds is given below. It is thus probable that medieval gardeners did not use earthen pots consistently and that what Palladius gives us is a glimpse of some of perhaps many different and archaeologically mainly undetectable horticultural uses connected with the growing of garden produce.

The two main features of a plant pot are to hold the earth in which the plant could grow and to allow the excess water to drain so that the soil does

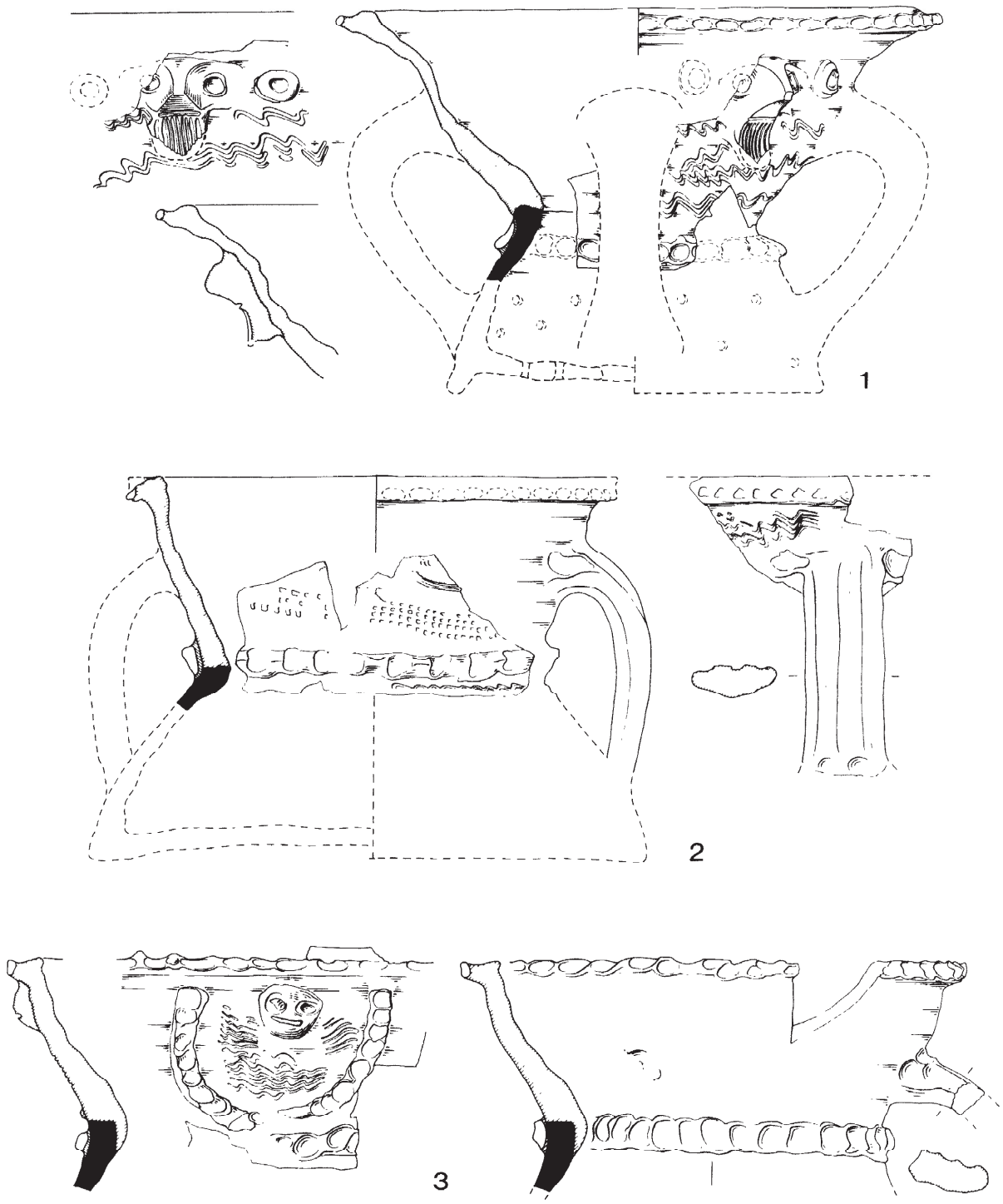

Figure 9.2 Late medieval Humber ware ornamental plant holders from Yorkshire; 1) Beverley, Dyer Lane; 2) York, The Bedern; 3) York, Coppergate. Scale 1:4

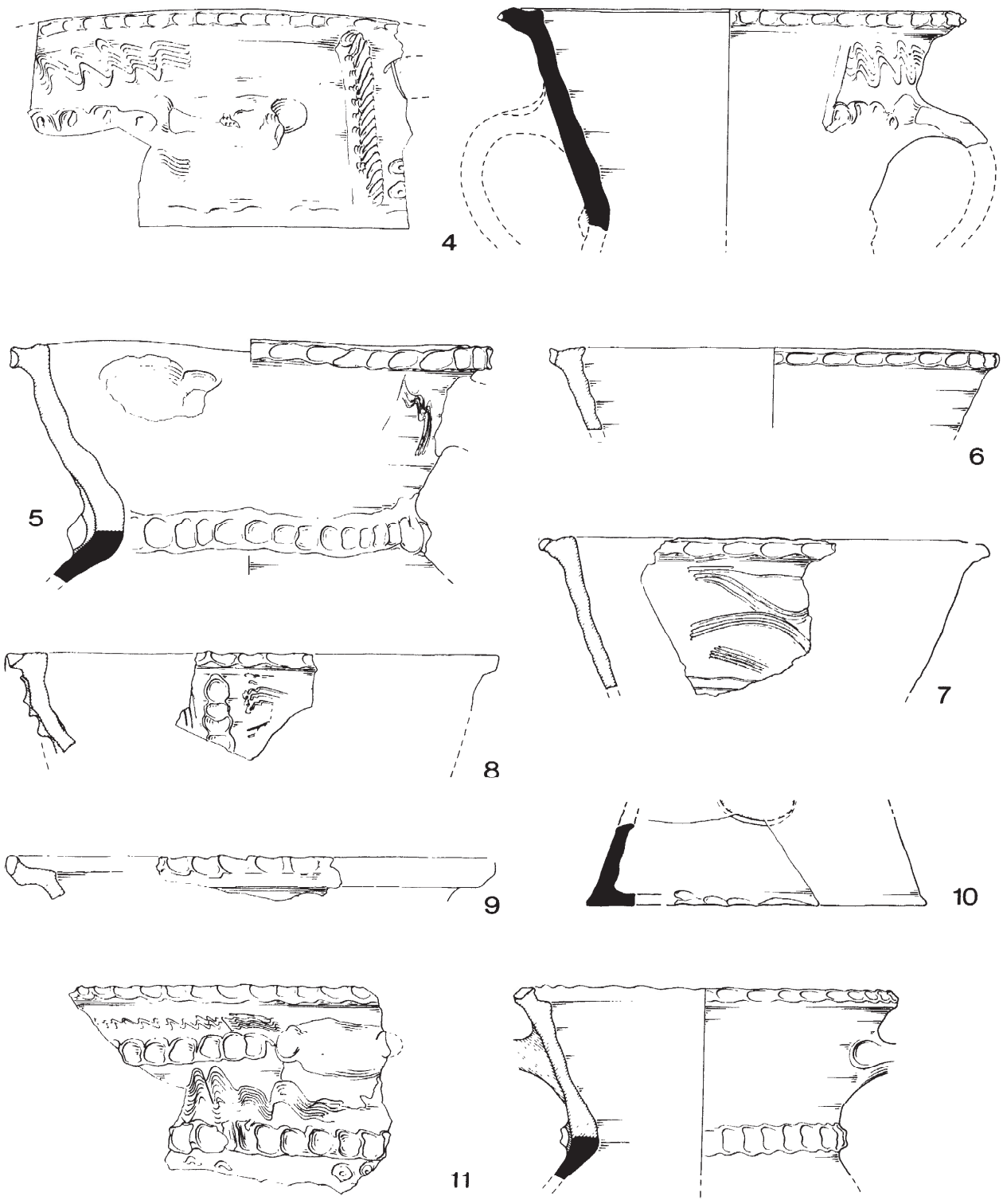

Figure 9.3 Late medieval Humber ware ornamental plant holders from Yorkshire: 4) Hull (Humberside), Humber Street; 5) York, The Bedern; 6–11) Cowick production centre. Scale 1:4

not become saturated. Basketry containers were ideal for the latter purpose for they would allow the water to drain through the sides and base while keeping the soil aerated, and it is probable, as medieval illustrations suggest, that wickerwork containers were more common than ceramic ones. Despite this, earthenware pots were in use, and apparently commonly.

At present this is not reflected in material from excavations. While many pots with holes in their bases are known, most are secondary holes with varying numbers in a variety of patterns (Moorhouse in prep). A few pots have secondary central holes, such as the late Saxon St Neots type bowl from Northampton shown in Figure 9.9. Even when associated with the garden, such vessels could have been used as part of a documented plant-watering device or as a beehive (see below). Perhaps when medieval gardens are excavated in such a way that their remains can be properly understood, then it may be possible to distinguish the function of pots which have similar secondary adaptations.

Ornamental plant holders

Illustrations of medieval gardens occasionally show ornamental plant pots and holders (eg Harvey 1981, pls viib, 6, 16, 23, 56, 65, 66, 71, 74). A variety of materials is suggested, such as stone and alabaster, but the shape and colouring of some suggest that they were made of pottery (Fig 9.1). Occasionally they are mentioned in the documents. In a chamber at the Coldharbour, London, in 1485, two irons were fixed to support 'pots with herbs' (Kingsford 1921, 47). References to presumably ornate plant and flower holders become more common during the 16th century. In 1550 Sir William Petre of Ingatestone ordered, amongst other things, four pots for flowers costing 2*d* from the potters at Stock (Emmison 1961, 158).

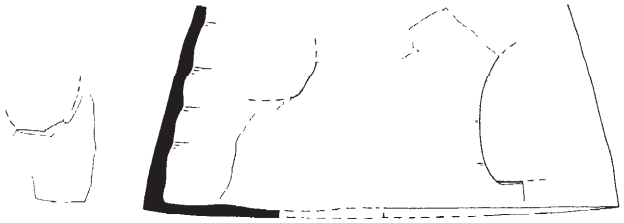

Figure 9.4 Late medieval ornamental plant holder: base from Lesnes Abbey, Kent. Scale c 1:4

That ornamental pottery plant holders were indeed in use comes from an unlikely documentary source. A late medieval recipe describes how to make a 'subtlety', or a decorative dish paraded in before each course of a meal, in the shape of an ornamental plant holder. An earthen pot was used as a mould to form a body of forcemeat, which was cooked on a spit. Handles, or ears, were applied and confectionery used for form the stem and flower of a rose. Although of French origin, the translated recipe is found in a number of late medieval English cookery collections (Hieatt and Butler 1985, 140 no 185).

The meagre historical evidence might suggest that ornamental plant pots were rare, but recent finds suggest the opposite. A group of pots of late medieval date have been recognised from eastern Yorkshire (Figs 9.2, 9.3, 9.5). Their similarity in fabric, form, construction, decoration, and glaze suggests that they have a common origin (Moorhouse 1984), and possibly come from the same group of potters or workshop. The source was almost certainly the extensive Humber ware West

Table 9.1 Details of ornamental plant holders whose distribution is shown in Figure 9.5. For further details of nos 1, 2, 4, 5, see Moorhouse 1984

No on Fig 9.5	Location	Type of site	Type of pottery	Reference
1	York, The Bedern	Monastic	Humber ware	Fig 9.2, No 2
2	York, The Bedern	Monastic	Humber ware	Fig 9.3, No 5
3	York, Coppergate	Urban tenement	Humber ware	Fig 9.2, No 3
4	Hull, Humber Street	Urban tenement	Humber ware	Fig. 9.3, No 4
5	Beverley, Dyer Lane	Urban tenement	Humber ware	Fig 9.2, No 1
6	Doncaster	Urban tenement	Humber ware	C Hayfield, pers comm
7	Cowick	Production site	Humber ware	Fig. 9.3, Nos 6–11
8	Cowick, moat	Royal manor	Humber ware	Hayfield 1985, fig 227, no 5
9	Thornholme Priory	Monastic	N Lincs sandy ware	Hayfield 1985, fig 83, no 9
10	Lesnes Abbey	Monastic	Surrey white ware	Fig 9.4
11	London, Billingsgate	Urban tenement	London-type ware	Pearce *et al* 1985, 46; 117, fig 76, nos 415–17

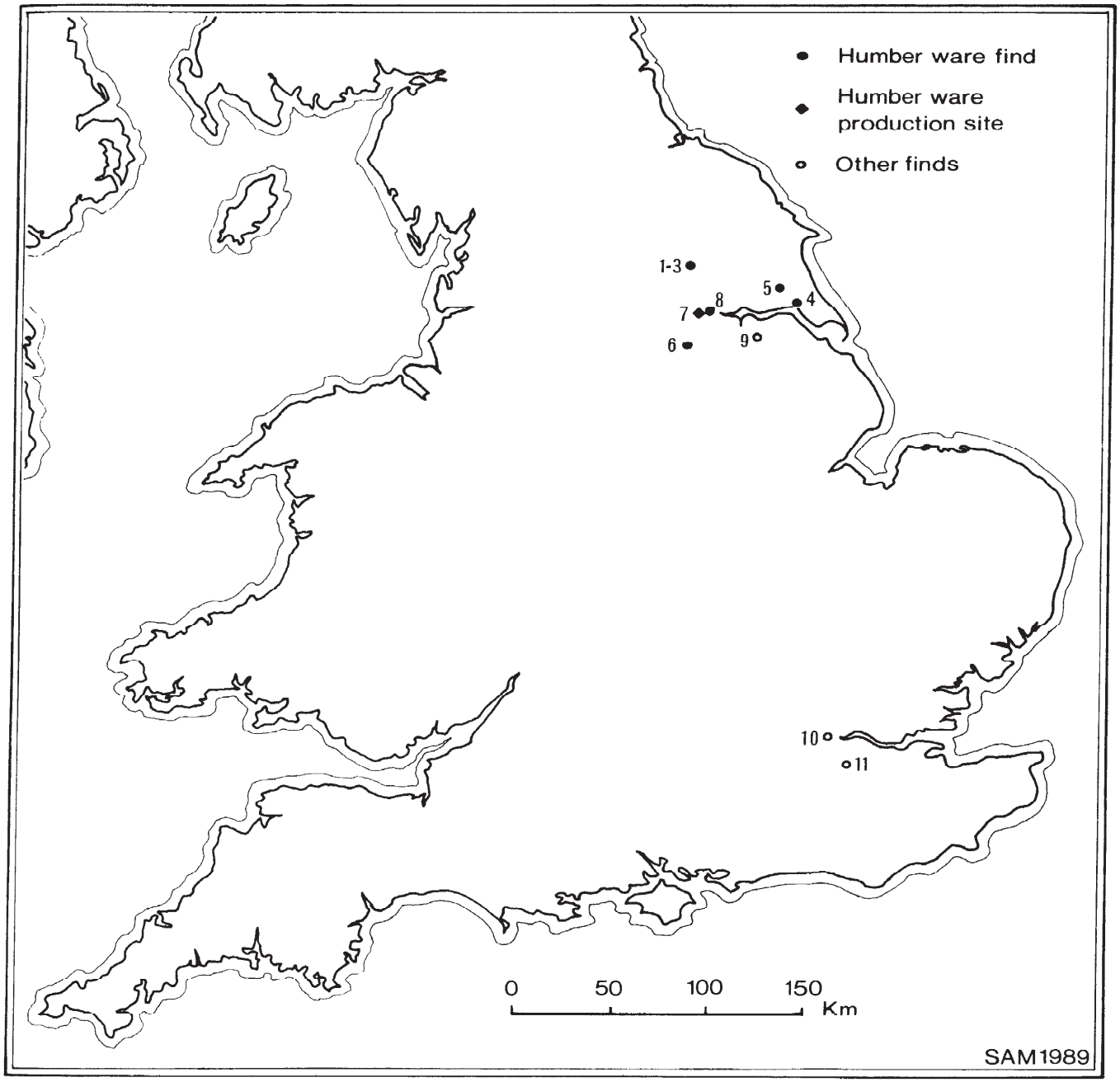

Figure 9.5 Distribution of late medieval pottery plant holders, some of which are illustrated in Figs 9.2–9.4. For details of vessels see Table 9.1. The authenticity of the London vessel (11) is uncertain, but the documentary evidence for their existence in the later Middle Ages suggests that many more await identification or discovery (see text)

Cowick industry, where seven wasted examples have been recognised amongst material from the production site in Doncaster Museum (Fig 9.3, nos 6–11). Eight of these distinctive vessels are known from occupation sites, six from the garden deposits in late medieval urban tenements in Doncaster, Beverley, Hull and York. When originally published it was thought that the decoration ran right round the pot, occurring between each of the varying numbers of handles (Moorhouse 1984,196, fig 8, no 1). Subsequently found more complete examples have shown that the decoration, where is exists, lies between only two of the handles, irrespective of their number. Combined with their crudeness, this suggests that they were meant to be seen from one side from a distance, probably standing on a balcony or verandah overlooking a garden. No complete profiles are known, and in only one case has a base survived (Fig 9.3, no 10). Essential to plant holding pots, it is perforated. The only other base recognised, from Lesnes Abbey, Kent, is a pedestal base with cut-outs (Fig 9.4). The basic shape of the pots is probably the classic urn shape seen in many late medieval illustrations, perhaps similar to the well-known group from Basing House, Hampshire, which were originally thought to belong to the original building phase of the existing remains in the mid 16th century, but are now thought to belong to the gardens laid out over the site following the devastating Civil War siege which culminated in 1645 (Brears 1970; Moorhouse 1984, 199).

The appearance of the Humber ware plant holders in late medieval urban eastern Yorkshire is probably in response to social demand, Recent documentary work in York by Dr Sarah Rees-Jones has shown the emergence of late medieval mansions in the city, with newly built houses and large gardens, each created from a number of adjacent combined tenements in parts of the city which had been vacated by falling population (pers comm). Similar developments are hinted at in late medieval Beverley and Hull (P Armstrong, pers comm). It seems likely that these distinctive ornamental plant pots were produced by the Cowick potter or potters in response to the reorganisation of urban landscapes and the creation of extensive ornamental gardens.

The recent finds suggest that ornamental ceramic plant holders were probably more common than present evidence suggests. The concentration of the distinctive Humber ware vessels in eastern Yorkshire suggests that they represent a fashion amongst late medieval urban dwellers in the region (Fig 9.5). They are also perhaps one of the few tangible pieces of evidence to complement the abundant documentary evidence for sometimes extensive ornamental urban gardens (McLean 1981, 63–88). The pots from Thornholme, Lesnes, and the Bedern at York show that the religious enjoyed them, a not surprising fact considering the extensive gardens of many types within the monastic precinct, and beyond on their estates. It seems likely that many more ornamental pottery plant holders await discovery in museum collections. They should certainly be expected amongst the ceramic deposits of any excavated site where a garden, and particularly a pleasure garden, existed.

Medieval illustrations occasionally show earthenware plant holders set in what seem to be purpose-made pottery saucers or shallow bowls (eg Harvey 1981, 49, pl 23). Despite an awareness of the possible presence of such saucers, none have been recognised. Plates or shallow bowls were rare products of the medieval potter in many regions of the country, the former being made in pewter and related alloys, and the latter being one of the staple products of the wood turner. Perhaps if they were used they were made from non-ceramic materials.

Watering pots

The artificial watering of gardens was as important in the Middle Ages as it is today. In large gardens lakes and watercourses formed both a functional and ornamental feature. A variety of containers for localised watering is recorded, particularly wooden and leather vessels, but ceramic pots also occur. The Cellarer's accounts at Battle Abbey, Sussex, in 1464–5 record 2*d* spent on 'two earthen pots for watering the plants in both the Cellarer's garden and the Kitchen garden' (Searle and Ross 1965, 140). The Middle English translation of Palladius advises that for hard soil 'take an earthen pot and give it [the soil] drink' (Lodge 1873, 4). Other more ambiguous references possibly refer to ceramic vessels by their price, such as the *waterynge pottes* bought by the Grocer's company in 1452 (Kingdon 1886, 306). Others are clearly to pots in other materials: the two water pots repaired at Cilbolton, Hampshire, in 1326 were probably either of wood or metal (Harvey 1981, 114).

An unusual glimpse of the importance of gardening during the Middle Ages is reflected in the manufacture of two distinctive types of pottery watering pot, a gourd-shaped vessel with a thumb-hole at the top of the constricted neck and holes piercing its base, and a large jug-shaped vessel with a pouring rose springing from the shoulder, the predecessor of our modern 'tin can' type metal sprinkler (Roberts 1874; Quirk 1900; Gwilt 1850; Fig 9.6). The use of the gourd-shaped vessel is illustrated on a French tapestry of about 1400, where the Duchess Valentine de Milan is shown watering flowers in her garden (Fig 9.7; also Fig 9.8); the ornate decoration suggests a precious metal, while the water springing from the side suggests that the tapestry-maker had little idea as to how the pots functioned! The rose type is restricted to a few centres in southern England and is mostly found in London and its hinterland (eg Norman and Reader 1906, pl xxviii, nos 12–14).

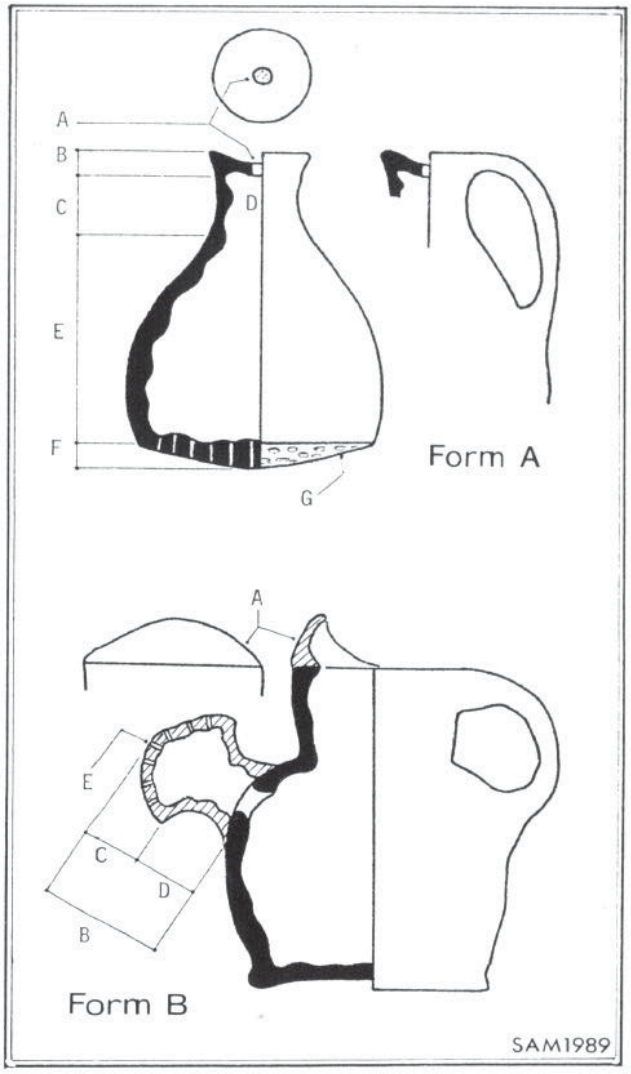

Figure 9.6 Two types of ceramic watering pot in use in medieval Britain. Form A was the commonest, in use over most of the country from at least the 13th century. Form B is restricted mainly to the Thames basin and dates from the late Middle Ages

Figure 9.7 Part of a French tapestry of c 1400 showing the Duchess Valentine of Milan in her garden watering flowers with a Form A (see Fig 9.6) watering vessel. The ornamentation suggests a metal vessel, while the water springing from the side shows that the tapestry maker or designer was not aware of how they functioned. In the Musée des Arts Decoratifs, Paris. Full tapestry illustrated in Evans 1948, 184, pl 170 (Photo: S Moorhouse)

The bottle or gourd shaped form has a much wider range both in time and space. It is found on a wide variety of rural and urban sites at all social levels from the 13th century onwards (Moorhouse 1984, 199).

The inventiveness of the medieval mind is illustrated by another form of makeshift watering pot. Friar Henry Daniel's horticultural treatise of about 1375 describes the watering of the bottle gourd by placing a feather in a hole which has been pierced through the base of an earthware pot, which is then suspended over the plant 'on a crooked stick' (Harvey 1981, 160). A similar method of watering a pumpkin is recommended by the Goodman of Paris. The growing seedlings were. to be transplanted in April between 4 to 6in (80–150mm) deep in the earth and 6in (150mm) apart, the stems kept moist 'by hanging a pot with a hole therein on a stick, and in the pot a straw and some water etc, or a strip of new cloth' (Power 1928, 198). Such pots would be the prototypes of our modern mechanically regulated drip feeds! There are many examples of earthen pots with a varying number of secondary holes piercing their bases, both randomly and in a variety of patterns, which the documents suggest were created for many different functions (Moorhouse in prep). It is likely that some of those with single holes, such as the late Saxon example from Northampton illustrated in Figure 9.9, may have had such an horticultural use. Such a purpose may only be suggested by the findspot. Equally the presence of such vessels may

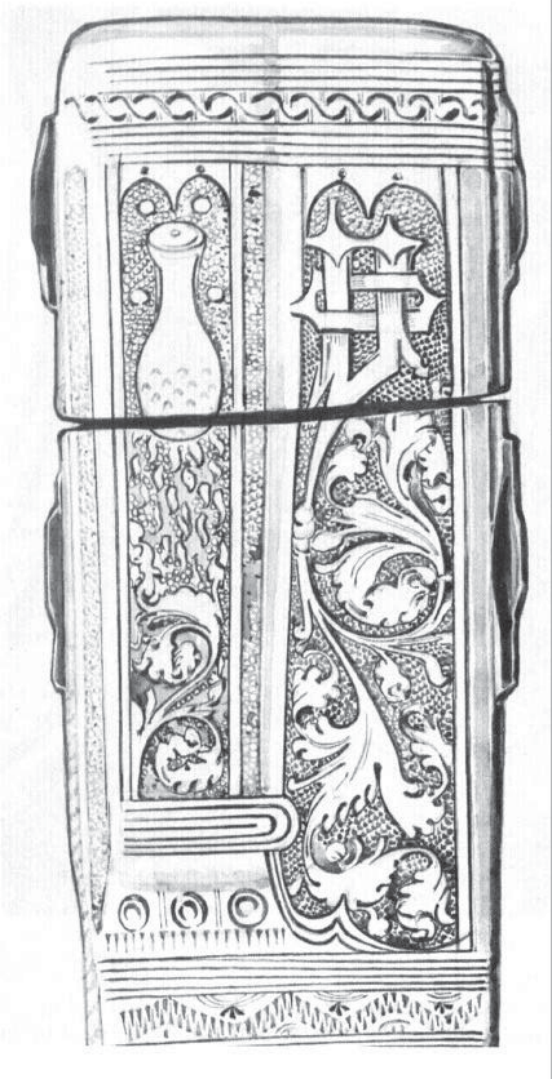

Figure 9.8 Upper part of a knife scabbard case, part of a set made for John the Intrepid, Duke of Burgundy, between 1385 and 1404, showing a watering pot used as an emblem. British Museum. From Dalton 1907, pl 39, opp p 426

help suggest the idea of an otherwise unsuspected garden.

One recipe giving such a vivid and detailed description does not mean that the plant was treated in a like manner by all gardeners. A number of contemporary and equally detailed descriptions of growing the bottle gourd, clearly produced as a result of personal experience, make no mention of watering the plant with a holed earthen pot (eg Braekman 1985, 25–6). Such variations between different descriptions of growing the same plant, and the different roots for such knowledge, suggest that they were written down from practical knowledge and experience, and

Figure 9.9 Two Saxo-Norman pots from Northampton with centrally bored holes in their bases. Two late 14th century horticultural works advise the watering of specific plants with 'automatic drip feeds' made from earthen pots which would produce holes in their bases identical to these (see text). There are many other possible explanations for such holes, some of which are discussed in the text (Photo: S Moorhouse)

were not simply literary curiosities. They are part of the very diverse evidence which suggests that there was a highly developed horticultural science in the Middle Ages, little of which has come down to us in surviving literature.

Beehives

Honey was in regular supply for a variety of uses during the Middle Ages. Fermented honey formed the staple drink of mead until superseded by ale and later by beer. It was a common sweetener, was used extensively as a preservative and also as a soother in otherwise bitter tasting medicines. The importance of honey gave rise to the hive becoming a manorial monopoly in some regions during the Middle Ages. Typically, honey was mass produced by institutions and organisations, and apiaries were commonly found in the manorial complex and monastery, and on their estates. They were sited in the places where bees found it most suitable to pollinate: apple blossom and plants such as lavender, marjoram, and thyme found groups of hives sited in orchards and herb gardens, two locations which would keep the mass of bees away from the main living area.

Medieval hives were made in a variety of materials, the most common being the straw hive or skep, most of which would rarely survive in the archaeological record. That pottery hives were used is hinted at only obliquely in the documents. In describing the keeping of bees, Palladius recommends the use of a variety of materials for the hive, but pours scorn on the ceramic hive: 'but

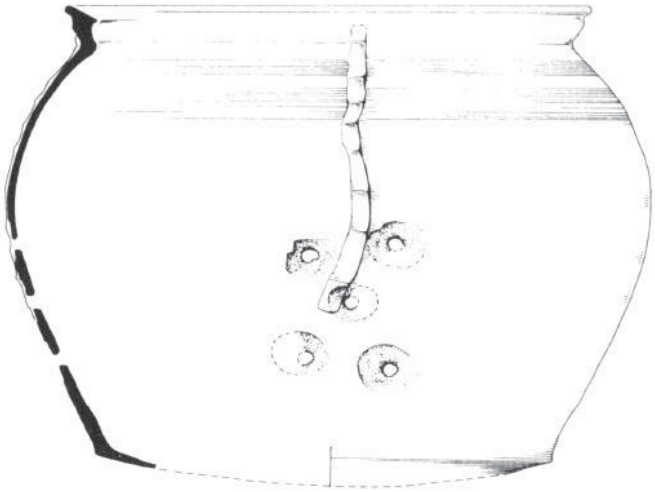

Figure 9.10 Pottery jar from Borough High Street, Southwark, London, with five secondary holes bored in the midriff of the vessel. Pots with similar patterns of secondary holes from Roman Britain have been interpreted as possible beehives (see text). From Thorn 1978, 136, fig 53, no 35. Scale 1:4

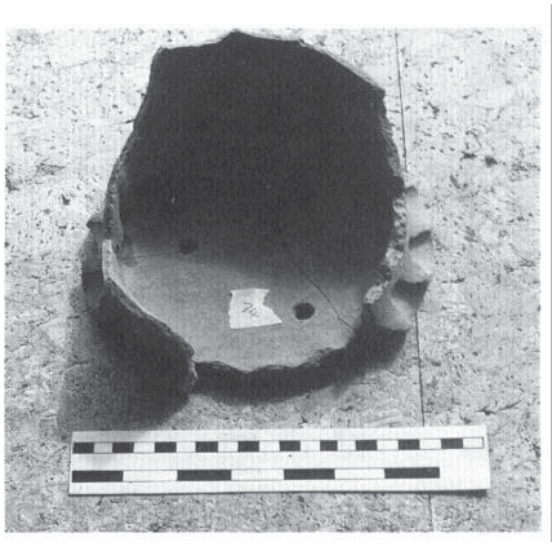

Figure 9.11 Medieval jug base from Canterbury, Kent, with three secondary symmetrically placed holes drilled through the base. Many pottery vessels are known with secondary holes piercing their bodies, some in patterns but mostly random, found on all parts of the vessel from rim to base. The documents suggest many functions but some are probably beehives (see text) (Photo: S Moorhouse)

potter's hives thou forsake' (Lodge 1873, 38, 1. 1050). While it could be argued that Palladius' text was classical in origin, and therefore not wholly reflecting medieval practices, a view now thought unlikely (see above), the use of pottery hives is attested in another source, since they are occasionally referred to as purchases in manorial accounts (J le, Patourel, pers comm).

The absence of pottery hives from excavated material is probably due to a failure to recognise them. One distinctive pottery bowl form with shallow, inward sloping sides found mainly in the western part of the country was originally thought to be the base of a hive with a superstructure in other materials (Musty *et al* 1969, 107), but more recent thoughts favour it as a dairying vessel (Sell 1984).

Ethnographic parallels show that a variety of ceramic shapes could be used as beehives, or as parts of them, often by secondary holes drilled or bored through the pots (Crane 1983, 35–7, 45–51, 57–8, 71–5, 111–15, 194, 197–202). Many medieval pots have secondary holes penetrating various parts of the body, often more than one and sometimes in patterns (eg Figs 9.10, 9.11). The findspots of some of the pots, the positions of the holes, the evidence of use (such as wear marks, sooting, and residues), and the documentary evidence suggest as many different uses as perhaps there are different positions of holes (Moorhouse in prep). The extensive use of adapted pots as hives in other parts of the world, and their use in Roman Britain (Crane 1983, 113–14), suggest that unsuspected medieval pottery hives may be more common than is at present appreciated. Two factors may help suggest a beehive function as opposed to the many other uses: the pot is found on a site or a part of it where bee keeping could be expected, and, more importantly, the holes in the pot are no smaller than 8mm in diameter, for that is the smallest opening that a bee could get though (Crane 1983, 113–15). It is also possible that chemical analysis of their interiors (whether any residues are visible or not) may detect use as a hive.

Preserving garden produce

The preserving of foodstuff in earthen pots was practised in this country from the Roman period, if not before (Wilson 1973, *et passim).* In the Middle Ages, a wide range of eatables was kept in a variety of preservatives: a late 15th century recipe describes the preservation of venison sealed under honey in an earthenware pot (Morris 1862, 33). Household treatises and cookery books suggest that the use of pots for preservation became more common and diversified during the 16th century, while in the following century fish pies gave way to potted fish, which became big business, travelling in quantity from the west country and the north-west to London (Wilson 1973, 422, 'potting').

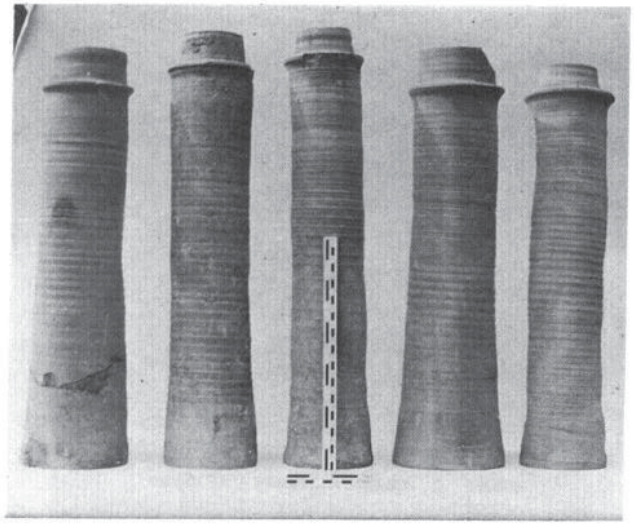

Figure 9.12 Ceramic water pipes from Basing House, Hampshire, dating to c *1540. The flanged end is one of the commonest forms (see Fig 9.15), but all types were interchangeable and a number have been found in the same drain (Photo: S Moorhouse)*

Figure 9.13 Ceramic junction box and pottery water pipes, part of an extensive and sophisticated medieval pottery water system uncovered at Glenluce Abbey, Dumfries, during clearance work in the 1930s (Photo: J le Patourel)

The preservation of garden fruit in earthen pots appears to have been widespread and varied during the Middle Ages. Palladius describes a number of fruits grown in the country which were so preserved. Castimonial liquid prepared from pears was sealed in earthen pots for three months, apples were packed in pitched earthen pots, oranges kept in a closed pot and stored in darkness, medlars kept in pitched pots, chestnuts kept in earthen pots, and figs were preserved, packed into a stoneware pot *(stene),* with leaves placed between the pot and the figs (Lodge 1873, 90, 93, 121, 122, 185, 218). The Goodman of Paris gives detailed instructions to his wife for preserving nuts, carrots, turnips, choke, pears, and pumpkins by suspending them in honey in an earthen pot or little cask (Power 1928, 296–7). It is often suspected that Palladius' classical roots mean that he cannot be used as a reflection of medieval horticultural practices. That the advice given was practised is shown by numerous recipes for preserving fruit, scattered amongst late medieval commonplace books and other manuscript compilations, copied down as practical *aides memoires* by their authors for later use. A 15th century recipe for keeping cherries, bullaces, and plums 'until Christmas', describes how they should be placed, unbruised, in honey in an earthen pot, which is then filled with honey to cover the fruit (Trinity College, Cambridge, MS 0.2.13, fol 83r).

It is conceivable that these pots may not have been kept in the garden, but in some dark storage room within the house or farm complex. Other methods of preservation in pots almost certainly involved outside storage. Palladius advises that soft apples could be preserved by putting them in small earthen pots, whose mouths were then sealed with clay and then trodden down in a hole two feet deep (Lodge 1873, 53, 1. 253). Of the many suggested methods of preserving pears, two involved the burial of earthen pots. In the first, prepared pears were placed in a pitched earthen pot and buried in the ground near a stream, while in the second prepared pears were placed in a pitched earthenware pot, whose mouth was then sealed with clay and then buried under mould in the garden 'as the sun all day upon it shine' (Lodge 1873, 89, 1. 786–99). Many purposely buried earthenware pots have been excavated, their positions and the documentary evidence suggesting many different purposes (Moorhouse in prep). Some have been recovered from what could be termed the garden areas of peasant or manorial holdings. Excavation of a small peasant farm complex at Sadler's Wood (Oxfordshire), recovered two pots buried upright outside and to the west of the 14th century building complex (Chambers 1973, 151, fig 3, 162, 164, fig 9, nos 1, 2). No function for the pots was suggested in the report, but a number of possibilities could be suggested from the documents. It is only by excavating such pots with their surroundings as archaeological features in their own right, and by chemical analysis of their inner surfaces, that we will learn more about the kinds of practices revealed by Palladius and other sources.

Water supply

Water was an essential element in all types of garden. In pleasure gardens it formed an ornamental feature, either as open water such as lakes or watercourses, or piped to feed fountains, baths, cisterns, and conduits (Harvey 1981, 11, 88, 114). Documents suggest that much of the piping was achieved by lead conduit (eg Salzman 1967,

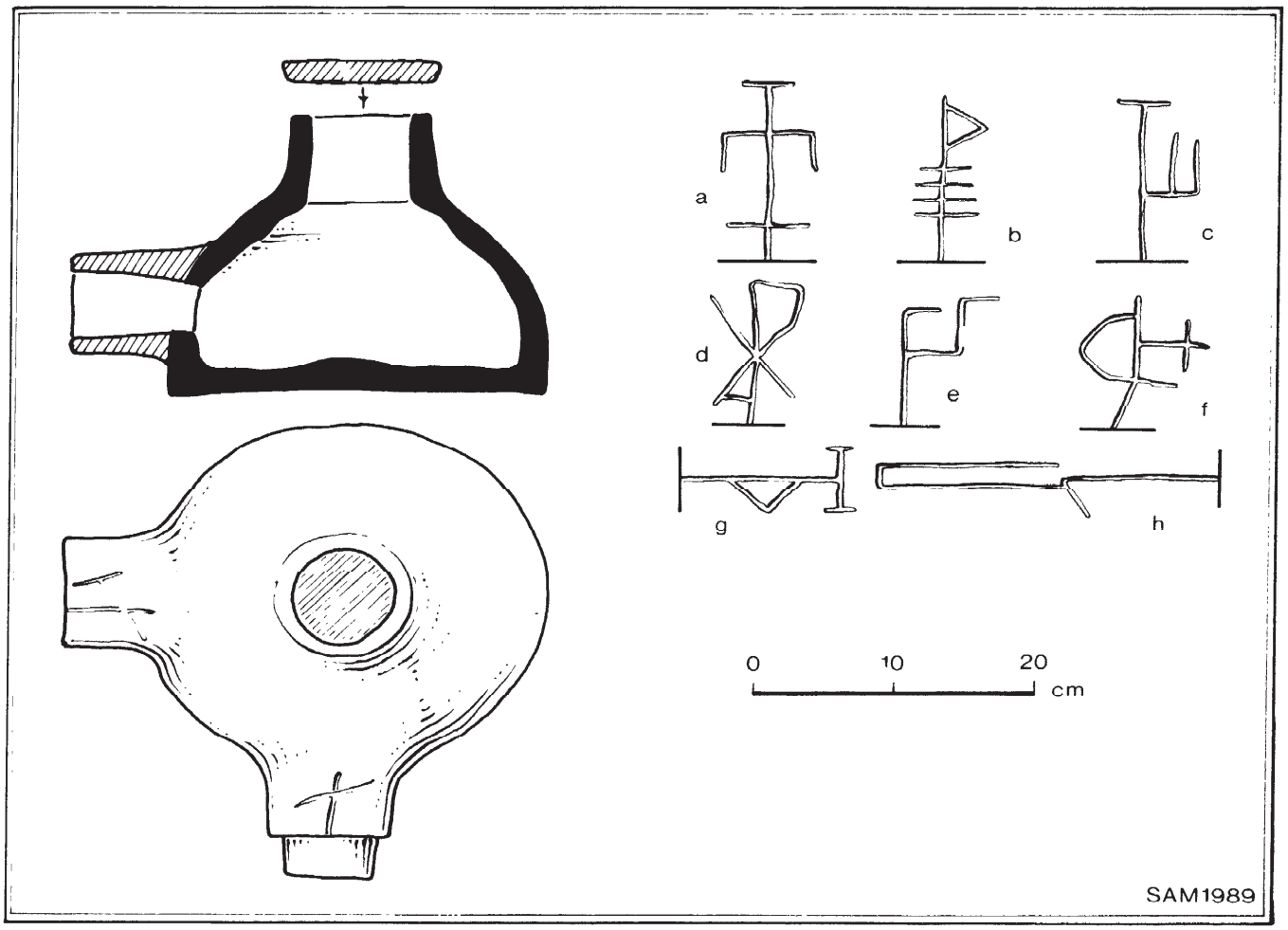

Figure 9.14 Pottery junction box (see Fig 9.13) and tally marks incised into the end of both pipes and junction box sockets. Based on Cruden 1950–1, 193, fig 21; 194, fig 22

266–77; Briscoe and Dunning 1967, 86–9), but ceramic piping is occasionally mentioned.

Again Palladius is more explicit. When describing the leading of water to the garden he advises the use of 'trumps of clay by potters', the thickness of two fingers, one end narrow, the other end wide, so that they fit into each other to a hand's breadth (Lodge 1873, 177, 1. 178–82). The joints are then to be sealed with lime and oil and then ashes mixed with water run through the pipes, a form of sealing mentioned independently in some medieval prescriptions.

Archaeology paints a very different picture. Lead piping is rarely found for it has been recovered in antiquity for recycling, yet ceramic water pipes, or more particularly fragments of them, are not uncommon finds (Fig 9.12). Much of the water-fed system at Glenluce Abbey, Dumfries, was contained in a ingenious ceramic pipe and junction box complex. Clearance work in the 1930s uncovered much of the system still in position. The ends of both the pipes and the sockets on the junction boxes have matching 'tally marks', suggesting that they system was made by the potter to a preconceived design (Cruden 1950–51, 177–8, 185, 193 fig 21, 194, fig 22). The junction boxes (Figs 9.13, 9.14) turn the water supply through 90 and have movable lids for inspection. So far they are unique.

Elsewhere complete pipes survive. At Thetford Priory, Suffolk, twenty-nine late medieval pottery pipes were recovered from two separate drains during clearance work. Three forms of pipe were found, one with joint marks similar to those from Glenluce. Three different types of junction ends were present, all found on pipes in the same drain (Coppack 1976). This suggests that the particular form of pipe end, of which there are a number known (see Fig 9.15), owes more to the potter who made them than to any functional or chronological

Figure 9.15 Flanged type ceramic water pipe end from Canterbury. This is one of the most common forms of a number of pipe junction types and, because of its solidity, the part of the pipe most likely to survive (Photo: S Moorhouse)

significance. More often it is the more durable ends of the pipes which survive, or are recognised (eg Musty *et al* 1969, 141, fig 25 nos 197–201).

Few of these ceramic pipe fittings can be related directly to the medieval garden, but it seems likely that they were so used, providing water to the water fed features. It seems likely that pottery water systems similar to that uncovered beneath the gardens of the Roman palace at Fishbourne. (Cunliffe 1974, 128–64, pls 38, 39) lie hidden beneath our medieval gardens.

Garden pests

Like the modern garden, its medieval equivalent was infested with a variety of garden pests. The early printed treatises dealing wholly or partly with gardening, such as those by Thomas Hill (1536), an anonymous author on grafting (Anonymous *c* 1520) and even Gervase Markham (1613), refer to a variety of ways of garden pest control. Many of these works own often substantial parts of their texts to earlier medieval authorities (eg Braekman 1985, 29). This means that the approaches which they describe were used during the Middle Ages, a suggestion which can be supported from more scattered medieval sources.

The mole was as much a nuisance then as now. There were professional mole catchers, reflected in people called 'le molecatcher' or 'molehunte', while their services are sometimes recorded in accounts: the Gardener's accounts of the large Benedictine priory at Norwich record the hiring of a mole-catcher each year to assist the gardener there (McLean 1981, 37). Amongst the many methods used to catch them (eg Sayce 1946, 68–70), there is one, recorded as still practised by Gervase Markham in his *Country contentments* of 1623, in which a bronze vessel with shiny steep or curved sides was buried with its rim flush with the ground surface. A female mole in heat was placed inside, which hopefully encouraged a succession of male suitors who, after falling into the vessel, could not escape (Sayce 1946, 61). A similar idea is recorded in a few late medieval mole-catching instructions using an internally glazed *(glasid)* earthen pot, with the same anticipated end result (eg Gonville and Caius College, Cambridge, MS CMA 970, p 43). While metal vessels were becoming more common lower down the social scale as the Middle Ages progressed, it seems that the cheaper, less valuable, yet equally functional ceramic vessels would have been used; theft from the open garden would have made them easier to replace.

Poison was an alternative to trapping. It appears to have been widely practiced to dispose of a variety of pests and predators, and was probably more popular than the evidence suggests. The Goodman of Paris gave his wife instructions for preparing poison for wolves and foxes. Fat coated balls the size of a hen's egg were made from hellybore, glass powder, honey and fat and placed on stones or sherds (Power 1928, 212–13), a method of killing graphically illustrated in Gaston Pheobus's near contemporary hunting treatise, though here the killing agents appear to be needles (Bise 1978, 92).

Miscellaneous uses

So far we have covered the more obvious uses of ceramics in the garden. The documents hint at a few of what must have been many other less usual uses. When describing the ways in which water could be found, Palladius advises the digging of a hole three feet *(c* 1m) square and five feet (1.6m) deep, into which an unbaked earthen pot is placed and covered with a hurdle and mould and left overnight. If water is present then the pot will be softened (Lodge 1873, 174, 1. 103). An unfired earthen pot may become softened overnight with dew even in the most arid of atmospheres, so the value of such advice is questionable. It is perhaps relevant that, while other advice contained in Palladius' treatise is corroborated in other medieval horticultural treatises and recipes, this particular method of detecting water has not been found.

Manuscript illustrations and romantic literature show that birds were an essential feature of ornamental and pleasure gardens, in particular attracted by the colours and scents of the things growing there. It was inevitable that they were fed, although this is not as evident from illustrated and written sources as perhaps it was in life. A rare instance occurs in the 15th century accounts of the

Gardener's Company in London. Amongst items bought for the garden there were 'six water pots of tin for birds to drink from' (Thrupp 1948, 136). While containers of expensive metals would have been affordable by the wealthy institutions, it seems more likely that pottery containers were in more common use, if only because their replacement through theft would be cheaper!

The presence of hens in gardens, particularly of the lower classes, would necessitate their feeding. Manuscript illustrations show a variety of containers used to feed them. Palladius goes one better, the Middle-English translation advising that they are fed two *cruses* of half-boiled barley a day (Lodge 1873, 22, 1. 584), the term cruse in the 15th century being used to describe a stoneware vessel, in this sense and at this date one of the smaller Siegburg or Langerwehe jugs from the Rhineland. This does not imply that all late medieval chickens were fed from German stoneware jugs! The many 15th century references to stoneware vessels complement the archaeological evidence for massive imports of stonewares from the various Rhenish factories from at least the early 15th century. This reference is one of many which shows that the vessels were used at all social levels and for many uses far different from what their shapes might suggest (Moorhouse in prep).

Specially adapted earthen pots could be used to catch rabbits. The breeding of rabbits was both popular and widespread, particularly during the later Middle Ages, with a highly sophisticated management structure based on the often extensive warren, or conygarth (eg Bailey 1988; Moorhouse 1989, 65–6). They were often found in parks and pleasure gardens (eg McLean 1981, 57, 73, 75), while medieval illustrations show rabbits scurrying about the grassy lawn of the garden. Ferrets were the most common means of trapping rabbits but other methods were also used. One of these involved poison set in an adapted earthen pot. A late medieval French hunting treatise describes how sulphur and yellow arsenic were mixed with scraps of charred linen or old parchment and placed in the openings at either end of a specially prepared earthenware pot, placing the mouth of the pot into the burrow hole and putting burning coal into the exposed base of the vessel (Tilander 1932, 164–5). The etiquette of medieval English hunting owes its roots to French and Spanish practices-Although not to be regarded as commonly put into practice, advice found in French and Spanish manuals was copied on this side of the Channel.

The more ornate gardens were equipped with pavilions and summerhouses where refreshments and meals could be taken. The residue from such meals may well have been discarded as manure around about; many small fragments of broken pottery are a feature of excavated garden beds. Excavation of a mound within the precinct of Swine Priory, Humberside, revealed a timber revetted prospect mount and considerable quantities of late medieval pottery, probably from its occupation (Varley 1973).

The evidence put forward in this section is taking sparse evidence into the realms of speculation. It provides glimpses into the past uses of ceramics for horticultural reasons. They remind us that it is by looking at all the available evidence that the most realistic impression of the garden can be gained.

Tiles

Ceramic roofing tiles are usually associated with the covering of buildings, but they had many uses during the Middle Ages (Moorhouse 1988). Some of these were associated with the garden. The most common was as covering for the tops of garden walls. Amongst the many types of wall coping, churchwarden's, manorial and monastic account rolls show that pottery tile-covered walls were a common feature in central and southern England, and in East Anglia. At St Swithin's Priory, Winchester, in 1382, the Hordarian's rolls gives details of building a wall between the kitchen garden and the Hordarian's little green close *(le Prail),* for which 400 tiles and seventeen crests, or ridge tiles, were purchased, while the churchwarden at Walberswick (Suffolk) in 1496 spend 2*s* 4*d* on an unspecified number of tiles 'for covering of the [cemetery] wall' (Moorhouse 1988, 41).

Gardens at all social levels contained a variety of buildings, ranging from the solitary garden shed of the humble peasant garden to the sophisticated pavilion of the lordly ornamental garden (Harvey 1981, *et passim* esp 103–7; Moorhouse 1981, 825). In the purely productive gardens of the lower social orders a variety of barn-type buildings are well documented in both the written and archaeological sources. They also existed higher up the social scale; a barn type structure with an internal oven or kiln was excavated within the garden of the medieval manor complex at Thrislington, Durham (Austin 1989, 24–7). Within the pleasure gardens of the nobility and magnates, a wide range of ornamental but functional structures would exist, such as the gloriets, belvederes, galleries, grandstands, kennels, and pavilions. In ceramic tile-using regions, many of these structures could be covered in pottery tiles. At the royal residence at Highclere, Hampshire, in 1398 a new shelter and covered way in the garden required 23,000 tiles and 250 ridge tiles to cover it, which John Harvey has suggested represents an open sided structure 250 ft (76.2m) long (Harvey 1981, 88). In large gardens the medieval gardener could live on site, in much the same way as school caretakers today. At Clare Castle, Suffolk, in 1400, 6000 tiles were bought to cover the gardener's house there (Harvey 1981, 110). The early history of the gardener's house in Henry III's castle at Windsor shows that not only was it covered with tiles but that garden structures

Figure 9.16 Edge-set ceramic tiles forming the edging to raised garden beds, found during trial excavations to locate the back wall of Cell 1 (seen on the left) at St Annes Charterhouse, Coventry, Warwickshire, founded c *1385 and dissolved in 1539. The tiles formed the border between the raised beds and the surrounding footpath but, in this case, excavation did not determine-whether the beds lay between the tiles and the wall, with the path to the left of the tile line, or, as would seem more likely, the raised beds lay to the left of the tile line with the path lying adjacent to the wall. In either case, it seems likely that the garden soil has been dug away (Photo: I Sedon)*

could be as mobile as buildings in a residential or farm complex. In October 1260 the house was moved from next to the garden gate 'to a more suitable spot towards the east', and covered with tiles, only to be completely rebuilt in the following January (McLean 1981, 95).

Manuscript illustrations show that small square or rectilinear raised beds were a feature of gardens, especially of the upper classes (eg Fig 9.1). Their sides were kept in position with bricks, stone wickerwork or more commonly horizontal boards held in position with vertical stakes. The straight form and robust structure of roofing tiles made them an ideal alternative. Indeed, the excavations at St Annes Charterhouse, Coventry, have uncovered late medieval beds whose earth was held in position with edge-set tiles laid side by side (Fig 9.16, 9.17). Although not used in the St Annes borders, the only evidence for less durable edging such as wooden planks may be the stake holes which held them in position forming a square or rectilinear plan.

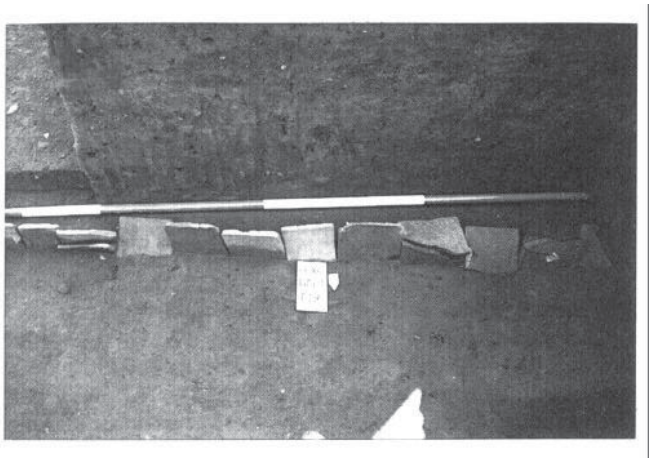

Figure 9.17 Detail of edge-set ceramic tiles from Cell 1 at St Annes Charterhouse, Coventry, at right-angles to those shown in Fig 9.16 and forming another side of the square or rectangular beds (Photo: I Sedon)

Flat tiles may also have been used in the forcing or growing of plants. Palladius advises that one method of growing young trees was to plant the saplings between two tiles, placed tent fashion over them and covered with clay (Lodge 1873, 95, 1. 959–60).

Conclusions

While this volume is devoted to the archaeology of gardens, it is only through a multi-disciplinary approach that they can be understood, as is evident from the various other papers. This is particularly true of garden equipment: documents were never written with the future historian in mind, and the peculiarities in the creation of even the most helpful, such as account rolls, will often leave out references to the commonest objects in the humblest of materials, while in the archaeological record organic materials may not survive (for example, the common wickerwork plant holders); also, ordinary domestic earthenware pots may be adapted and used for things far different from the purposes for which they were originally made. The deficiency of evidence in one discipline may be rewarded by an abundance in another. The sparse documentary evidence for ceramic watering pots and ornamental plant holders is complemented by their frequency in the archaeological record at all social levels in both rural and urban settings. The meagre documentary evidence suggests that ceramic plant pots were far more common than the

archaeological evidence implies, while written sources hint at many uses for the humble earthen pot in the garden which may not be evident from archaeology without the hindsight of the written sources.

The aspirations of those who created and used medieval gardens were often very different from those of today. Gardens of the lower classes were mainly functional and provided essential subsistence produce. Those of the wealthy were created for prestige and status symbols, an expression of position and wealth, as well as containing the essential vegetable and herb plots. The medieval gardener did not have the convenience of modern plastics for plant pots and conveying water, nor the wonders of modern science for manuring and pest control. As such the use of materials at his disposal and the level of science available to him, coupled with the individual approach of most gardeners, would produce uses far different from those of his modern counterpart. This paper has touched perhaps only the tip of the iceberg in terms of the ranges of uses of ceramics in the medieval garden. Much could be learnt from systematic work, which is in progress (Moorhouse in prep), on the surviving horticultural treatises and the many scattered recipes and smaller pieces, as well as the early printed horticultural works, which appear to contain much medieval material which does not appear to have survived in its original form.

There were few purpose-made vessels produced especially for the medieval garden. Mostly they appear to be ordinary domestic vessels adapted in various ways to suit their purpose: the suspended drip feed watering pot, beehive, plant pot, and mole trap are a few that can be recognised out of probably many that were in use. If medieval gardeners were like their modern counterparts, then their individuality, partly reflected in the many written versions of the same horticultural process, would produce an endless variety of one-offs. Flat roof tiles appear to have been as multifarious in their use as household pots, in the propagating of plants, forming parts of the layout of the garden, and in the roofing of a variety of structures in the pleasure garden in particular. Like today, if an object suited a given purpose, then it was adapted for it. The modern humble glass jam jar often sees a variety of uses very different from its original one before ending up as a container for cleaning paint brushes! Some of the uses may be evident by the position of the pots or tiles within the garden. This kind of evidence will increase as more medieval gardens are excavated systematically.

Much of the evidence discussed above relies on the excavation of medieval gardens as they were used. Few have been intentionally examined, and of those only a handful in sufficient detail to reveal their layouts and development. More excavations are needed of the type carried out on the cell gardens of the Carthusian houses at Mount Grace, North Yorkshire, and St Annes, Coventry. Where medieval gardens have been uncovered, features have been few, and their positions are indicated by little more than a depth of humic soil. A few sites have revealed spectacular results, such as the grid arrangement of large tree holes in the orchard of the Augustinian priory at Dunstable, Bedfordshire, and the deliberate layering of banks of gravel, sand and humic earth over a metre deep to assist fruit trees at Deer Abbey, Aberdeenshire (McLean 1981, 239). It seems likely that the excavation of gardens abandoned during the Middle Ages, and not disturbed subsequently, will add considerably to the form and development revealed in the documents. The medieval garden, whether at peasant or aristocratic level, formed an integral part of the occupied unit. Their remains can only be understood by excavating them as such, not by sampling strategies, but by uncovering their plans as they were in use.

Medieval gardens and especially pleasure and ornamental gardens have to be seen as part of the overall holding, whether peasant tenement or lordly messuage. In all but the lowest peasant holdings, the garden was a recognised part of the property, attached either physically or tenurially. This association was even more important in the houses of the seignorial and higher landlord, for these houses and gardens were a reflection of social standing, of position and wealth. The position of the house within the garden setting was important, as the overall design was often conceived as one, a concept which had a profound affect on the detailed layout of both the house and the constituent parts of the garden. The rooms of relaxation such as the sitting room or parlour often overlooked and gave access into the garden, thus governing the movements throughout the house and hence the positioning of doors. The different elements of the garden complex were laid out so that the principal views from the house and in particular the chambers would, wherever possible, overlook a regular layout of lawns, flowers, trees, or shrubs, rather than the less attractive but equally important productive vegetable and herb plots. The living unit, at whatever social level, has to be seen as one, if individual elements such as the house or garden are to be properly understood.

Agricultural works of authors like Columella have shown that the science of gardening has altered little since the Roman period. It was the appearance of gardens that changed through the needs of the society which produced them. The wooden, metal, and basketry tools and equipment altered little in time. It was the use of the ceramics which differs from modern practice. The developing trend in reconstructing sites as they were in use makes it even more important that we understand how medieval man used his everyday objects. This is certainly true of the medieval garden and in particular of the ceramics used there.

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10 The archaeology of parks — the wider perspective

J L Phibbs

The phrase 'The wider perspective' is surprisingly apposite to the subject of this paper: parks tend to be bigger than gardens of course and the archaeological evidence is 'bigger' too — one is less interested in the minutiae of, for example, pollen analysis, but more in miles of hedgerows and approach road, and in the mass of trees. There is also an extra dimension to the park in that its archaeology is still living, making archaeology not the study of anything that has stopped working, but that of something transmuted by time from one use to another.

Firstly we must make clear what, in the author's opinion, characterizes a park. Peter Goodchild's mnemonic 'Please park beyond the kitchen garden' puts 18th century landscaping into five divisions': the pleasure ground (wood and water, usually mown, not necessarily related to the house), the park (grazed not mown), the countryside beyond the park, the kitchen garden, and the garden (the formal setting of the house). Each of these elements has a history that can be considered in isolation from the others, and in the 18th century each was understood to have a different function. Painshill (Surrey), Hawkestone (Shropshire), and Mount Edgecumbe (Cornwall) to name but three, all had landscapes of each of these kinds, though it was their pleasure grounds that launched the English Landscape Movement on the world.

Parks were grazed, and should not be approached from the perspective of garden history. Indeed the great majority of parks comprise a subject that no amount of knowledge of Dutch, French, and Italian sources, or even of our own landscape texts (Miller, Repton and Payne Knight for instance) will illuminate, because parks are so much the province of archaeology.

The 'pseudo-medieval' park is a phrase used by Dr Oliver Rackham (1986, 129) to describe a phenomenon he has often come across whereby a park seems to be medieval, because of the age of the trees in it, but is not. What has happened is that an emparkment of the 17th or 18th century has simply incorporated an area of medieval landscape wholesale, put it down to turf, and left it. This is a simple description but one behind which there are a number of assumptions. This thesis can be presented with a number of degrees of force:

first (weakest): that these pieces of landscape were incorporated because they happened to be there and the owners did not have the money to do anything with them;

second: that they were keen to retain the trees to make their park look instantly mature or picturesque;

third (strongest): that there were entire elements of the medieval landscape that owners felt were attractive and wanted to incorporate into their parks.

This last thesis is actually the one that most interests the present writer. However, it is clear that even with the argument in its weakest form, the archaeology of parks is not so much a matter of tracing paths and structures, and plotting drains and flower beds, as of straightforwardly looking for the medieval landscape over which the park was made — the immediate implication being that the replanting and management of parks should not be left by archaeologists to garden historians.

A range of examples serves to illustrate different aspects of the phenomenon. Wimpole (Cambridgeshire) acts as a useful starting point for discussion. It does not represent a particularly dramatic example of this kind of park, but it has both a long history of landscape design (by many of the greatest English landscape gardeners) and has been used as an exemplar of the misleading truism (to the present writer) that parks are the best places to find field archaeology because they have been pasture for so long. This is a misleading idea in my view because it entirely begs the question of why the owners would have wanted to put such landscape down to grass without levelling it first.

Wimpole was a medieval deer park, redeveloped in the mid 17th century, and hugely ornamented (possibly with the advice of London and Wise) around the turn of the century to create a formal landscape that Bridgeman was to elaborate further with extensive water gardens and the great South Avenue. Later in the 18th century Greening was to simplify the garden, before Brown extended the park to the north. In Emes's day *(c* 1790) the garden was done away with, only for Repton to put it back when he was advising on additions to the east side of the park.

There are not many parks with such a rich history of change. Two particular details deserve attention. Firstly, and most obviously, the ridge and furrow that underlies the avenues, and which in fact used to spread over the whole park; and secondly, equally remarkable, the trees just east of the house, now all felled. These were Elms, specifically the local clone of *Ulmus carpinifolia.* The clonal differentiation of this species in

Cambridgeshire is geographically distributed, so that it is possible to tell fairly accurately where any single tree originated. These trees were Wimpole elms, not planted by Bridgeman (who used more *U procera* at Wimpole), but trees still growing in the old hedgerows and closes of Wimpole's hamlets. Throughout this park then, and immediately in front of the house, in spite of all the hundreds of thousands of pounds that were spent on Wimpole, all these great designers chose to leave casual remnants of the medieval landscape.

In recent years the ridge and furrow underlying the park has been ploughed to the extent that it has almost been removed. Similarly, the earthwork remains of several hamlets have been severely denuded. Whilst not particularly serious from a national perspective — although rare in Cambridgeshire there are better examples of such earthworks surviving elsewhere — the destruction of these features is serious in the context of the park itself because of the fact that all the landscape designers who later worked on the park deliberately chose to leave the 'lumps and bumps' incorporated into their designs. Brown's clumps, for instance, are developed from hedgerows, Repton's belts follow field boundaries and even many of the avenues are laid out along headlands.

At Wimpole then, one may at the very least argue that it is not possible to explain why ornamental plantings were put where they were without having understood the archaeology, and that the park demonstrates that there is an important relationship between the pre-existing landscape and park design. Indeed, at Wimpole, one is faced with the fact (no matter how it is interpreted) that, taken acre by acre, this most polished landscape is more a product of the Middle Ages than of 18th century.

Blickling (Norfolk), has fine coppiced limes (Fig 10.1) growing on the large woodbank that bounds the Great Wood. These trees represent the vestiges of ancient woodland which therefore included lime. But the Great Wood also makes up part of Blickling Park, and the last three hundred years of these trees' history must also tell us something about designed parkland.

Wrotham (Hertfordshire), is a Brown, or Brown-style, park with a superb early 19th century gardenesque pleasure ground with three enormous hornbeam coppices in the middle of it. These are the only surviving coppices at Wrotham and they are growing in the garden, where most in view. It is not enough here to plot the field archaeology and show (as is the case) that they all stood in coppices adjoining farmhouses — what matters is that for two hundred years they have continuously been regarded as worth preserving.

At Felbrigg (Norfolk), a glance at a map of almost any date will show that the Felbrigg beeches, not the house, have been the focal point of the landscape since the 17th century. Even the 1945 Victory 'V' that was cut through the woods

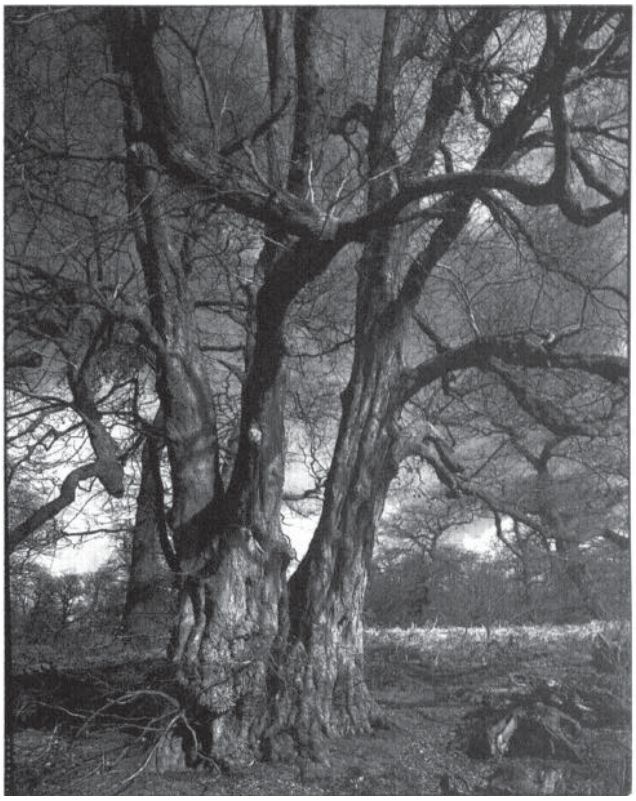

Figure 10.1 The limes at Blickling, Norfolk, have not been coppiced for at least 200 years. This fact is as interesting in its own way as the probability that they were coppiced for at least 400 years before that

unconsciously focuses on them rather than on the house. It may seem that here, at least, is an example of a medieval landscape incorporated for its big trees, but in fact the beeches were coppiced trees (see Fig 10.2), and lying outside the park, as they did until the 18th century, they continued to be cropped as such. This point — that there were few large or conspicous trees in the medieval landscape — is one that is likely to be overlooked by proponents of my number two thesis (that owners wanted to incorporate large trees in their landscapes for immediate effect).

The mid-18th century landscape at Painshill (Surrey) (Fig 7.2) is a fascinating example of the pseudo-medieval because, while Charles Hamilton planted it with every exotic available and intended to realise the picturesque (as it was understood in the mid 18th century) and recreate the landscapes of Claude, its whole structure can be seen as spun out of, and enhancing, the medieval landscape it overlies. Thus archaeological and documentary research shows the west to have been woodland (Hamilton retained many of the old trees here), while Wood Hill was replanted but retained as woodland, and between the two was a waste where he retained the old thorns and pollards, some of which survive to this day.

Figure 10.2 The beeches at Felbrigg, Norfolk, were never big trees before coppicing stopped, probably in the 18th century

By way of contrast, Stradsett (Norfolk), is worth looking at because the heart of the landscape, which lies around the lake, has so little debt to the medieval. In the whole park there are scarcely more than a dozen pollards, the field archaeology is effectively non-existent, and almost all the planting is early 19th century. It is an excellent example of what could be done in the way of providing a *tabula rasa*. It is also, however, a fine example of how uninterested the Picturesque Movement (floruit 1794–*c* 1840) was in pollards and coppice and the sorts of characterful trees that one would expect its proponents to be interested in! For this landscape was laid out by J C Loudon from 1808–1813. Of course, however picturesque they may seem to us, medieval trees were not seen in that light by the 'Picturesques'. To them they were monsters of nature, artificially deformed to provide firewood. What they required were trees and shrubs grown naturally, without the help of shears and saws. The Picturesque Movement flourished at the end of the 18th century when enlightened taste was almost universally against pollards. Eridge, in Kent, is a vast exercise in the picturesque yet pollards are confined to the beeches in the old deer park. These two parks may be used to question the notion that pollards and coppice were retained because they were felt to be picturesque.

Returning to the pseudo-medieval park, and Ickworth (Suffolk). This park divided into two; south of the house, around the valley of the River Linnet, is a layout in Brown's style, but north of the house Horringer Park has quite a different and older look. It has a rich spread of ancient trees scattered about a level plateau in no apparent order. In fact, however, all the three hundred or so stubs and pollards stand on the banks of the old hedgerows and the design of the entire park is based on these — all the clumps and woods within it having been planted in corners of the old fields — and indeed it would be impossible to do any replanting there without having worked on the archaeology.

The park I most want to dwell on is Woodhall in Hertfordshire. Here we have another that falls into two halves — the 18th century park laid out around a house built in 1770, and the much older pseudo-medieval park laid out around an Elizabethan house that was rebuilt as a stable block in 1770, but is now once again the main house. Here the four hundred or so ancient trees are of interest not only as individuals, but also as group plantings.

In one part of the park, Beehives, they lie in long banks and are, I believe, almost unique relics of the Hertfordshire equivalent of shaws and rues, as observed by Sir John Parnell, on a tour of the great parks and gardens of England, as he left St Albans in 1769.[2]

> 'I know of no park of England more beautifull in its stile than Hartfordshire thu'out the oak and Elm hedgerows appear rather the work of Nature than Plantations generally Extending 30 to 40 feet Broad growing Irregularly in these stripes & giving the feilds the air of being Reclaim'd from a general tract of woodland. Where the fields are large Enough to bear these Broad stripes no plantation possible can be more Beautifull shading the walker from Both Heat & wind & conveying at the same time Round his fields whether corn or pasture at the same time a number of wood flowers may be Encouraged under their Shade which wou'd not grow open I am Apt to believe several of these stripes in hertfordshire from their irregular but most Beautifull swells are pieces of Natural wood left when the Rest was cleared for the Purposes of agriculture.'

The trees at Woodhall serve as a good example of a type of landscape which has been largely ignored by the professional bodies involved in the presentation and management of our landscape heritage. The pseudo-medieval park is not a classification recognised by English Heritage for instance, and it has, in any case, no power to protect such features. Likewise, in ecological terms, such trees may only be protected if they support unusual lichen or beetles and not in their own right as magnificent and irreplaceable specimens.[3]

In the author's opinion it is clear that large areas of English parks, for whatever reason, owe as much to medieval agriculture and silviculture as they do to conscious parkland design, and that therefore they are as fittingly the study of archaeologists as of garden historians. However, archaeologists have largely failed to consider the continuing influence of their monuments, or to give due attention to the trees and features later imposed on them. The chasm between archaeology and garden history is a

wide one, for example, and there are failings on both sides: it is absurd that garden historians pay so little attention to the moat in medieval and Tudor gardens, and I am sure that archaeologists in say two hundred years' time will undoubtedly regard themselves as right to declare that the swimming pool and the tennis court had far more influence on 20th century garden design than for instance Gertrude Jekyll!

Before bringing this discussion about the pseudo-medieval park to a conclusion, I would like to deal for a moment with the problems of dating old trees and in particular with tree ring-counting.

Ring-counting of trees in parkland can be a useful exercise, though there are problems. At Woodhall, for example, there are pollards of varying length of bole — these are not indicators of an early deer park (deer having a higher reach than cattle), but of trees that have been shredded to give a longer length of trunk. It is hard to believe that this practice ever worked very well, as shredding seems to distort the timber — indeed it is now very rarely found, and it is associated by Rackham (1986, 229) with the early medieval period.

But the habit of a tree is not the only way of getting a sense of its age. Ring-counting a Pollard can produce information about the length of the rotation, any periods during which it was not cropped, and, most important from a garden history point of view, the date at which pollarding stopped.

However, in garden history terms, a ring-count can often be misleading. In general, one is attempting to establish the date at which a given planting occurred. However, a 'Brown' planting is still reckoned to be a Brown if the first, second, and third attempts to establish a dating failed, if the plantation was wrecked twenty years after his death, or even if work on his design did not begin immediately.

On the other hand one has to cope with the problems caused by trees planted when they were already ten or more years old. An example is the Grove at Gunton, Norfolk, by Bridgeman. Here some of the trees seem to have begun their growth in about 1690, so that either trees were planted when almost thirty years old or the grove was put in shortly *before* Bridgeman was consulted.

Dotting presents a similar problem and is much more common than is generally imagined — Helmingham (Suffolk) may be a good example, with trees remaining on the old hedgerows in the outer parts of the park and also trees of the same girth scattered around the banks closer to the house. These trees may actually have been dug up and moved when up to sixty years old.

Nonetheless the possible successes of ring-counting are legion. At Wimpole it was possible to detect an attack of Dutch Elm Disease in about 1705, and to show that, in the Bridgemanic period, the London and Wise avenues had been largely replanted. At Hampton Court it seems to show that some of the avenues were intended to be pleached when planted. At Wrest (Bedfordshire), it has confirmed the early 18th century date of the amphitheatre and differentiated between yew hedges and yew topiary.

Conclusions

Finally, the writer's own thesis for the persistence of the medieval in the 18th century park was not developed from any ruminations on the pseudo-medieval park itself, but from the observation that some elements of the 18th century park make little aesthetic sense except as deliberate attempts to recreate medieval landscape. The three elements to concentrate on are woodland and the irresistible attraction that there seems to be between wood and parkland; the origin of the 18th century woodland belt (which seems to fly in the face of all good 18th century precepts about letting the country into the park); and park planting (in particular the use of hawthorn, often used only for its aesthetic effect).

I have long been puzzled by Claude Lorraine's pictures, often populated as they are by shepherds and bucolics and grazing sheep, at sunset in a landscape studded with temples and ruins. Is Claude, in these pictures, trying himself to recreate a Hesiodic Golden Age in which (there having been no earlier age) these temples must have been built by the artless genius of the untutored peasants in the foreground, or is his an Arcadian scene of the rural life lived in the shadow of former greatness? Is there a touch of Ozimandias about them? The innocence of the Arcadians is emphasised by their unselfconscious ignorance of the surrounding temples. Of course the latter reading is more likely, given Claude's knowledge of Rome, and in that case the sheep and grass they graze on is a sign of neglect: where once there were highways and courtyards, and priests and the nobility journeyed to and fro, now only shepherds and maids loll with their sheep. Everything has gone back to nature.

In the garden today our ideal of grass is that of the velvet bowling green. In our understanding of the Brown park (an understanding that we share with the Picturesque Movement), we also see the grass as smooth and beautiful rather than sublime, as a sign of order. But when first laid out over the formal gardens of his predecessors and up to the door of the great house, it is hard to imagine what a revelation — what a revolution — Brown seemed to be bringing about — removing every sign of order and industry from the house, making it look abandoned in the manner of a Claude painting.

Is it the case then that grass, when first indulged in this way, was intended to show the signs of timeless, ancient neglect, and by leaving the ridge and furrow, the old hedgerows and deserted medieval villages so obvious, Brown sought to recreate the effect of a Rousseau-like innocence, of a world once lived in but now abandoned by mankind — the very world that Oliver Goldsmith

described from the point of view of the ejected and dejected tenants in *The deserted village?* I do not know the answer, but archaeologists should note that if my weak thesis is allowed it makes medieval archaeology an equal partner to the garden historian in the restoration of parks, while my strong thesis gives archaeology preference.

Notes

1 Peter Goodchild is the director of the Centre for the Conservation of Parks and Gardens at York University.

2 John Parnell's 1769 Journal is in the London School of Economics, Misc Coll, 38.

3 I am pleased to say that since giving this lecture, English Heritage has upgraded Woodhall to Grade II on the Register of Historic Parks and Gardens and has made it Outstanding.

Reference

Rackham, O, 1986 *The history of the countryside*

11 Early buildings in gardens in England

Paul Woodfield

Ever since classical times, buildings have been considered a desirable and often useful embellishment of all planned gardens; at times even a *sine qua non.* It is the purpose of this brief paper to look at this perceived need, and to try to define how, and when, as far as we can determine, this need was fulfilled, up to the great expansion of such buildings in the 18th century.

Firstly, it is necessary to define more precisely what is meant by the term 'garden building', for, to be useful, it must obviously exclude the house and its outbuildings, and buildings built for the sole purpose of agriculture or industry, unless, like some dovecotes, for instance, they include a purely practical use as a minor part in a dual role. Nor, on the other hand, can the whole range of related garden structures, such as columns, sundials, seats and statues, be defined as buildings, even though in many cases their function within garden design is closely related.

For the present purpose, therefore, a building is defined as a man-made roofed structure, which could, if called upon, serve a given practical purpose. This definition can legitimately be extended to cover ruins of such structures.

The classical art of building in gardens later to be rediscovered by Renaissance Europe, had to all intents and purposes been lost during the *volkswanderingzeit* of the 5th to 7th centuries, but, what may well be a thread of continuity survived, curiously, through no less unsettled times, at the Arab court of Damascus, and later, through their progeny, the Umayyid dynasty of Cordoba. Archaeology has demonstrated that the wondrous palaces of Al-zahra, The Radiant, and Al-zahira, The Manifest, had, from the 10th century, gardens unparalleled elsewhere in Europe at the time, complete with canals, fountains, and, relevant to the present discussion, pavilions for pleasure. Their influence on medieval Europe is, amongst other aspects of that civilisation, not yet widely understood and appreciated.

Clearly, the appearance of planned gardens, with or without buildings, can be identified as a function of both a period of relatively settled times, and the concentration of wealth in the hands of a leisured class.

In Britain, the nature of pre-conquest gardens is not known. Whether the numerous palaces or residences of the Anglo-Saxon kings had designed settings has never been investigated. Yeavering, Northumberland, the only site sufficiently investigated for such to be discerned (Hope Taylor 1977) clearly did not have any degree of formality suggesting a garden, but it is doubtful if the aspirations of early Northumbrian kings were identical with those of the south, and it might reasonably be anticipated that rulers who considered their place alongside Charlemagne would take pride in their environment as well as their dwellings.

Western medieval gardens are best known from contemporary illustrations — illustrations, be it said, of other subjects in which the portrayal of the garden is an incidental background. Their form, of which the *hortus conclusus,* is the best known, rarely shows any structures within the walled enclosure other than elaborate entrance gates, galleries, and raised beds, and such structures as rarely appear cannot, with any confidence, be said to be reliably illustrative of contemporary gardens. The gallery once around the enclosing walls of the Duke of Buckingham's privy garden at Thornbury, Gloucestershire, pre-1521, is a late example.

The belief that all knowledge and wisdom was available to the ancients and subsequently lost led scholars such as Petrarch and the aristocracy of medieval Italy to re-read with new eyes those few works of literature from the Classical world that had miraculously survived, transcribed, in ecclesiastical libraries. In them, they found descriptions of palaces and houses and their gardens of the Roman world. In particular, Pliny's descriptions of his Tuscan and Laurentian villas; Columella; Sidonius's garden at *Avitacum;* Varro's pleasure garden with its aviary; Suetonius's description of the Imperial residence at Capri; and later, the works of Palladius, and Ausonius in Gaul. To this treasure-house was added, by the 18th century, the results of the exploration of Roman sites such as Hadrian's villa at Tivoli and Pompeii for their loot of sculpture and architectural detail, in which was revealed elaborately laid out gardens for pleasure, in which canals, fountains, columns, and indeed buildings such as the *Serapheum* at Tivoli featured as an essential part of the design itself.

Not only was the assemblage of libraries important, but the advent of printing allowed the dissemination of the knowledge of such investigations in works such as *De Re Aedificatoria* by Alberti, published after 1440 on the model of, and following the discovery, in 1415, of the one surviving classical treatise on buildings and their

setting, the *Ten Books of Architecture* of M Vitruvius Pollio. It was shown that the ancients, in practice the Romans of the Imperial Age, had formal gardens with statues, water features, monuments and, significantly, buildings, the original purpose of which cannot often be divined, but included nymphaea, shrines, covered seats, and the like.

It was but a little step for the patrons of the arts in Renaissance Tuscany to recreate for themselves gardens of what they believed to be classical form, extending the house, like Pliny, into the open air according to the recommendations of Alberti, and to include little buildings as foci for the design. In the late 15th century, Francesco Colonna of Venice captured the imagination of the wealthy with his description of a quasi-magical world wherein his hero pursues the heroine, Polia, through a forest landscape figured with pyramids and sculptures. Thus the Mannerist Italian garden, containing episodes within a programme, often allegorical, became fashionable in Europe before the mid 16th century. Colonna's influential work, incidentally, became available in English in 1592.

In Britain, of the layout of the great medieval palaces, little survives later alterations and loss. Woodstock, Oxfordshire, and Clarendon, Wiltshire, palaces appear to have no buildings other than barns and buildings serving practical needs. One might look to Duke Humphry's palace of Bella Vista, Greenwich, London, to discern pre-Tudor Renaissance landscape planning, but this was shortly to be submerged in the Tudor expansion of Placentia, later Greenwich, London, and Lady Margaret Beaufort's garden at Collyweston, Northamptonshire, has fared no better.

Alongside this development there is the growing involvement of the late medieval and Tudor courts in pageantry and display. The sheer numbers and elaboration of such great events required greater accommodation than the house would often allow, and for this reason, and to provide an appropriately extravagant setting, temporary buildings were provided. Although this cannot now be demonstrated due to the ephemeral nature of such buildings, the illustration of the mock castles at Elvetham, Hampshire, erected by Lord Hertford (Girouard 1983, pl 137) in 1591, gives some idea of the extent of such planning and expenditure. It must have been been but a short step to economise on the great cost by making these buildings more permanent. They could be used for other purposes of leisure, and would symbolise ever after the rank of those so honoured as to entertain the sovereign and their peers.

By the Tudor period, permanent buildings in gardens feature unambiguously for the first time, and the surety with which they were employed suggests a confidence of familiarity with the concept, perhaps derived from before the break with France. Garden buildings appear in the early 16th century at Nonsuch, Surrey (Dent 1962) and are recorded in 17th century descriptions by visitors and in the 1960 excavations. The excavations at the farther end of the park revealed a moated banqueting house. Pavilions or summer-houses also appear at this time, and a mid century drawing of Hampton Court, Middlesex, by van Wyngaerde shows a variety of substantial crenellated buildings in the various enclosed gardens strung out along the Thames waterfront. After the accession of Elizabeth there is an appreciable acceleration in popularity of garden buildings.

Thus, by the mid 16th century certain special building types appear among such favourite garden ornaments as fountains, statuary, and elevated badges in the form of the 'king's beasts'. Distinctive types of building may now be discerned, the banqueting house, the pavilion or summer house, the grotto, for instance, and, outside the confines of the garden proper, the standing or hunting tower. These buildings have today often been summarily dismissed as follies, amusing perhaps, but to the untutored eye worthy of little regard when it comes to their protection and care. They have been, however, in their time the testbed of fashion, the embodiment of ideals in material form, and deserve better.

The banqueting house

Perhaps the most distinctive is the banqueting house, the earliest example of which is probably the one at Hampton Court, probably pre-1555, demolished in the remodelling of the gardens before *c* 1690. A date prior to 1547 is suggested for the Nonsuch banqueting house, which on documentary evidence (Dent 1962, 291), was in existence in 1550. Windsor Castle, Berkshire, had an octagonal banqueting house by 1577–8, and, also no longer existing, is a banqueting house planned by John Thorpe for Sir Christopher Hatton around 1580–87 for the end of a terrace at Holdenby, Northamptonshire. It incorporates a cruciform plan, probably derived from Du Cerceau's *Les plus excellents bastiments de France.* Even away from court circles, gentlemen of substance could aspire to such an embellishment as the impressive surviving banqueting house at the distant end of the long range of gardens at Lyveden, Northamptonshire, built from 1594 by Sir Thomas Tresham, and the little square building on an island, also tentively identified as a banqueting house, at Antony, Cornwall, of *c* 1612.

For what precise purpose were these buildings becoming fashionable, and what do these buildings have in common? If these questions can be answered, then such buildings might be the more easily identified in the many surviving garden earthworks.

The purpose of the banqueting house, it seems, is to obtain relief from the formal ceremonies of the house, and where the owner might be secluded in informal leisure amongst select friends without

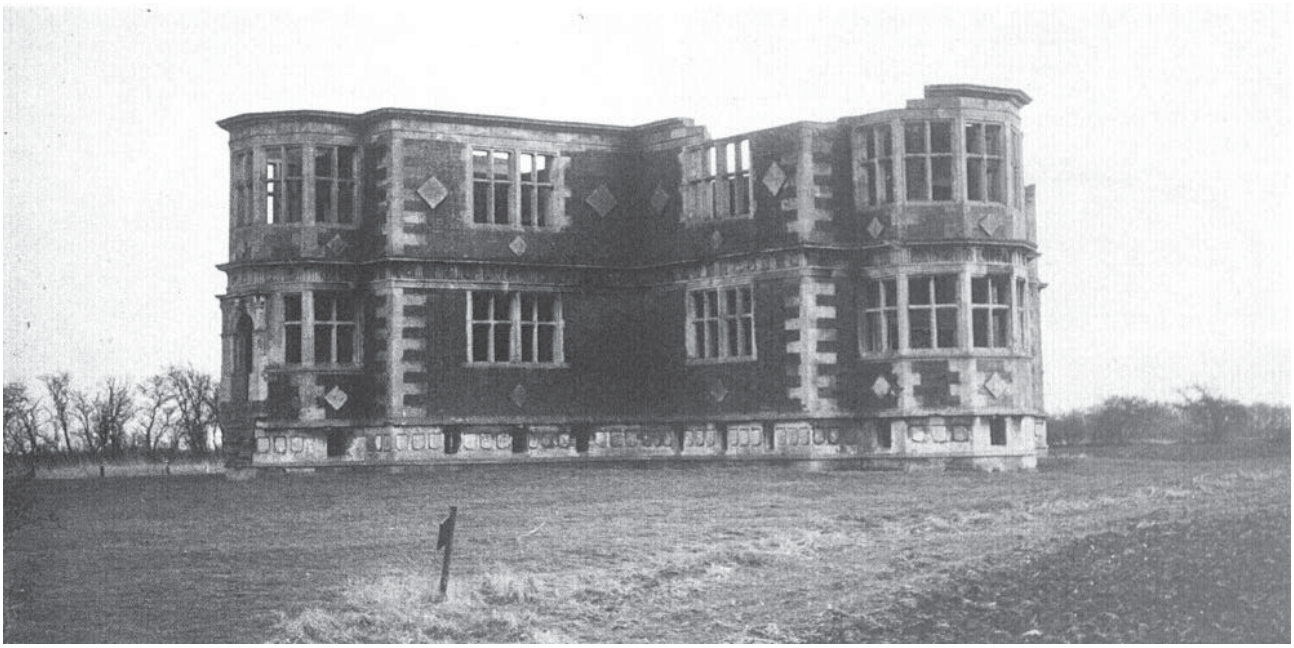

Figure 11.1 'The New Bield', the banqueting house at Lyveden, Northamptonshire, built around 1594 for Sir Thomas Tresham at the head of his garden, and symbolic of the Passion

fear of disturbance from family or aquaintances. The term banqueting house is misleading, as the food taken there would usually be taken *al fresco,* often the informal second part of the main formal meal taken at the house. The food might already be laid out there to welcome the party, or be prepared and delivered from a secondary kitchen concealed within the banqueting house itself such as at Lyveden New Bield, Northamptonshire (Fig 11.1), and later, at Wrest Park, Bedfordshire (Fig 11.3). The need to keep the building to a definable size and shape within the garden, and to allow a fine prospect led to the banqueting hall being often raised over a kitchen in a semi-basement. These lower rooms have frequently been identified as grottos, ice houses or the like due to the conspicuous lack of a fireplace and chimney. The absence of these features in the smaller banqueting house need not imply that it was other than a simple preparation room for food and a servery for ready cooked fare.

Francis Bacon gives near contemporary advice for would be garden planners for the location of a banqueting house (Bacon 1625):

> I wish, in the very Middle, a Faire Mount, with three Ascents, and Alleys enough for foure to walke a breast, Which I would have to be Perfect Circles, without any bulwarkes or Imbosements; And the Whole Mount, to be Thirty Foot high; and some fine Banquetting House, with some chimneys neatly cast, and without too much glasse...

The advice is written on the assumption that the banqueting house is part of the formal layout near the house, and to obtain a pleasing prospect over the gardens on a flat site it was necessary to raise it by artifice in the manner of a medieval prospect mount. It seems to be that the obtaining of a fair prospect different from that from the house is one essential common factor.

As suggested by Bacon, isolation was not the equivalent of secrecy. The Cecils at Hatfield House, Hertfordshire, had two banqueting houses in the west garden, *c* 1607–14, and at Wimbledon, London, they placed an imposing banqueting house with a fountain symmetrically across the main elevation of the great house of parade, although by then a shift in fashion was probably why it was replaced in 1642–9 by an orangery, and a new banqueting house was built at the end of a long cross vista. At Campden House, Chipping Campden, Gloucestershire, what appears to be two banqueting houses of 1609–29 take on formal opposing positions at the ends of the main terrace walk of the symmetrical 'gleaming garden", although it is doubtful that they both can be banqueting houses. The closest association with the main house is at Barlborough Hall, Derbyshire, where the banqueting house of 1688 is actually attached to the end of the stables.

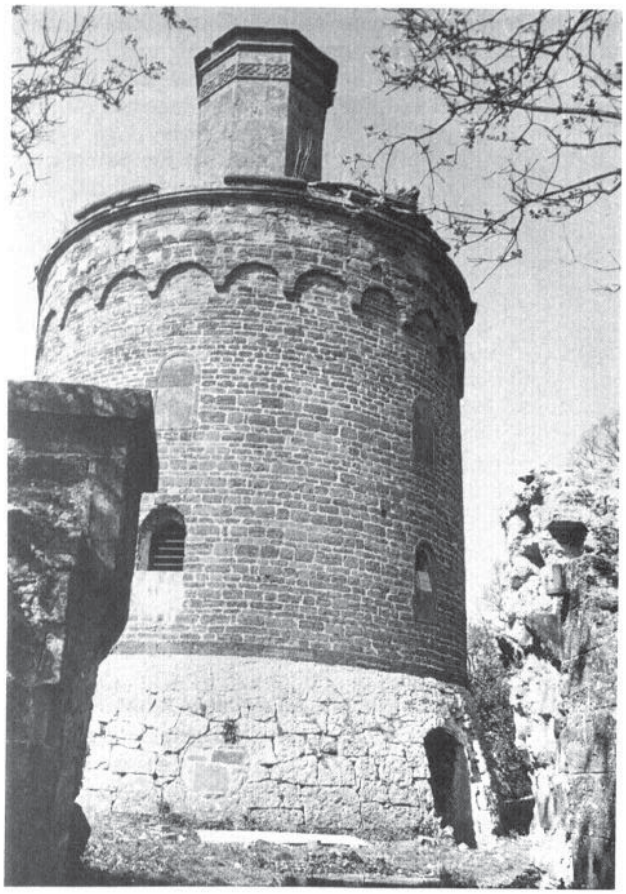

Figure 11.2 The 'Bourbon Tower' at Stowe, Buckinghamshire, possibly originally a banqueting house, probably designed by James Gibbs, later converted to a keeper's lodge

Figure 11.3 The 18th century banqueting house by Thomas Archer at Wrest Park, Bedfordshire

The formal positioning of the banqueting house thus seems to give ground to an emphasis on a position further removed from the main house. This isolation may still be a modest separation, retaining the building on the margins of the formal plan, as planned by John Thorpe at Holdenby, Northamptonshire, or, by secreting it away on the margin of the formal area, as the Well House at Bolsover Castle, Derbyshire, probably the Jacobean banqueting house[2]. Seclusion could however, be more effectively achieved by setting it at an appreciable distance away from the house using the route to it as an isolating factor in itself. This remoteness might be further dramatised by setting it within water, either on an island as Bacon's building, described by John Aubrey on his visit to Gorhambury, Hertfordshire, in 1656, at Nonsuch, at Antony, and at Blagdon, Northumberland, *c* 1700–1710, all set within artificially created moats.

The mock fortifications given to the moated platform at Nonsuch and Antony, are, it has been suggested, a reflection of contemporary Henrican coastal works at, for instance, Camber Castle, Sussex, and one can detect' in them further evidence for the desire to achieve a feeling of exclusiveness bestowed upon those admitted to the company there. Perhaps the most bizarre example of inaccessibility is the famous banqueting house set in the branches of an ancient lime tree at Cobham Hall, Kent, described by John Parkinson (Parkinson 1629), probably by then already forty years old.

Bacon, one is reminded, advises an elevated position and chimneys, but not too large windows or mock fortifications, faults he must have already encountered in banqueting houses known to him. Beyond that we do not have much help. There seems to be no distinguishing or even optimum size for a banqueting house. Hawthorne's octagonal building at Windsor was merely 21ft (6.4m) in diameter, while one floor of Lyveden's three is some eight times the size. However more than one room appears to be essential for the more detached examples, presumably one room being devoted to the preparation of food and another for robing, and the multiple chimneys remarked upon by Bacon. The foundations of a large stack exposed at Nonsuch support the idea that one flue at least served a kitchen. On level sites a stair should be anticipated for access to the principal chamber. The superstructure at Nonsuch is deduced to be of

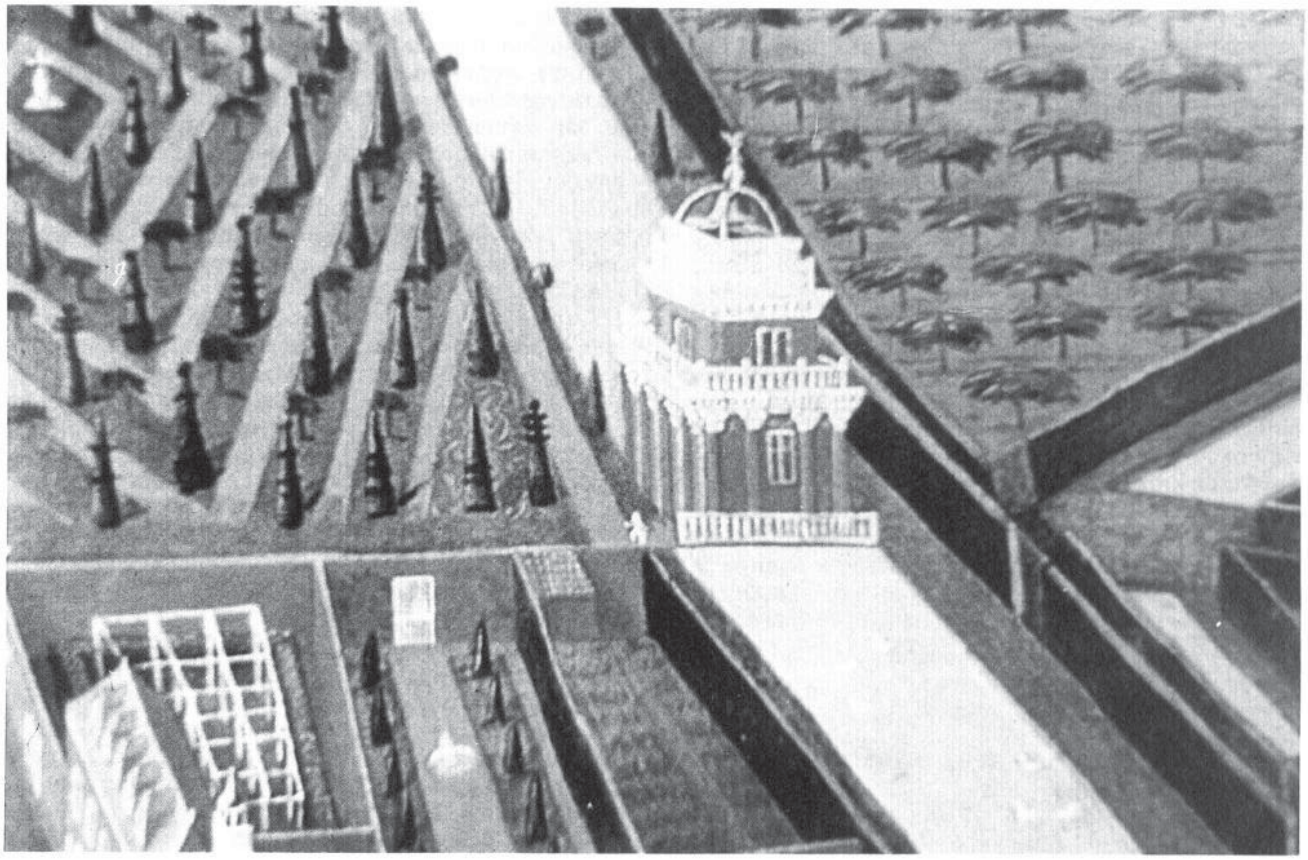

Figure 11.4 The 17th century banqueting house on the canal at Denham, Buckinghamshire, later replaced by a bridge. A pilaster capital survives

timber framing, with some slate cladding, not unlike the courtyard of the palace. The second, circular banqueting house of 1639 at Wimbledon was painted green and had opposing doors leading to different terraces.

It is the need for an attractive prospect that causes the present day observer some difficulties in the identification and classification of banqueting houses, for it is a perquisite common to other garden buildings. A building put down as a summerhouse, prospect tower, or belvedere, may well have been built and intended to function as a banqueting house as defined here, even though not specifically described as such. The so-called belvedere at the end of the formal canal at Charlecote, Warwickshire, swept away by Launcelot Brown but recorded in a painting of *c* 1680–90, served most probably as a banqueting house. Indeed, more than one purpose may often have been intended at the time, such as the Vavasour's multi-purpose three-storey building at Weston Hall, Staffordshire, where the banqueting house is combined with a belvedere and a standing. The roof of Sir Charles Danvers' banqueting house at Chelsea, London, destroyed by fire in 1699, was seen at the time as a belvedere. This building was raised over an undercroft and took the appearance of a graceful tower, much like that at Charlecote, one supposes, and becomes an ornament to the grounds. Thus, in the small compass of the grounds many needs were satisfied. To obtain the view in an otherwise flat garden the archaic prospect mount took a new lease of life as the base for the four-gabled banqueting house, as in the illustration of Dunham Massey, Cheshire, 1696 (Collection; the National Trust), the elevation here perhaps created, as advised by John Woolridge in 1681, by the dumping of rubbish, 'for the building of a place of repose....the more private from disturbance from family and aquaintenances.'

Banqueting houses continued to be built into the mid 18th century, and took on the mantle of fashion of their time (Fig 11.2). Thomas Archer's delectable banqueting house at Wrest Park, 1709–11 (Fig 11.3), raised over the kitchen and furnished with paintings by Nicholas Hauduroy is a translation of the banqueting house into 18th century taste, and related to a formal canal. This association of a banqueting house with formal water appears as early as *c* 1630–40 in the marvellous painting of Denham Place, Buckinghamshire, now at Yale, USA (Fig 11.4), and perhaps in the even earlier illustration in William Lawson's *A new orchard and garden* of 1618. Other fashionable presentations of the banqueting house are be found at Gate Burton Hall, Lincolnshire, a formal brick and stone essay of 1747 designed by the young John Plat of

Rotherham, and the almost contemporary but contrasting Gothick banqueting house at Gibside, Co Durham containing a double apsed room 32 x 28ft (9.75 x 8.5m) with wide alcoves. Both have the main chamber and two attendant rooms. A more forceful baroque composition by Thomas Wright loosely in the manner of de Caus occurs at Horton, Northamptonshire *c* 1740, known as the Menagerie, with which use it was probably combined, the birds, for that is what this term generally meant at the time, providing singing accompaniment to the repast. At Duncombe, North Yorkshire, it has a temple front terminating the main terrace; it appears in Gothick dress on the impressive cliff-top site at Wardour Old Castle, Wiltshire, and even more bizarrely, John Aislabie's Mowbray Banqueting House at Hackfall Woods, North Yorkshire, where it is presented as a Roman ruin, with unaccountably, a gothic kitchen.

The enthusiasm for the banqueting house waned after the mid 18th century suggesting a change of habit in the use of the garden, perhaps associated with greater ability of movement and frequency of absence from the home.

The summerhouse and pavilion

In literature on gardens, both now and formerly, small garden buildings have at times been called summerhouses, pavilions, gazebos, belvederes, arbours and loggias, with no degree of precision. Certain distinctions may and should be made. These are to some extent distinct functions, although as shown with the banqueting house, any one building may serve more than one purpose. A summerhouse should face the sun either to the south or west, and provide an open fronted seat for use in temperate weather. The pavilion by contrast, is an enclosed building comprising generally a single chamber, sometimes raised on a basement, and serves the purpose of terminating and turning walks and terraces.

Both appear from the 16th century on and while the pavilion temporarily loses favour in the early 18th century with the move away from formal walled enclosures, the summerhouse continued to find favour into the 19th century, and both may enjoy views within, or to outside the garden.

The terms *gazebo* and *belvedere* are primarily concerned with views, the terms differing in the shade of formality applied. A *loggia,* for our purpose, is an open structure usually leading directly from the house, but may lead from one walled enclosure to another, the openness being the identifying feature. Loggias are usually associated with 16th century design. The term *arbour* is confined to a strictly informal structure, usually made of unwrought natural materials.

The summerhouse is a frequent feature of 16th and early 17th century gardens. As gardens of the Renaissance in England grew larger, so the need for shelter from both sun and showers must have become apparent. Also the possibilities such a building offered as a focus in a formal layout, while at the same time providing pleasant views down allées, must have recommended it forcefully to the garden designer. In such locations, it was a ready subject for the more adventurous designer, and may take eye-catching forms such as the triple arched arcade with ogee roof designed by Smythson for Chelsea.

The pavilion is often placed in conjunction with the walls of walled gardens or at the end of terraces. A view and a warm aspect are not essential, but may be seen as an advantage. It is basically a device of formality, and although it will offer some shelter, and perhaps more than basic comfort, it is more usually employed as a node or turning point between the features of a garden. Of Elizabethan examples, Sutton Place, Surrey, has, to the west of the walled garden to the house of *c* 1591, an octagonal pavilion, and one of a similar shape appears at Eyton-on-Severn, Gloucestershire, with a flat roof and an ogee-domed stair. This terminates a garden wall as do the well known and substantial enclosed pavilions at the corners at Montacute, Somerset. Wimbledon, beside having a summerhouse set within the walls of the privy garden, facing south, had pavilions terminating the walks of the grand design, all probably constructed in the last decade of the 16th century, like the pavilion at Eyton-on-Severn. Another example, also probably of the late 16th century, occurs at a more modest garden at Bigods, Great Dunmow, Essex.

In the 17th century, at Richmond Palace, Surrey, an Italian designer was employed in 1611 on behalf of Henry, Prince of Wales, to build a summerhouse or pavilion, the precise form of which is, unfortunately, not known. Later in the 17th century square pavilions were located on the north terrace at Chelsea, of 1622–3, and nearly contemporary pavilions by Isaac de Caus occurred in each corner of Lucy Harrington's early 17th century garden at Moor Park, Hertfordshire, described in detail by Sir William Temple in his essay *Upon the Gardens of Epicurus* (1685). He describes them as summerhouses, although in our terms, they are pavilions terminating and turning the walks.

The standard pavilion usually takes the form of a single square or octagonal chamber of brick with a tiled pyramidal roof, and a door and cross windows, later sash windows in each face, the whole perhaps raised over a basement (Fig 11.5). Frequently quoining in brick or stone, is emphasised. They appeared in their hundreds in all gardens of any pretension, and today many survive. Fashion, as elsewhere, made its demands. The pavilions of the 17th century at Crewe Hall, Cheshire, 1615–1636, had shaped gables, and the pavilion surviving from the 17th century garden at Easton Neston, Northamptonshire, has a facade recalling Flemish

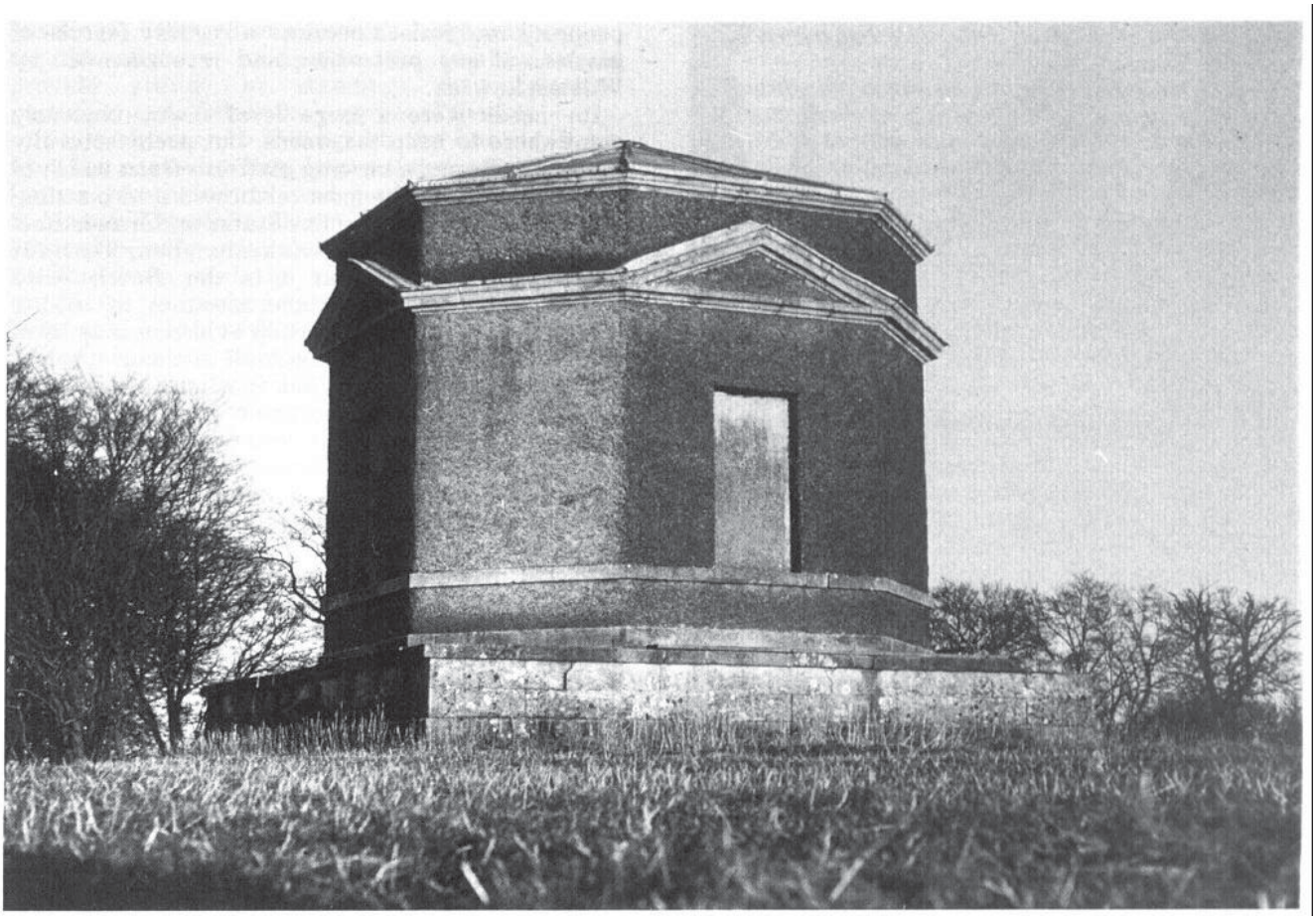

Figure 11.5 One of two garden pavilions by Lord Burlington at Tottenham Park, Wiltshire, built c *1720. The other does not survive*

work (Fig 11.6). A swept roof and jaunty pennant appears at Pishiobury, Hertfordshire, before 1698. A Chinese summerhouse stood at Wroxton, Oxfordshire, where there was also a revolving Gothick summer house of *c* 1750 on a mound.

Pavilions in particular may be put to other purposes, such as Switzer's 'commodious summer-house [=pavilion] answering to a pigeon house', or the fitting out of the pavilion at Cheverell Magna Manor, Wiltshire, for use as a manorial court house. The interesting oval building at Ecton, Northamptonshire, usually identified as a summer-house, may well have been an infrequent place to take refreshments on the upper floor, in other words doubling as a banqueting house. The elegant two storey terminal building at Westbury Court, Gloucestershire, although called a 'somerhouse' in the building accounts of 1703–4 (Jackson Stops 1988), clearly had more than a single purpose, among which may also be that of a banqueting house, but the nature of the gardens here suggest that its prime purpose was to facilitate admiration of the formal Dutch layout, in fact it is primarily a belvedere. A standardised pavilion stands at the opposite corner of the gardens. The two storey pavilion at Theobalds, Hertfordshire, 1564–85, was provided with the diversion of a fishtank. John Rea, in his *Flora, Ceres and Pomona* of 1662 illustrates an octagonal pavilion within the flower garden painted with landskips and furnished with seats and a table, serving for delight and many purposes, including, he suggests, some gentle horticulture. The spectacular pavilions at Temple Newsam, Leeds, West Yorkshire, built for Sir Arthur Ingram in 1635–6 have fine plasterwork and paintings, suggesting more relaxation than shelter.

In the 18th century pavilions and summerhouses continue to enjoy a degree of popularity as features of garden design, although the formal pavilion largely disappears with the introduction of more open and informal unwalled gardens. Sir Jeremiah Sambrooke had, *c* 1732 at Gubbins, Hertfordshire, a summerhouse constructed of lattice timberwork and painted green terminating a walk from where a canal can be espied. The association of summer-houses with canals is a strong one especially following the popularity of Dutch ideals after the Glorious Revolution and continues to grow in popularity in the 18th century. Examples may be found at Westbury, Wiltshire; Shurdington,

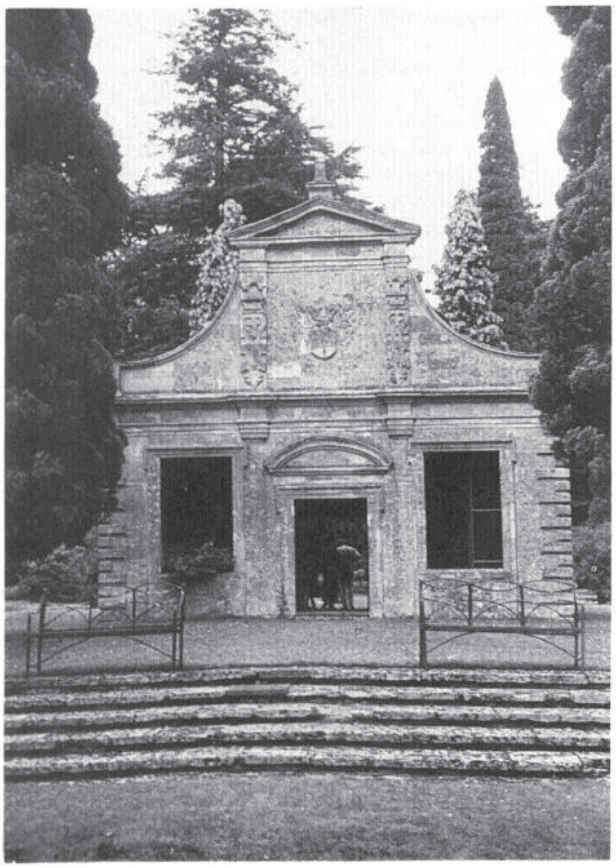

Figure 11.6 The garden pavilion dated 1641 at Easton Neston, Northamptonshire, surviving from an earlier garden layout

Leckhampton, and Coberley, Gloucestershire; Missenden, Buckinghamshire; and a summerhouse of slag was built over a stream at Warmley House, Avon.

The small summerhouse as a feature continues to appear from time to time in the 19th century. Lord Ellenborough built a summerhouse at his property at Southam Delebere, Gloucestershire, around 1845 to commemorate his staff serving in India. A Gothic version sits in an enclosed hedged garden at Bramham Park, West Yorkshire. The summerhouse at Watercombe House, Gloucestershire, was given a real Roman tiled roof.

The bowling pavilion

Another garden building of early, but less frequent occurrence, is the bowling pavilion. The lawn game of bowls has its origins at the end of the 13th century, but due to the fact that it inspired riotous behaviour, and, perhaps more to the point, unbridled gambling, was frequently banned, even as late as 1511, with varying degrees of success. By the late 16th century, it was tolerated on private property, and indeed becomes a regular feature of gardens of any pretension, and recommended by William Lawson.

Its needs were a large level lawn, obviously somewhere to keep the woods, but architecturally more significant, a viewing platform from which to watch the game. The most celebrated and puzzling of such a building is the 'The Stand' or 'Grandstand' built for the Harpurs at Swarkeston, near Derby. It has been suggested that it is the 'Bowle Alley House' which appears in the accounts of 1631–2 (Girouard 1983) and supporting evidence may lie in the interpretation of the walled enclosure below, the 'Cuttle', as a green, but it seems improbable that the intricacies of the game could be followed successfully from such an elevated position. Although this may have been one of its functions, indeed it may have been for more robust sports such as bear baiting, not banned until 1835, the large windows, and siting, suggest that it was intended to do service as a stand or standing from which to observe field sports such as hawking or the chase. It is possible that the New Bield, Lyveden, which lies in a similar relationship to a bowling green on its north side, served a like purpose. Hampton Court, Herefordshire, appears in an illustration of 1699 (Harris 1979) to have a bowling house, also overlooking the canal, but the building standing by the green in the Siberechts painting of Wollaton Hall, Nottinghamshire, of 1697 is again more probably mainly a banqueting house, the planted trees obscuring any clear view of the game. Other 17th century examples are few.

In the 18th century, Gubbins (Gobions) had a building by the bowling green called a summer-house, but probably used in connection with the sport. Bowling pavilions occur at Claremont, Surrey, and the Palladian windowed building of 1761–2 in front of the house at Gopsall, Leicestershire, is another probable example. James Gibbs designed a Bowling Green House 25 ft (7.6m) square for Down Hall, Essex, in 1721–6, clearly by its size more than a store, and another example of a similar date stands at Wrest Park. Here the stuccoed interior indicates that it was meant for leisurely occupation as does Gibbs' Bowling Green House for Wimpole, decorated internally with paintings by Sir James Thornhill. The stuccoed gothic octagon at Bramham Park may be another, elegant, 18th century example.

The standing

The Tudors continued with no less ardour the medieval enthusiasm for the chase, whether it be hawking, coursing for deer with hounds, or hunting the hare or other animals. It was a sport appropriate to the nobility, and to which lesser men may aspire, and its social practice was bound by a great deal of lore, form and convention. Although taken simply it does not require any formal

buildings, other than a parker's lodge and a place for the slippers, in practice the wealthy would provide stands or standings for non-active participants to follow the progress of the day.

It is necessary to distinguish the hunting lodge from the park standing. Impressive examples of the former are numerous, and good examples survive at Mount Edgcumbe, Devon, Westwood House, near Droitwich, Worcestershire, and Wootton Lodge, Staffordshire, and the most striking example of continuity is perhaps the 13th century hunting lodge at Cranborne Manor, Dorset, remodelled as a hunting lodge for the Cecil Earl of Salisbury *c* 1603. These were in effect minor houses to which the lord might retire from the exigencies of life, like Thomas Cecil retiring to Wothorpe Hall, Northamptonshire, 'while his great house at Burleigh was a-sweeping'.

Park standings, on the other hand, were grandstands within easy reach of the house, often set on the perimeter of the garden. At times they may double up as banqueting houses, like the hunting tower at Chatsworth, Derbyshire, of the 1580s, or indeed, the banqueting house at Nonsuch. At Chatsworth the building is of three storeys with four domed corner towers to provide distant and all-round views through the large cross windows. A not dissimilar but smaller standing occurs at Ledstone in West Yorkshire, also square with four corner towers and an ogee lead roof. This building was crenellated in 1650–75. An early three-storey standing built in timber framing, open between the framework at the sides, is recorded at Chingford, Essex, believed to be of early 16th century date and later used by Elizabeth I. Another of *c* 1575, said to be built for Mary Queen of Scots, is located at Turret House, Sheffield, South Yorkshire. 'Lyme Cage' is a standing of 16th century date at Lyme Park, Cheshire, and a further example of *c* 1581 stood at Hardington in Somerset, doubling as a banqueting house. Also in the same county, Walton Castle, Walton-in-Gordano, was built 1615–20 for Lord Poulett. It is a tall octagonal structure with a stair tower, probably primarily a hunting stand, but could have also functioned as a banqueting house. Early in the 17th century, there is a curious gabled building at Althorp, Northamptonshire, of 1611 which originally had open arcading on the first floor from which it is said falconry was followed. The famous Swarkeston 'grandstand' near Derby, already discussed, now a Landmark Trust property, is probably more correctly described as a stand as much as it is a bowle-alley house.

Standings do not continue to be built as park buildings after about the middle of the 17th century, one of the latest being John Dutton's standing of *c* 1640 at Sherborne House, Gloucestershire, probably designed and built by John Webb in the fashionable style of the day with a portico and viewing balcony off the first floor chamber. Interestingly, it is recorded that the building was available for hire to any gentleman at 2*s* 6*d* per dog per day.

The orangery

The orangery could be said to be the one building without which no garden is complete, at least from the 1680s to the late 19th century. Citrus trees were first introduced to Britain around 1550, and admired at first more for their spectacular fruits as for their comestible qualities. The growing of and maintaining the plants over the winter brought great credit to the garden owner, and with the advent of the House of Orange, their cultivation took on an altogether patriotic flavour, the potent symbol of the new order. John Evelyn devotes Chapter V of his *Elysium Britannicum* of 1699 to the building and use of orangeries and Daniel Defoe describes, in passing, Beddingfield, Suffolk, how they were used to protect 'choice greens' and in particular oranges and lemons. Stephen Switzer describes the use to which Talman's 'greenhouse' of 1701 at Dyrham Park, Gloucestershire, was put (Switzer 1742). In practice, the orangery was the precursor of the house for greens, ie, for overwintering rare and delicate plants that botanists had been introducing in quantity to this country throughout the 17th century.

The requirements for an orangery are described first by J Commelin in Holland in 1676 (Commelin 1676). It required careful siting to take maximum benefit from winter sunshine, and needed protection from chilling winds. To achieve this, it should face south or south-west, and be protected either by a sheltered location within hedges, or even could adopt an exedra like form, as exemplified at Zorgvliet (Dixon Hunt 1988), to the design of 1668, or at Het Loo. A possible, but undocumented, example in the same form in Britain is the building now called the menagerie at Stowe, Buckinghamshire, although this identification is disputed. Generally, however, the orangery was built of brick, the heat-retaining properties of this material being well understood, with as near a fully glazed front as could be achieved, the arcaded form between giant order pilasters derived from Holland enjoying much popularity. The windows were at times provided with shutters for severe weather, and a heating system was laid at low level or below the floor from a boiler house, providing the first experience of central heating. The building was usually high, as much to admit the maximum light to the back of the building as to accommodate large trees, for the orange, lemon, myrtle, and bay trees were to be transported outside when conditions were equable and disposed formally on the terraces before the house. The famous Devonshire picture of orange trees set in tubs around the terraces of the amphitheatre at Chiswick, Middlesex, and the similar arrangement in KnyfFs view of Stanstead, Sussex, recall the symbolic late 17th century gardens of the Hesperides of Holland.

Evidence for orangeries dating from before the influence of the Dutch court on British nobility in

exile is not easy to locate. The detailed painting of *c* 1662 of the gardens at Llanerch, Denbighshire, show almost every other type of garden building except an orangery, which should be easy to identify. It seems one of the earliest is that designed for Somerset House, London, by de Caus and recorded in the works accounts of 1611–12. Another is recorded a little later in Winstanley's drawing of Wimbledon, built to replace a banqueting house around 1630–40, and Hampton Court, Herefordshire, had another at a similar date. Evelyn was impressed by his visit to the grounds of Ham House, Surrey, in 1678, when he speaks of orangeries in the plural.

Late 17th century orangeries occurred at Stevenstone, Devon, where it partnered a library in a formal symmetrical design possibly provided by William Talman, at Moor Park, Hertfordshire, where it doubled as a banqueting house, and a five bay one at Dunham Massey, Cheshire, illustrated in 1697. Longleat, Wiltshire, had an orangery by 1700, and Kip's Britannia illustrata of 1707 shows a number of single sided high buildings to the side of the main house as at Ham, Middlesex, Staunton Harold, Leicestershire, and Haigh, West Yorkshire. Such buildings survive as the Camellia House at Felbrigg, Norfolk, 1704–5, at Kensington Palace, London, 1702, designed by Wren, at Eltham House, Kent, *c* 1717–30 by John James with an elaborate open pedimented centrepiece, and continue in popularity through the whole of the 18th century. As always, within the constraints the environment required, the design could be modified to follow fashion, as the delightful Gothick paired-octagon orangery at the end of the canal at Frampton Court, Frampton-on-Severn, Gloucestershire, built after 1752, but the established form remained popular throughout the century and into the 19th century. Of many examples, the early 17th century nineteen-bay building at Dawley, near Hillingdon, Middlesex, the example at Bulstrode Park, Buckinghamshire, *c* 1720, and, later, the two-five-two bay orangery at Kings Weston, Somerset, and Adam's great orangery at Bowood, Wiltshire, no longer survive, but 18th century examples of the orangery still are to be found at Hanbury Hall, Worcestershire, post-1732, surviving from the earlier William and Mary layout, at Blickling Hall, Norfolk, *c* 1785, Wyatt's nine-bay one at Heveningham Hall, Suffolk, and Gibbs five-bay example at Brixworth Hall, Northamptonshire, re-erected at Kelmarsh, in the same county, are typical. An orangery partnered the banqueting house at Gibside, mentioned earlier. Significant in this century are the excellently proportioned orangery at Barton Seagrave, Northamptonshire, the curious at Faringdon, Oxfordshire, a regular building of three bays with pediment, but with a half-submerged figure of Major General Havelock in a pond. The apotheosis of the orangery must be the enormous orangery at Margam, Gwent, *c* 1780, extending to 327ft (100m) in length.

Apart from its use as an overwintering house, the orangery provided a pleasant place for recreation in comparative warmth, thus the orangery at Gubbins is recorded under the term summerhouse.

By the early 19th century orangeries are beginning to defer in popularity to the glasshouse, but fine examples of orangeries continued to be built at Tatton Park, Cheshire, by Lewis Wyatt (1818), Barnsley Park, Gloucestershire, by Nash 1807, and elsewhere.

The bathhouse

The Bathing Poole is first mentioned by Francis Bacon in 1625, without any enthusiasm, and does not appear in formal gardens until it found favour with the gentry of the early to mid 18th century, the earliest dating from the 1720s.

Exactly for what functions Lord Burlington's substantial Bagnio was built in 1717 at Chiswick is not clear, although the name suggests a bath house was included amongst its functions. It became known as the Cassina, and was finally removed in 1779. Bathing it seems, was a private affair, taken singly or in small select groups in secluded surroundings. The idea of swimming as exercise is not reflected in garden buildings until this century, for instance, Lutyens' buildings at Tyringham House, Buckinghamshire. The bath, or more correctly, the cold plunge, was generally a circular or octagonal pool, housed within an open loggia or portico, as at Winnstay, Cheshire, 1784, or at Rufford, Nottinghamshire, where it was designed by John Hallam in 1729 for Sir George Savile. A Gothic bath house was designed for Rosamund's Well at Blenheim, Oxfordshire, but never built. They may be provided with a small changing room, as Launcelot's bath house of *c* 1761 at Corsham Court, Wiltshire, but are often combined with other features such as a pavilion or gazebo which presumably could have served as such, like at Walton Hall, Stratford-upon-Avon, Warwickshire, where Sanderson Miller set, in 1749, the plunge in a grotto beneath a pavilion of chaste classical design. There cannot have been many times when bathing here was a luxury. Adam designed and built a bath house for Kedleston, Derbyshire, after 1761, and a 'Roman' bath survives from the 18th century at Tyringham.

Greater attention to comfort is indicated by the early 19th century by the bath house at Ozleworth Court, Gloucestershire, where the domed pool has what amounts to a louver for ventilation, and more to the point, a fireplace in the small changing room.

The grotto

The grotto is a roofed construction that strictly may be defined as a garden building imitative of the

natural cave. It was remarkably popular from the earliest period of garden design and remained so in Britain throughout the 17th and 18th centuries, and has been discussed by various writers (Jones 1953; Miller 1982). Why gentlemen were prepared to spend so much on creating these damp and difficult to maintain structures requires more explanation than ascribing it simply to fashion, and a more psychological reason inherent in human nature must play a part. It is true that classical antecedents were sought, and found, in Pliny, in Tiberius' grotto at Sperlonga, Italy, and in the cryptoporticus of great buildings. These were reinforced by mystical cult places later discovered, such as the Asklepieum in lower Pergamum, Asia Minor. The appeal to otherwise rational beings like Evelyn and Pope must lie to some extent in the opportunity it can so clearly offer, in an increasingly secular age, such as that of the late 17th and 18th centuries, to commune with nature, and more specifically with Mother Earth, the source of all fecundity. Indeed it can be physically entered, as a womb, and the visitor be brought up face to face with primaeval order, water, natural materials, shells, and tufa — the *pierre antidiluvienne.* Indeed, in the more elaborate, the visit may take the form of a transition, a death and rebirth experience, emerging in quite another place from that where one entered. These transitional experience grottos were already being promoted by John Evelyn in his *Elysium Britannicum* of 1699. He designed one in 1660 for Albury, near Guildford, Surrey, of which a drawing survives showing it in an unfinished state, and for Pope at Twickenham, Middlesex, in 1716. Even today, the experience of such surviving grottos as Wilbury, Wiltshire, confirms that this symbolism works and one emerges to a new landscape with no recognisable features. Evelyn was aware of the classical precedents, without which such an innovation would have seemed at the time positively eccentric, and had, more to the point, visited the famous grotto of Porsolipo, near Naples. To be successful, then, grottos must produce a slight frisson of horror. By the 18th century, and under the guiding spirit of Alexander Pope, they were considered to be the melancholy abodes for the genius of the place, the spirit that demands due reverence, but in whose presence other aspects of the human soul could be nourished. Pope placed figures of virginal purity, and St James of Compostela, in chambers off his famous grotto at Twickenham, in the designing of which, in *c* 1725, he took the opportunity to explore painterly techniques. This grotto was to become what we would now call a major tourist attraction of the time, and no doubt spawned ambitions in many another mind. Like so many, it had close associations with water, contained in a perpetual rill, and Pope carried out further improvements in 1739–40, augmenting it with more natural wonders, so that it should become more closely to resemble that aspiration of the Augustan age; that nature is discovered in her perfection by means of art.

Through such aspirations the grotto became associated with creative eccentricity. Queen Caroline even had one built to house her literary progeny, Stephen Duck, the thresher poet, with his library, and John Gay, friend of Pope and the Countess of Suffolk, wrote, so it is claimed, some of his drama in a grotto at Amesbury House, Wiltshire, under the patronage of the Duchess of Queensbury The Countess of Suffolk had two grottos made at Marble Hill, Twickenham, Middlesex, probably after her retirement from court in 1735, shortly after Gay's death.

This association with single individuals bent on study probably led to the development, in the 18th century, of the hermitage, the most potent symbol of the romantic garden, and which gave it a particular poignancy. Lord Orrery gives a description of his hermitage near Dublin, Eire, in 1748. The building should look as though the hermit himself had made it, thus it could be constructed with tree roots and tufa, or hollowed out of rock. In them, a tableau might be set up, the rustic table with an open book, like the open books laid in arbours around the wilderness at Dyrham. For more realism a hermit might be engaged to occupy the chamber, to, as described at Hawkstone, Shropshire, be in a sitting posture with an hourglass, skull and spectacles lying on his open book. The hermit was required, in the words of Pitt, to have 'no speech, no company, no comforts, no ladies and no liquour', and was to present an unkempt appearance with long hair. As might be expected the history of such arrangements indicates that they were far from successful. Hamilton's hermit was engaged for seven years, but only survived a fortnight before being found drunk in a local hostelry, and sacked. It is said the hermit at Brocklesby, Humberside actually stayed (Jones 1953; 1974). The hermitages at Painshill, Surrey, Burley on the Hill, Leicestershire, and Nuneham Courtney, near Oxford, have gone, but Hawkestone still survives in a stripped out condition. The most complete to survive must be the hermitage at Badminton, Gloucestershire, a veritable tree house of some amplitude, designed by Thomas Wright in the mid 18th century.

The earliest recorded grottos in Britain are, again, those appearing in the second half of the 16th century. It is possible that the spring in Diana's grove at Nonsuch was by 1579 in the form of a simple grotto, but the structure beneath a summerhouse-pavilion at Wollaton, Nottinghamshire, from which water issued, was what would later be called a cascade house, or a water grotto. Salomon de Caus, the master of water engineering introduced to England by Anne of Denmark, built a grotto in a mount, symbolic of Mount Parnassus, after 1609, after the manner of the most illustrious of such designs, that in the gardens of Pratolino, near Florence (Strong 1979,

90). The gardens of Pratolino, developed between 1569 and 1589 were indeed to provide the prototype of not only the mount grotto, but both the triple arch fronted grotto, and the cascade house or water grotto which were later taken up with such enthusiasm in western European gardens. In his book *Les Raisons des Forces Mouvantes* de Caus illustrates a design for Problesme XI, being a cascade house with a grotto, and another is illustrated on a design prepared for Hatfield House, 1607–12. The water grotto continues to make its appearance at water sources into the 18th century, as William Kent's work at Chiswick, Stowe and Rousham. The triple arch front theme appears again in a water grotto at Greenwich Palace, and, later, facing the Earl of Pembroke's house at Wilton. Another, an altered rusticated grotto facade in the manner of a temple, still survives at Wilton.

At Danvers House, Chelsea, London, Sir John Danvers created a banqueting house above a grotto in 1622. Unfortunately nothing substantial survives at his other important Italianate garden at West Lavington, Wiltshire.

Perhaps the most extraordinary grotto was Thomas Bushell's water grotto at Enstone, Oxfordshire. Here, de Caus's mechanical devices with water were taken up by this robust but eccentric companion of Francis Bacon from 1628, creating The Enstone Marvels, famous in their day. Here, above the water grotto, was a three-roomed banqueting house in what must be the earliest gothic revival style. Bushell took to a hermitical, even eremitical, life in the banqueting house until called forth to aid his king in the forthcoming troubles and civil war.

Other 18th century grottos survive at Chastleton House, Oxfordshire, *c* 1760, at Stourhead, Wiltshire, where Henry Hoare's grotto opens to the lake and contains the reclining personification of the River Tiber, a favourite classical theme revived by de Caus. The grotto at Painshill Park was built on a constructed island in 1744 by the Lane family of Tisbury, Wiltshire, renowned for their grotto designs, for the Hon Charles Hamilton. It consisted of a chamber decorated with stalactites, with access by narrow underground passages or by boat from the lake. This has recently been excavated and found to be built of brick, faced with tufa, and the stalactites built up on pendant laths with satin spar. The Lanes built another grotto at Oatlands, near Weybridge, Surrey, for the Duke of Newcastle *c* 1747, also on a lakeside, with rooms for dining and gaming, and later, at Wardour Old Castle. Oatlands, which was deliberately blown up in 1948 was one of the most renowned of its day. The combination of other uses, as we have seen in other garden buildings, was not unusual. At St Giles' House, Wimborne, the Earl of Shaftesbury would often invite Handel to his grotto to take tea.

Other significant grottos were built at Claremont, Surrey; Bowood, Bowden Park, and Fonthill, all in Wiltshire, and more naturalistic grottos were created at Pelham, Surrey, called by Switzer 'the noblest (garden) of any in Europe' of its time (1730), and later at Shenstone's garden at, the Leasowes, Staffordshire.

Grottos continued to be built in places into the 19th century, but the great days were over. Wotton has one built early in the century and Charborough, Dorset, still retains a grotto of *c* 1840 amongst its collection of anachronistic garden structures.

The temple

Whether there were Tudor precedents for including temples in gardens is not, clear. The Mannerist Grove of Diana at Nonsuch had, according to one commentator, Thomas Platter, a vaulted temple, but this may have been no more than a timber grotto associated with the tableau of Diana and Actaeon, although the accounts record it rather improbably as a pinnacled banqueting house (Dent 1970, 120). Hopefully, future excavation might clarify its form. Whatever it was like, it related more to early French and Italian gardens than to the temples of 18th century landscaping.

The temple as a garden building is essentially an 18th century painterly conceit, originating with the concepts of such writers as the Frenchman, Roger de Piles (de Piles 1708). In writing about landscapes, he saw them as Heroic, or Pastoral. For the former, classical temples, pyramids, and altars are the appropriate furnishings, while for the latter, either no buildings at all, or gothic ruins, the only appropriate style. In his opinion, the purpose of portraying buildings is 'to raise the imagination by the use they are thought to be designed for.' Ancient towers, for instance, would evoke in the imagination the abodes of faeries. Here significantly, we see a move towards the more naturalistic and imaginative use of landscape, a move foreshadowed by Bacon, but which, like the gothic, was slow to take effect. It needed, in fact, the journalism of Addison, and the theory and example of Pope, to bring it to fruition.

De Piles' simple categories were amplified by Joseph Addison into four categories for gardens and their buildings, the Homeric, or sublime, — being that which is great, the Ovidian, or magical, — that which is strange, the Pindaric, or untamed, — that which is natural, — and finally, the Virgilian — that which is beautiful. It was to be these last two modes that caught the imagination of garden planners early in the 18th century, influenced by the classical world portrayed by such as Claude Gélee and Nicholas Poussin. Collectors of these works, Sir George Beaumont and his ilk, not only promoted work of artists working in the same vein, like Richard Wilson, but were themselves the patrons of garden designers.

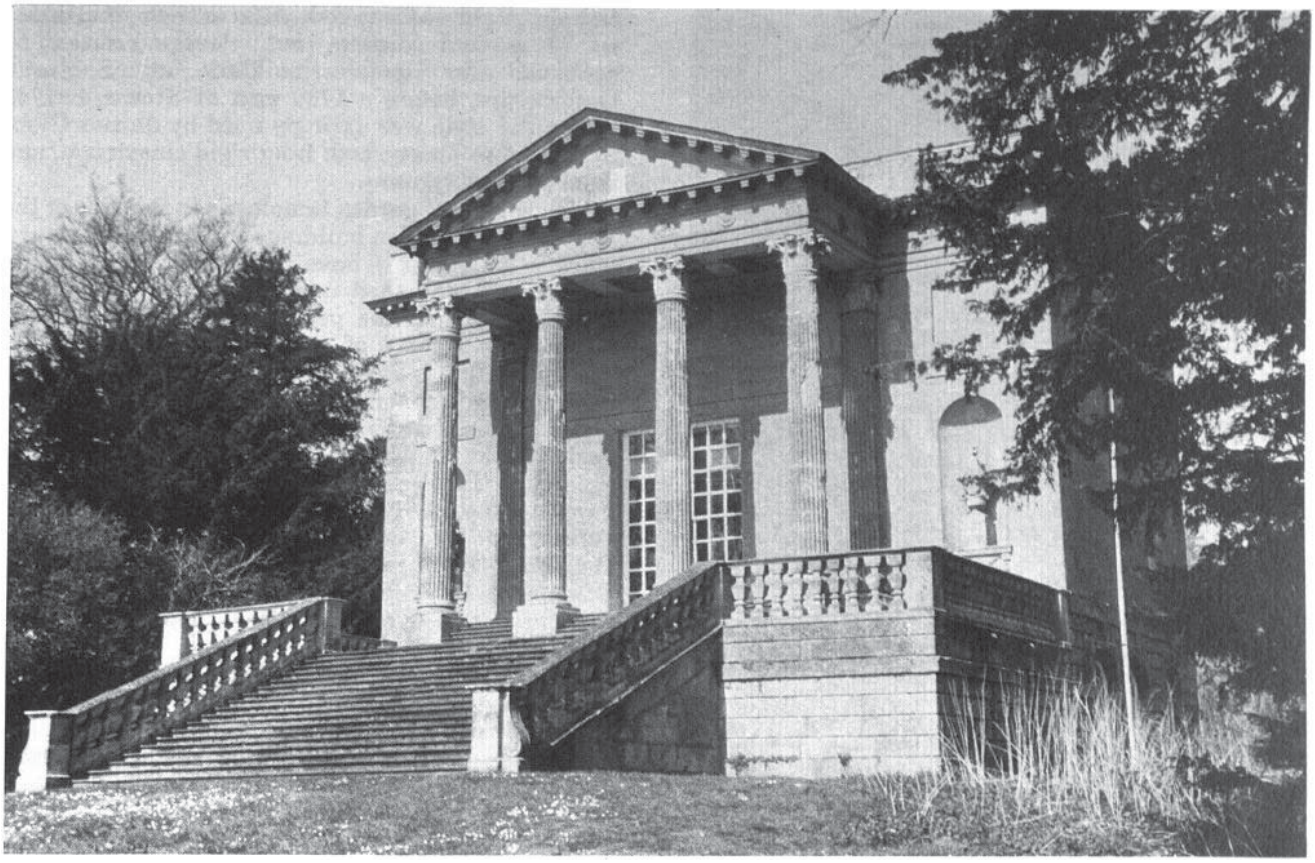

Figure 11.7 The Lady's Temple at Stowe, probably by Gibbs and designed before 1744 at the same time he was building the curious Gothic Temple of Liberty

The idealistic landscapes of Tuscany portrayed by these artists usually included a glimpse of classical buildings appearing in the boscage, a round or octagonal tower not infrequently based on that best known of ancient Roman monuments, the Temple of the Sibyl at Tivoli. Scores of Sibyl look-alikes were to appear in aspiring gardens across Europe. That they provided some shelter was by now of secondary importance, for they gave the garden authority and brought it closer to the imagined classical ideal.

Amongst the earliest temples is the one shown at the end of the cross walk at Hampton Court, before 1699, and the Roman Doric temple of Flora beside the bowling green at Chatsworth, 1693–5, later resited. In 1719, Lord Burlington began the erection, in the light of much public interest, of the Ionic temple at Chiswick, a circular structure facing on to the earthen amphitheatre whose order was based on the temple of Fortuna Virilis, Rome. The publication of this by Kent in 1727 encouraged followers, such as Garendon, Leicestershire. As at Chiswick, temples were used to terminate vistas, and associated with lakes, such as at Gubbins, the temple of Hercules at Stourhead, the temple of Flora at West Wycombe, Buckinghamshire, or at Gopsall Hall, Leicestershire. They may relate axially to canals, as at Shotover, Oxfordshire, or, alternatively, may be raised on natural or artificial hills like Hawksmoor's great mausoleum at Castle Howard, North Yorkshire, to provide distant views. The earliest portrayal of a rotunda is probably that in a lunette painting within the entrance chamber of the Little Castle at Bolsover Castle, *c* 1620–30. They were among the most versatile and popular of garden buildings, and in the form of the non-directional rotunda, were useful pivotal points within the garden layout, and employed as such at, for examples, Stowe; Belcombe, near Bradford on Avon, Wiltshire; Halswell House, Somerset; Beachborough, Kent; Petworth, Sussex; and Studley Royal, North Yorkshire.

Most eminent architects of the 18th century enjoyed the opportunity to design a garden temple. Examples by the hands of Vanbrugh, Archer, Kent, Adam, Brettingham, Paine, the Inwoods, and others of lesser fame but no less competence, may be quoted (Fig 11.7). The temple offered the opportunity of achieving classical perfection untrammelled by practical requirements, and may be seen as a less permanent structure than was normally commissioned. Temples could, and were, made of wood, plaster, and cloth at times, and may be moved around when the fashion changed, the

Figure 11.8 The Greek Doric Temple at Hagley, Worcestershire, built by 'Athenian' Stuart in 1754. The earliest essay in the Greek revival style

planting took form, or simply the spirit moved the garden-owner. Temples may be dedicated to the ancient gods, particularly Mercury, Bacchus, and Venus, or to current concepts, amongst them friendship, piety, fame, health; and virtue (ancient and modern), and liberty. In time, temples were built to commemorate significant events, like George III's recovery from illness in 1789, marked by temples at Blenheim and Audley End, Essex, and could even be built as a political joke, such as the Doric temple of 1765 called Gatton Town Hall, Surrey, a commentary on the rotten boroughs.

In style, the Tuscan or Roman Doric order were generally preferred for their sobriety, but Ionic occurs not infrequently, and occasionally the Corinthian, as at Gubbins. The Greek revival makes its first significant appearance in Britain with Stuart's temple at Hagley, Worcestershire, of 1745 (Fig 11.8), later at 1765 at Clumber Park, Nottinghamshire, and as late as 1838 at Clandon, Surrey; and at Shugborough, Staffordshire, a replica of the Athenian Temple of the Winds was built originally as a banqueting house in 1770 and called Demosthenes' Lanthorn. A Gothic style temple might seem to today's archaeological sense to be a contradiction, but clearly caused no problems for temple builders at Shotover, Oxfordshire, before *c* 1730 and at Stowe, *c* 1741 where the style was daringly used by James Gibbs to symbolise liberty, both from rigid classicism, and from political tyranny.

This review of garden temples is indicative of the popularity of garden buildings in the 18th century, when buildings have become essentially ornamental, and their use subservient. The really great gardens of the period were well furnished with every variety of structure the imagination could produce. Viscount Cobham's gardens at Stowe, Buckinghamshire, had, including fountains and columns, over forty different structures, to the great dislike of Walpole, and today it remains the landscape best endowed with garden buildings. From 1750 to 1850 those gardens deemed essential visiting for the connoisseur were Stowe, Castle Howard, Blenheim, Stourhead, and Mount Edgcumbe, to which we may add today Painshill, Rousham, and Cirencester Park, Gloucestershire. Kew, Middlesex, and Shugborough were said to have acquired, by the late 18th century, such a miscellany of buildings as to have lost their coherence. Other gardens less well known but rewarding in garden buildings are Badminton; Nuneham Courtney, Oxfordshire; Halswell House, near Bridgewater, Somerset; Hackfall Woods, North Yorkshire; Castle Hill, Devon; and Charborough, Dorset, and no doubt had they survived we should also add Gubbins and Moor Park.

Notes

1 So called on the monument to Sir Baptist Hickes in the parish church.
2 Suggested by Mr Michael Sutherill.

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12 Garden archaeology in Wales

Stephen Briggs

Introduction

Garden archaeology and garden history seem to have come late to Wales. When Christopher Taylor recently wrote on the subject, it was hardly possible to cite published examples of Cambrian historic garden excavations or surveys comparable to those long known in midland and eastern England (Taylor 1983). Although over the past half century there have been occasional insights into the presence of early gardens around historically or architecturally important houses (for example in RCAHM(W) 1937, cliv), clearer glimpses of them are rare. This near-absence from published sources poses the question 'Are there historic gardens worth studying or conserving in Wales?'

The following brief survey attempts to provide an answer. It draws on observations and study material from throughout the Principality, supplemented by a map search and some field survey in Breconshire and Radnorshire. Whilst an effort has been made to cover as many problems as possible both chronologically and upon the ground, it is obviously necessary to abbreviate or completely omit several important themes. These include, *inter alia,* Roman, castle, municipal, and town house gardens. Furthermore, it would be difficult to justify full discussion of surviving parkland or picturesque landscapes within the scope of this essay.

As it is clear that few proper archaeological surveys or excavations have been undertaken in Wales, so the objective of this essay must be to focus upon those outstanding problems of archaeological study or preservation which at the time of writing appear to demand greatest immediate attention.

Prehistoric and Roman gardens

Knowledge as to the nature and extent of prehistoric settlement is expanding rapidly. Recent investigations of agriculturally unimproved upland tracts have begun to yield early field systems, huts and small enclosures, the existence of which had either previously gone unnoticed, or its nature was misunderstood. Over a century ago, Elias Owen suggested that many small settlement enclosures had originally functioned as domestic gardens (Briggs 1985, 293–5; Owen 1866, 221–3). In his only reference to a Welsh site, Taylor drew attention to the probable existence of gardens peripheral to hillforts, citing the specific example of Tre'r Ceiri (Taylor 1983, 32). Terraced earthworks of comparable function were noted in the thirties lying to the east of the Breiddin (O'Neill 1937, 112–13); others, now lost, must have existed elsewhere.

Roman gardens would have been located within and outside towns, were most likely attached to all villas, and must have comprised a part of the Romano-British homesteads such as Whitton, Glamorgan, and Cefn Graeanog, Caernarvon. Pollen analytical investigation at such sites as these will certainly help clarify our view of past practice in domestic crop husbandry.

Current knowledge of post-Roman, Dark Age gardening in Wales is negligible and the degree of reliability to be placed upon the Laws of Hywel Dda in their study (cf Butler 1987) may be slight.

Medieval gardens

Medieval settlements were usually self-sufficient in food-stuffs and therefore must have possessed substantial gardens (Harvey 1984). Sadly for the archaeologist, many of these are likely to have been enclosed by fences or hedges which left little trace; others certainly fell prey to estate improvement and may now lie beneath much later horticultural or parkland developments. The classic fortifications of Edwardian north Wales, Caernarvon and Conway, had their own gardens (Harvey 1981, 84), and although some place-name and map evidence survives, little is now known of their more detailed structures and functions; Manorbier castle had orchards by 1188 *(ibid,* 10).

Monastic and associated gardens

Over their several centuries of importance as major economic centres, gardens lay at the productive hubs of the monasteries *(ibid).* Whilst information as to the nature of these developments within Welsh Cistercian houses is generally poor (for example, Williams 1965 *passim;* 1990), Llanthony, at least, had 12 acres *(c* 5ha) of orchard (Roberts 1957, 23). Giraldus Cambrensis claimed St David's to have possessed vines, pleasure gardens, and orchards late in the 12th century (Harvey 1981, 10) and Llandaff cathedral was equipped with a furnace in the garden wall by 1537 *(ibid* 1981, 45). What became of these and the many other important domestic offices of the monasteries is now a matter for conjecture, but immediate, 16th

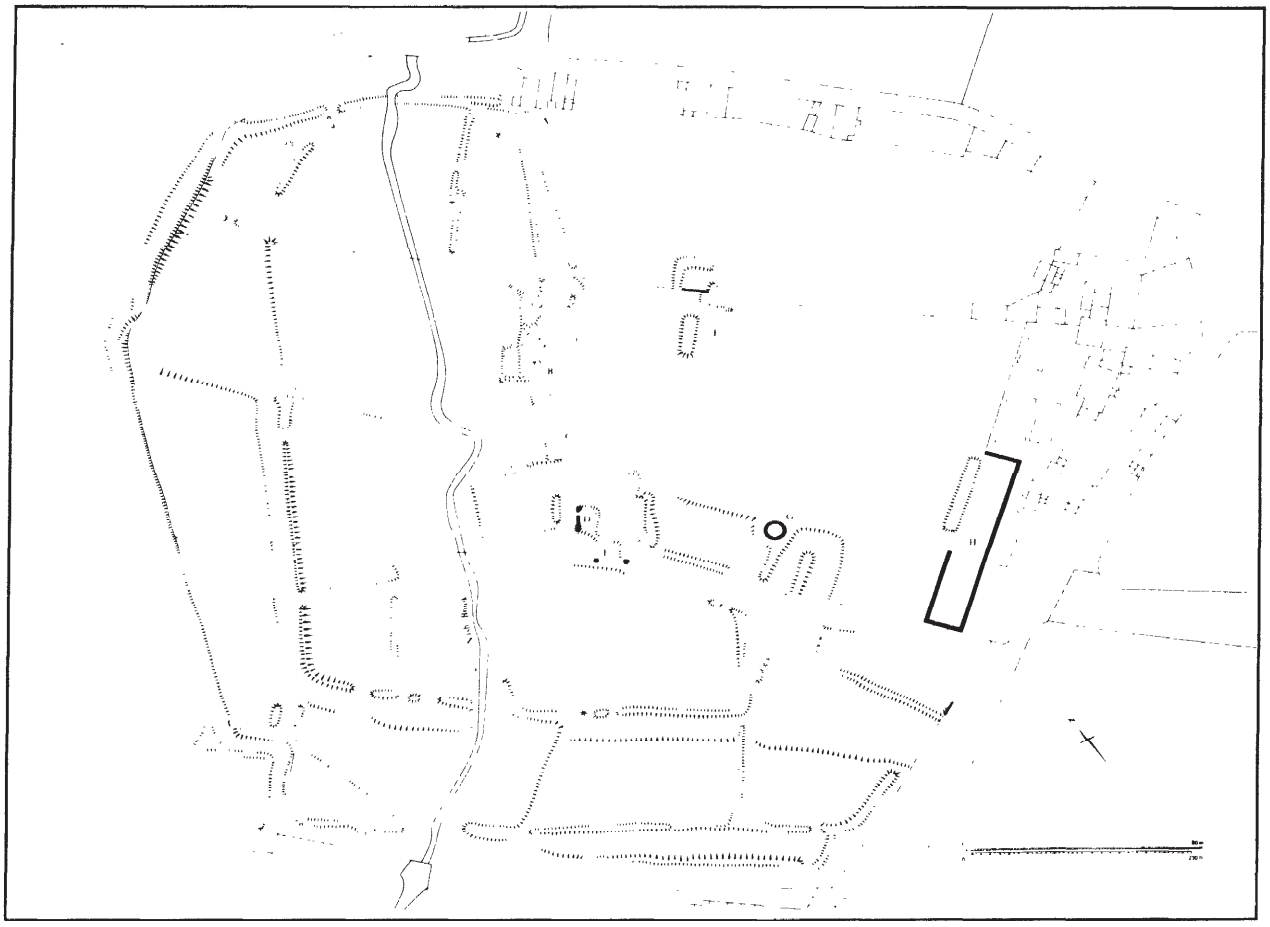

Figure 12.1 Monknash Grange, Glamorgan (RCAHM(W) 1984, fig 144)

century redevelopment must be held responsible for the disappearance of much more than mere fugitive walls and enclosures. However, in the absence of surviving monastery gardens, some extant monastic grange sites probably offer reasonable horticultural replicas of the houses to which they once belonged, and in Wales both certain and possible granges are known where fieldwork has brought to light enclosures which seem appropriate to a garden function.

The best preserved of these is Monknash, which lies close to the coast of Glamorgan (OS SS 9194 7057). Its enclosure of over 20 acres *(c* 8ha), comprises a basically concentric segmental arrangement of robbed walls, at least on the north and east where banks survive. It is watered by the Nash Brook, possibly includes a fishpond (E Whittle, pers comm) and preserves both the upstanding walls of a 'grange' building and a substantial dovecote base (RCAHM(W) 1984, 262–5, fig 144; Fig 12.1).

In 1970–71 excavations and fieldwork at Merthyrgeryn, a grange of Tintern, brought to light walled enclosures and terracing on the hillside to the north-east of Upper Grange Farm, Gwent, and though not at the time determined to have been so (Parkes and Webster 1974, 146–8 and fig 1), these might reasonably be thought of as garden features. Obviously the status of other abandoned granges might usefully be investigated bearing in mind their former horticultural potential. Hygga Farm, a further monastic grange in Gwent, also preserves features including a dovecote, suggesting the possible former existence of a garden (E Whittle, pers comm).

The exact site of Strata Florida Abbey's Grange of Cwm Ystwyth has long eluded historians. However, in the early 1980s the writer's attention was drawn by Mr Jack Morgan, forester, to an upstanding earthwork at Bwlch yr Oerfa, about mid-way between the Devil's Bridge and Hafod, Cardiganshire (SN 7637 7498; Fig 12.2). The

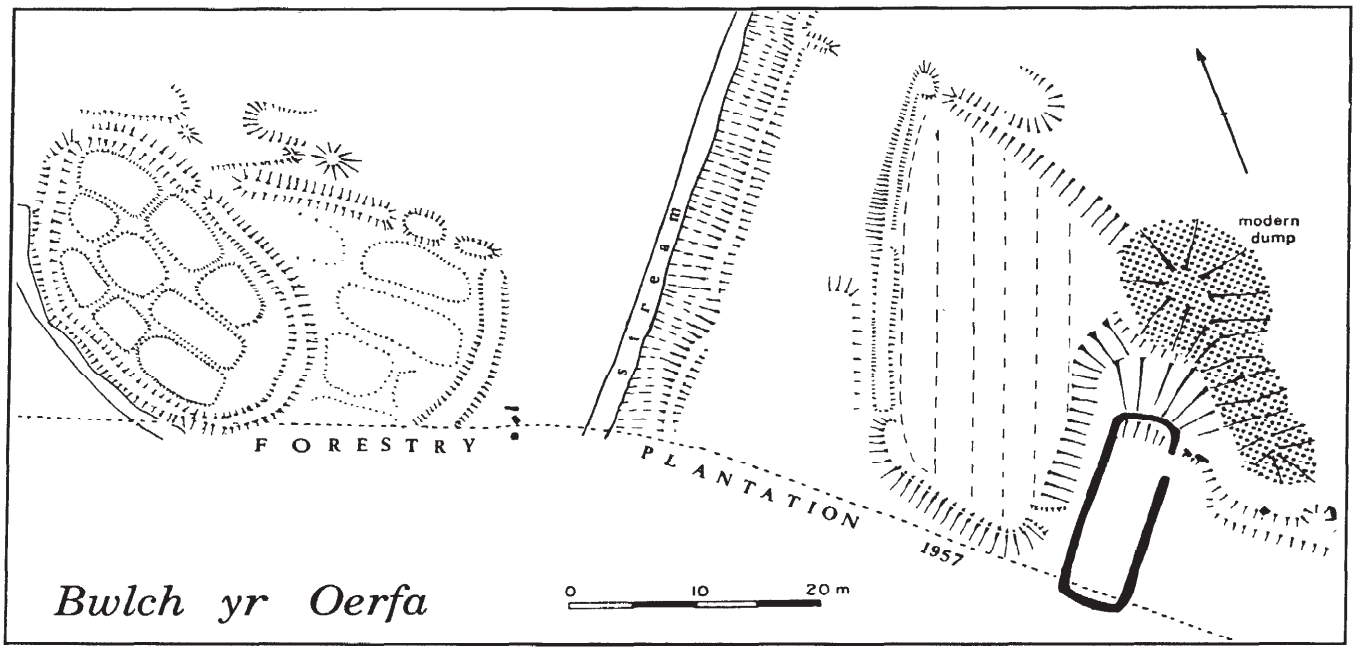

Figure 12.2 Bwlch yr Oerfa, Cardiganshire

pattern of farming and settlement within the boundaries of individual monastic granges is at present imperfectly understood, and its clearer definition at Cwm Ystwyth is likely to emerge only through a combination of more intensive fieldwork with documentary research. From the complexity of this particular plan and the extensive nature of other settlement indications in the locality, it seems reasonable to advance Bwlch yr Oerfa either as the site of the lost grange itself, or as that of one of its major holdings.

Situated in a sheltered valley, and now partly planted with softwoods, its most interesting feature for immediate purposes, is a small enclosure about 20m in diameter housing nine upstanding plant beds. This apparently overlies a more elongated enclosure with a similar bedding layout. On the opposite, eastern, side of the stream is an enclosure still marked with irregular rig and furrow (possibly intended for rye or root-crop production), adjacent to the footings of a substantial building, presumably intended for harvest storage.

Moated and manorial gardens

Long rigs similar to those at Bwlch yr Oerfa lie within the enclosure around Horseland Moat, Glamorgan (RCAHM(W) 1981, fig 44; SO 0405 7239; Fig 12.3), a probably 15th century enclosure and the presumed predecessor to the fine Renaissance garden at Llantrithyd (see below). At the time of investigation these beds were considered to have been originally 'intended for a crop which demanded careful drainage' *(ibid,* 99), a conclusion which is easier to support if we accept the likelihood that this had been a garden. Similar beds can be clearly distinguished upon an RAF aerial photograph (no 755. 203 1053) at Gellibevan, Carmarthenshire (SN 708 198). They skirt a river gorge within an embanked enclosure upon bleak, uninhabited moorland, and are not marked upon the first edition of the 25–inch OS map, so are presumably of some antiquity.

Proper study of the several known garden rig-types is currently hampered by a lack of survey, excavation, and historical research. Interestingly, however, in 1985, survey and excavations in advance of the threatened destruction of an enigmatic scheduled earthwork enclosure at Pengawse, Llanddewi Velfrey, Pembrokeshire (SN 176 168), revealed beds of several different shapes, from long, thin, rigs, to square features. The upper parts of the sections, presumably those which had been cultivated, produced pottery suggesting a 17th–early 18th century dating (James and Marshall 1985 and pers comm). Light was also usefully shed upon constructional details of the cultivation beds in this investigation. Although at this site their currency was clearly post-medieval, it seems likely that the type of enclosure, its layout of beds and the gardening technique employed in it, probably owed a great deal to medieval traditions, surviving traces of which are now generally too fugitive to be capable of recognition.

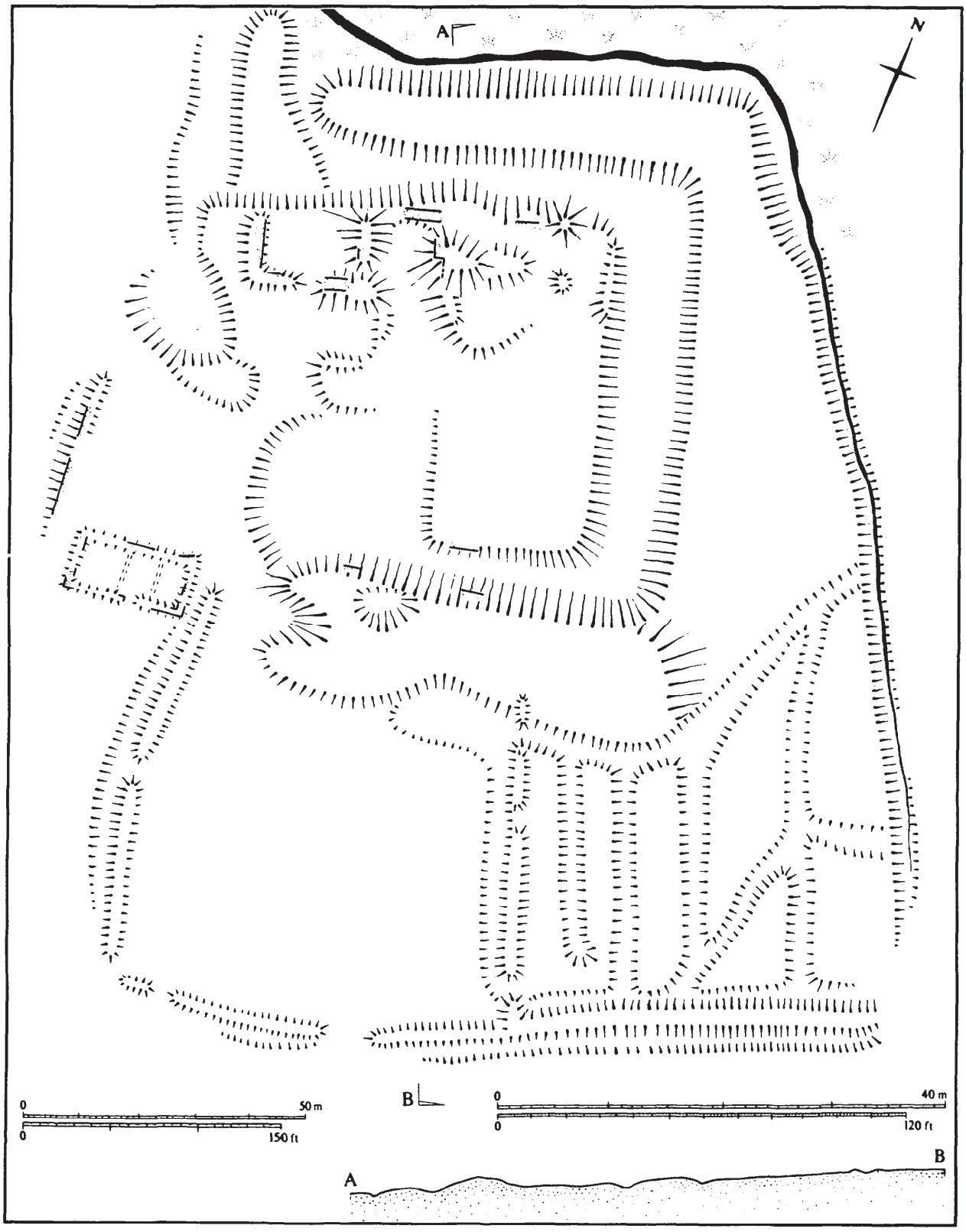

Figure 12.3 Horseland Moat, Glamorgan (RCAHM(W) 1984, fig 44)

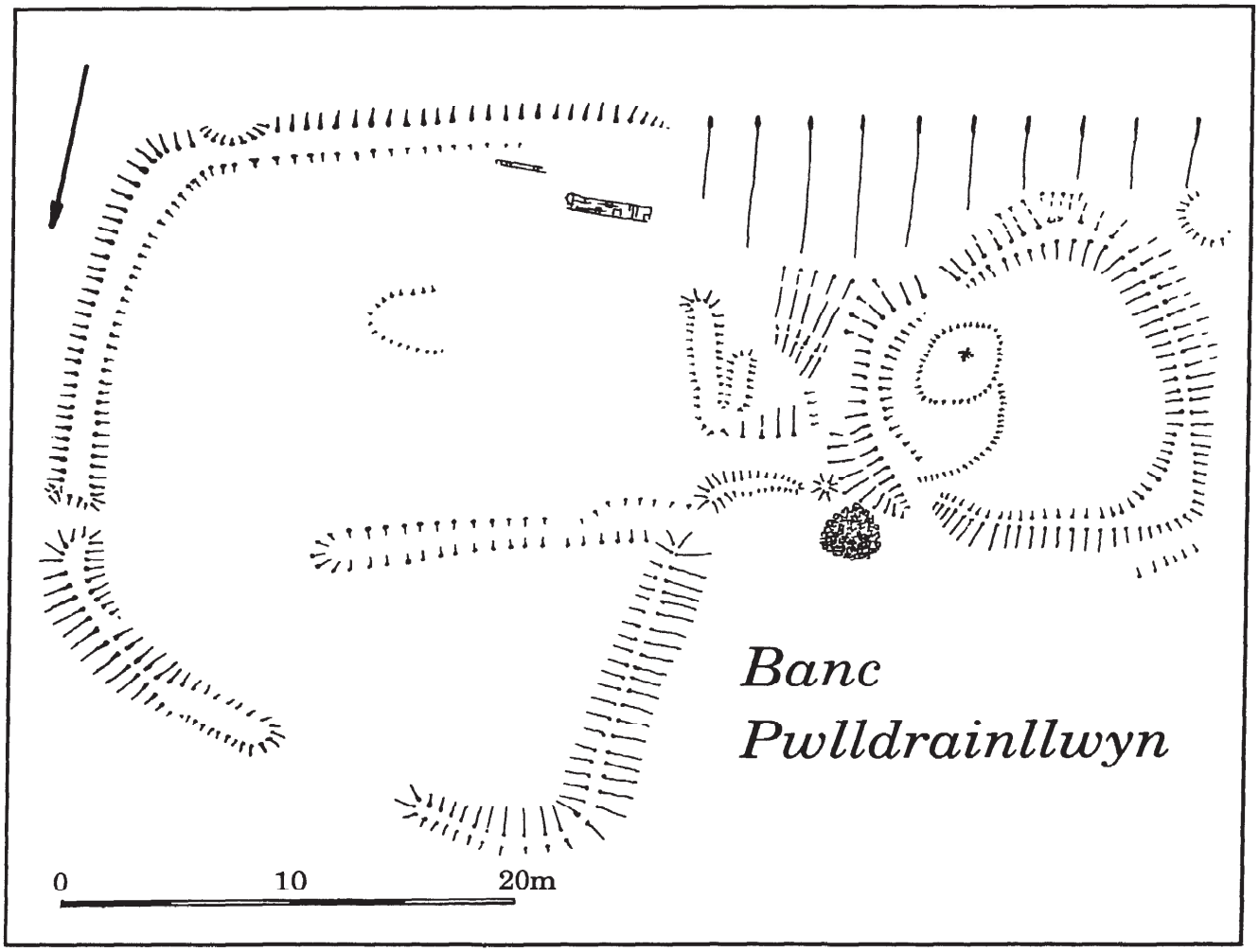

Figure 12.4 Banc Pwlldrainllwyn, Cardiganshire

Preliminary research and fieldwork in Glamorgan (and Breconshire, see below) suggests that in some cases it may be possible to pinpoint the sites of early manorial gardens, even when most evidence for medieval settlement has gone. Medieval dovecotes are known at the Van in Monmouthshire (RCAHM(W) 1981, 203), at Cadoxton (RCAHM(W) 1984, 378–9, fig 202) and Cosmeston in Glamorgan. The Cosmeston site is identified with a 'certain garden of the lord with a columbarium in the garden' of 1433–44 (RCAHM(W) 1984, 378–90). As it seems likely that medieval dovecotes signal the sites of contemporary gardens, so all three of these Glamorgan sites may have accompanied manorial garden enclosures.

Several dovecotes have also been recorded on Anglesey (RCAHM(W) 1937, cliv). These too might signal the more extensive sites of early garden enclosures, and it is noteworthy that at the time of investigating the decaying medieval house Bodychen, remains of contemporary garden enclosure walls were still to be seen (RCAHM(W) 1937, 20).

Medieval and post-medieval farm gardens

Whereas the typology of medieval and later vernacular house and farm structures has been well studied, as yet their environs are very poorly documented or understood. Certainly, before industrialisation and the convenience of rail transport, virtually all must have possessed their own fruit and vegetable plots. It has been found possible, so far, to arbritarily define three forms of small-house garden in Wales.

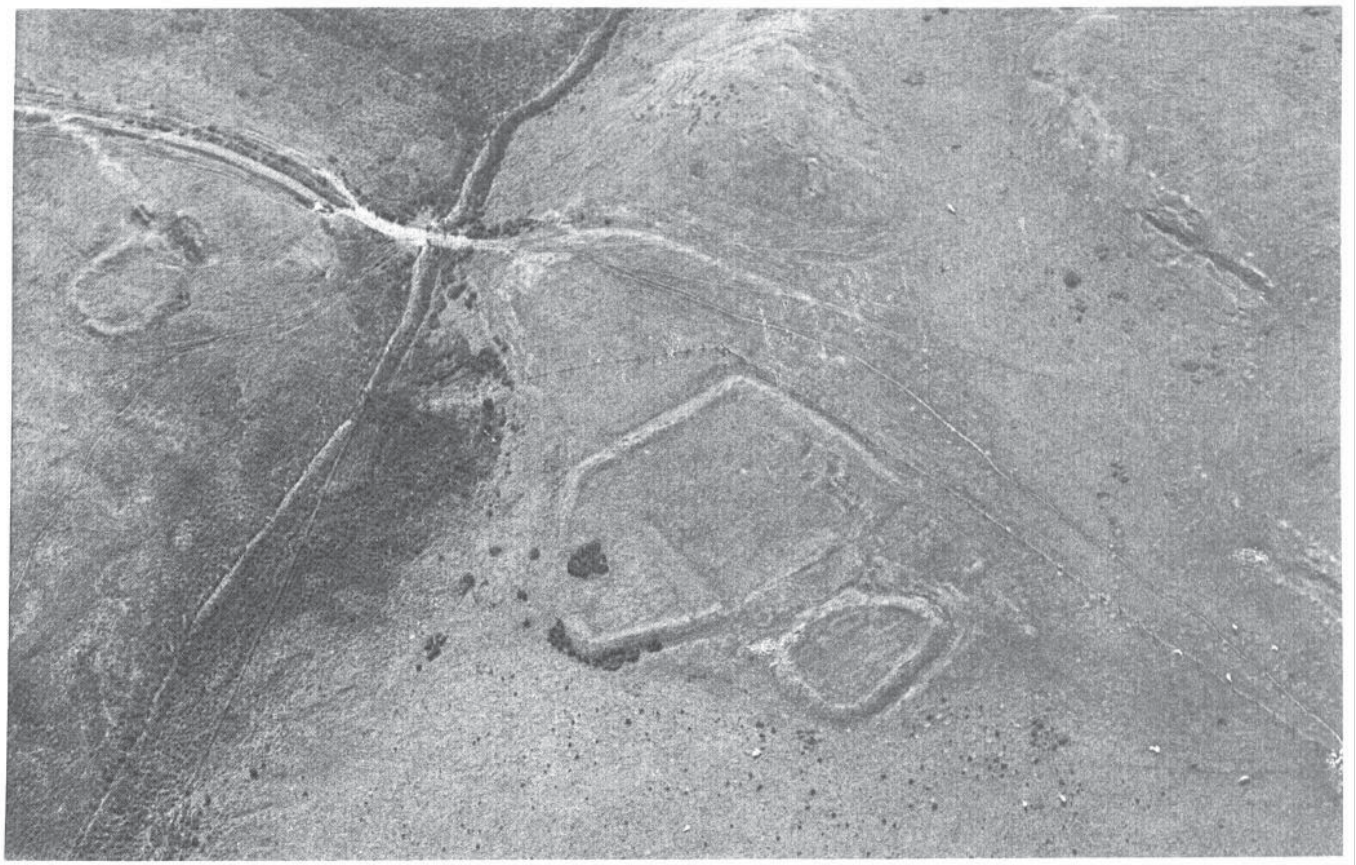

Figure 12.5 Banc Pwlldrainllwyn, aerial photograph (Photo: T James, Dyfed Archaeological Trust)

Upland cottage enclosures

A handful of upstanding domestic earthwork enclosures noted during recent fieldwork in Cardiganshire, and others depicted upon 18th century estate maps, are of considerable interest to the study of vernacular domestic gardens. Although none is dated, it is possible that the forms so far recognised began in medieval times.

Estate plans show these sites mainly in the Plinlimon area (Vaughan 1966). Few have been closely examined and systematic fieldwork is needed to ascertain their present nature and extent.

One site well to the south of Plinlimon was drawn to the writer's attention in 1978 by Mr Julian Bird at Llangwyryfon on Banc Pwlldrainllwyn, Ceredigion (SN 6182 6955). One of two in the vicinity, this is a lop-sided spectacle-shaped enclosure in which the eye-pieces were separated by a slight platform with hints of stone footings, possibly the site of a long house (Fig 12.4; 12.5). About 300m to the south lies Pant yr Ala (SN 6188 6916), presumably 19th century in its present form, one of up to a dozen deserted farmsteads on this part of Mynydd Bach. It preserves several sheltered garden plots, in one of which are two subrectangular earthworks only a couple of metres along their longer axes, about a metre wide and up to half a metre high with deep central depressions. These appear to have been early hotbeds, at the bases of which muck and earth would have been mixed and cold-sensitive plants cultivated centrally.

At the derelict upland peasant steading Crûg (SN 673 535) near Llanddewi Brefi stands an embanked garden housing three, possibly four, deep depressions in parallel. These appear to have been intended as plant shelters similar to those at Pant yr Ala. At Crûg, besides banks and low walls, plots are divided by lines of trees, the maturity of which suggests abandonment in the earlier part of the present century, giving a longevity for raised plant beds possibly from as early as medieval times (to judge from Bwlch yr Oerfa) to as late as the First World War.

Hill terracing

Simple terracing, a well-known feature of chalk and limestone soils, was a common solution for providing hillside cultivation from prehistoric times. In Wales hillslope terracing has been recognised around several farms. These include: the site of the important 16th century Ty Faenor, Radnorshire (SO 0715 7106), where the terraces

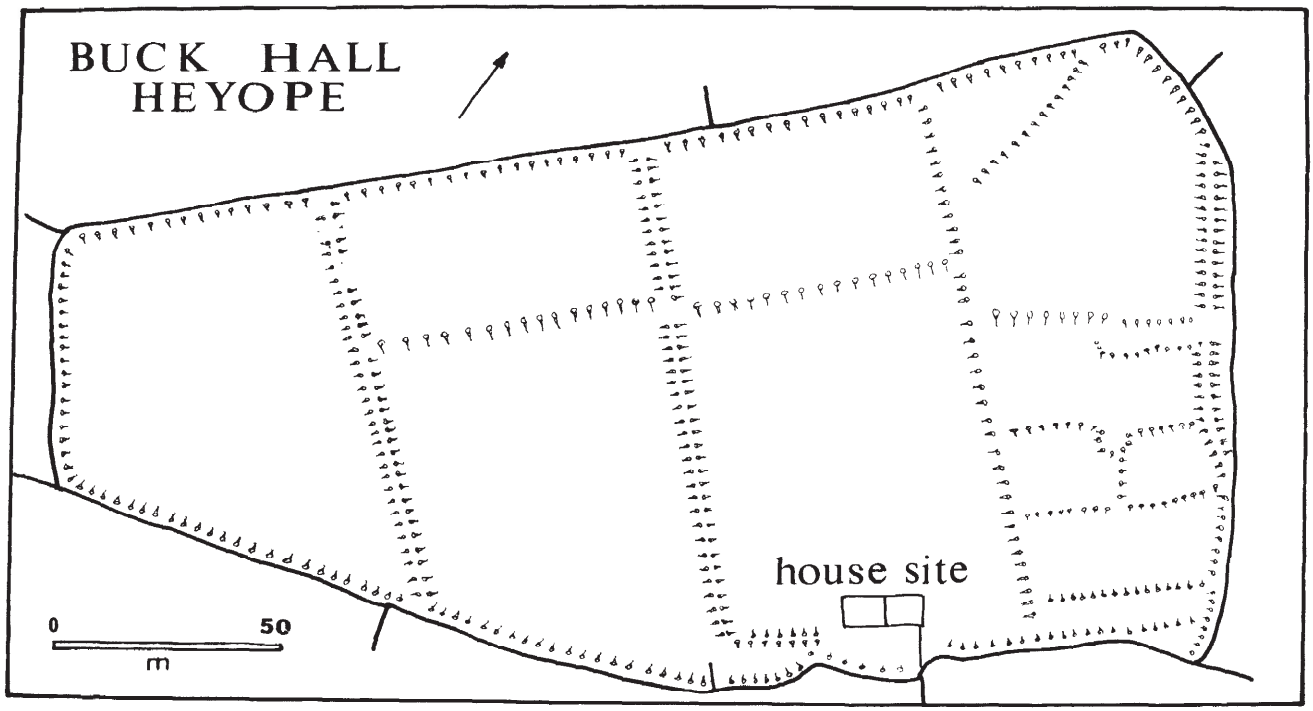

Figure 12.6 Buck Hall, Heyope, Radnorshire

rise up to 2m on gently-sloping land behind the dwelling; terraces at Bryn Mawr, Dolgelley, Merioneth (SH 7287 1644) possibly of around 1650; at Penyberth, Cardiganshire (SN 6454 8372); in Breconshire at Tai-Newydd (SN 8579 3001), where fugitive north facing terraces, possibly meant for horticulture, may be seen on the slope below the farm from the A40, and (from the OS 25–inch map of 1888) Ty'n Graig (SO 0715 7106); and in Carmarthenshire at Allt y Gaer (SN 5752 2100), where similar features ridge the south slope of Grongar Hill behind the farm. The functions of such terraces could have been diverse, ranging from kitchen gardens to orchards. How far they (and those at earlier, monastic sites) could reflect Renaissance influences is an intriguing question clearly requiring more detailed inquiry.

Enclosed hillslope terraces

Enclosed hillslope terraces may indicate unplanned, lynchet-like cultivation or, alternatively, these could be the fossils of larger, planned land units, owing their origins more specifically to economic, social, or even aesthetic demands. Only one certain example of this category is known to the writer, recently discovered from the air by C R Musson at Buck Hall, Heyope, Radnorshire (SO 228 730; Figs 12.6, 12.7). The house which formerly occupied it has almost gone but stood at the foot of a south facing terraced and segmented slope within bowshot of a medieval moated site. Dutton (1937, 31–2) suggests such moats (which he dates post-1500) were too small to enclose gardens, which tended to be situated nearby. At Heyope this interesting juxtaposition of sites may hint at a date coincident with Dutton's.

The recognition of primitive garden beds and of several enclosures and cultivation terraces at both well-known and recently-discovered sites demonstrates a widespread distribution of diverse early garden types. Systematic fieldwork and documentary research would no doubt more clearly illuminate the general pattern of medieval manorial and other gardens.

Renaissance and Baroquegentry gardens

A number of well-known 16th–17th century houses either retain intact formal (or regular) gardens, or substantial earthwork features still testify to their former existence.

In Gwynedd the Royal Commission on Ancient Monuments first noted a garden of the formal type at Tros-y-Marian on Anglesey in 1937 (RCAHM(W) 1937, 32–3). At this deteriorating ruin of *c* 1700 was described a typical gateway ornamented by ball finials and a pleasance which terminated in a decaying ornate contemporary summer house.

Later, fieldwork in Caernarvonshire brought to light the overgrown and denuded banks of a 17th or

Figure 12.7 Buck Hall: aerial photograph (Photo: C R Musson, RCAHM(W) AP 881.324)

18th century garden at Maenan (SH 7943 6505; RCAHM(W) 1956, 167) and at Vaynol Old Hall (SH 5384 6953) the garden wall with fine decorative gateways was detailed, one of which is dated 1634 with its inscription *YE MYSTIC GARDEN FOLD ME CLOSE I LOVE THEE WELL* (RCAHM(W) 1960, 244). To judge from the OS 25–inch plan of 1905, Corsygedol in Merioneth also has a notable garden of this period.

Clwyd, well-known for its richesse of contemporary Tudor and Stuart manor houses, offers perhaps the most fertile area of investigation for contemporary gardens (Turner 1988). Emral Hall (SJ 4204 4425), abandoned about 1865 (Anon 1897), formerly possessed moats or fishponds and the most remarkable ornamental gateways and iron gates ('T' 1910), now removed to Plas Brondanw, near Portmeirion. Its site must present great potential to medieval–Renaissance garden archaeology. Garden structures have survived (Hubbard 1986, 397–8) at Rhual (of 1739; SJ 2208 6485; Hussey 1943), Plas Têg (where two gazebos, an avenue, and an icehouse survive; Smith 1959, 5; Hubbard 1986, 378) and Fferm (SJ 2791 6032). There are earthworks at Plas Clough (SJ 0597 6772), built in 1567 *(ibid,* 154) and at Llanerch (SJ

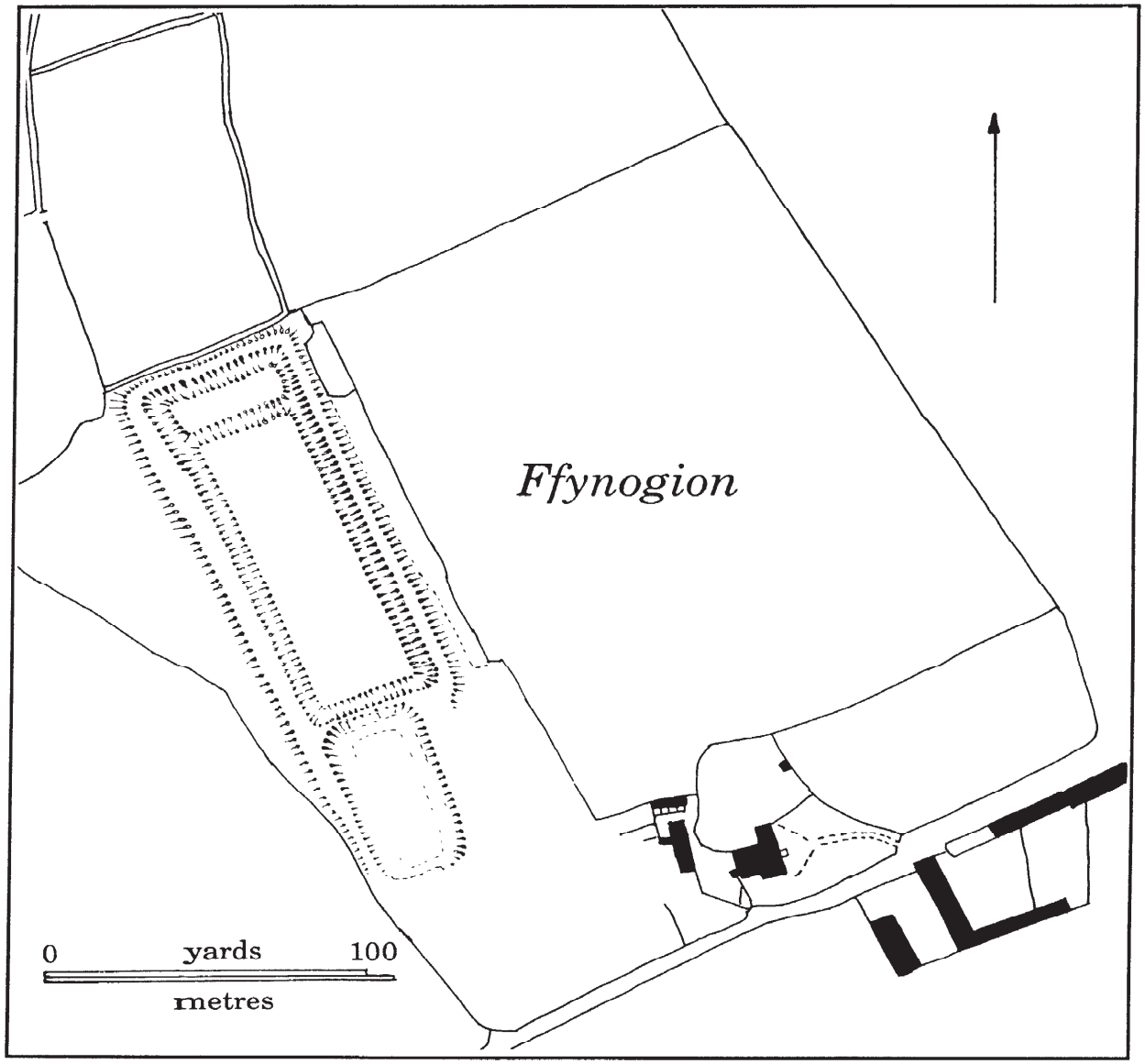

Figure 12.8 Ffynogion, Denbighshire (based on 1905 OS 25–inch map)

0540 7231), where there also survive a temple, loggia, multi-level terraces and parterres which are Listed Grade II *(ibid,* 60). Nerquis (SJ 2414 6004) preserves the remains of an orangery and a folly, has a formal garden and gateway with wrought iron tracery, and formerly possessed a Victorian conservatory (photographs in National Monuments Record Wales). Nantclwyd (SJ 1238 5818) still retains a gazebo (Listed Grade II) and some vestiges of a knot garden.

The location and description of gardens relating to influential Renaissance horticulturalists and herbalists is clearly an important study, and in this respect the Vale of Clwyd can claim a good share. Sir John Salusbury of Lleweni (1567–1612) actually left lists recording the localities whence his own garden plants had been transplanted (Gunther 1922, 238–44; R Turner, pers comm). Careful archaeological investigations within the environs of his home might therefore establish the places in which these were planted.

Particular interest also attaches to the influence of Sir Thomas Hanmer (whose *Garden Book* was written *c* 1653 [ed Elstob 1933]; Robinson 1988) on small estates in this area, and Mr Turner is currently investigating the site of Hanmer's own garden at Bettisfield (Hubbard 1986, 322–3), later landscaped into an 18th century parkland, to try and identify relict features (Turner 1988). Since the anonymous painted views of Llanerch in 1662 (for

Figure 12.9 Ffynogion: aerial photograph (Photo: C R Musson, RCAHM(W) AP 89.22.9)

example, Fleming and Gore 1979, pl 24; Harris 1985) are among the earliest of a developed provincial garden (apparently influenced by Mutton Davies' Tour of the Low Countries during the Commonwealth (Rhys 1883, II, 171)), its site must be of national importance.

Also within Clwyd, the National Trust has already undertaken full restoration of the formal garden incorporated into Sir Philip Yorke's 18th century parkland at Erddig (Waterson 1980). Though Chirk, also a National Trust property, has lost its formal layout of 1653 (Hubbard 1986, 117), Llangedwyn Hall still retains fragmented late 17th or early 18th century terraces (Hubbard 1986, 60).

It seems worth adding to this brief list the lost (presumably 17th century) garden of Llanbedr Hall (Llanbedr Dyffryn Clwyd), its parterres, walled and terraced frontage, and outlying garden plots graphically depicted upon a 1744 estate map of 'Mrs Parry's Lands' now in the National Library of Wales (Davies 1982, pl 3). Both building and garden have now succumbed totally to later redevelopment (Hubbard 1986, 187–9). Not far to the south-west of this lies Ffynogion (SJ 128 562) possibly the site of Llanfair Dyffryn, Clwyd's medieval manorial centre. This possesses a fine upstanding earthwork (Fig 12.8; 12.9) now scheduled as an ancient monument, curiously described in 1914 as a 'Camp' (RCAHM(W) 1914, no 349, 104–5), and in the printed *Schedule of Ancient Monuments,* (HMSO 1961, 125) as a duck decoy. Though difficult to date precisely without documentary research, its form is reminiscent of a formal garden. On the OS 25–inch the earthwork can be seen to comprise but one part of a large square enclosure reminiscent of some Glamorgan Renaissance (or earlier) gardens (see below).

Besides the well-known views of Llanerch, perhaps the most useful insights into later Renaissance garden design in Wales are those bird's eye views of formal gardens illustrating Dineley's Tour of 1688. These include Margam (fo 315), Ruperra (fo 358), Tredegar Park (fo 375), Powis Castle (fo 67), Picton Castle (fo 267), and Traswcoed (fo 246). It is interesting to reflect upon their varied fates. Powis gardens, now owned by the National Trust, were extensively remodelled during the 18th century (Haslam 1979, 53; Jacques 1983, 133), and it is today difficult to relate Dineley's prospect to the published garden plan (National Trust Guide, *Powis Castle gardens,* 12–13). Margam, now in the custody of West Glamorgan County Council, was also thoroughly landscaped in the 18th century (Jacques 1983, 115), so that virtually nothing remains of the features depicted either by Dineley or on the far more comprehensive oil paintings of *c* 1700 discussed in detail by Patricia and Donald Moore (1974; see also the useful reconstruction drawing in RCAHM(W) 1981, 328, fig 105).

A century after Dineley, plans were made for Tredegar Park which would 'sweep away courtyards and stables, break... avenues and divert the turnpike road... forming a substantial lake' (Jacques 1983, 116). Although the stables were left intact, its formal garden disappeared. Now, under local authority ownership, a praiseworthy effort is being made to recover and restore for display features of the 17th century garden, by carefully excavating the parterres and walled areas (Freeman 1989). In summer 1990 excavations directed by John Phibbs relocated some of these features, turning up buried geometric parterres originally coloured by coal dust, broken brick, and shells (Phibbs 1991). Trawscoed, now leased to the Property Services Agency, was completely re-modelled during the 19th century, as was Picton, still in private ownership, which, in common with Ruperra, has apparently lost its Renaissance features. Nevertheless, that it has been possible to uncover intact some parts of Tredegar's formal garden should be a salutary warning of the need to be ever watchful when later landscaping is restored or ground disturbance undertaken around any early gentry or manor houses.

Two further gardens mentioned in passing by Dineley do survive. Large walled gardens entered by a 17th century style gateway are still in

existence at Troy, Monmouth (Dineley 1888, 375; E Whittle, pers comm), whilst a banqueting house of the Myddletons occupying walled gardens near Chirk Castle (now known as Whitehurst House; SJ 287 403; Dineley 1888 85–6, 153, 157) still incorporates a decorative garden archway dated 1651 (Ellis 1973). Much can still be recognised of this extensive feature. Although now in part built upon and the balusters which capped its formal gateway (Listed Grade II) have toppled to the ground, its original wall survives to enclose over 26 acres (*c* 11ha). The fine brick-built summerhouse ('Queen Anne Cottage', Listed Grade II) is now a residence and though some Victorian glasshouse remains and a fragment will be restored, a great deal more is in peril of collapse.

Several further sites of this formal garden period in the Vale of Glamorgan spring to mind as usefully lending themselves to future excavation or survey. Amongst these might be numbered St Fagan's, where Edwardian kitchen gardens and Pettigrew's imaginative plantation of *c* 1908 (Stevens 1985) replaced Elizabethan features, though probably not to the plan reconstructed by RCAHM(W) (1981, 246, fig 77). Llantrithyd Place, its outstanding Renaissance garden briefly mentioned in the same volume *(ibid,* 179, fig 54), demands immediate full survey in detail and extensive statutory protection. No less demanding is Llanmihangel Court *(ibid,* 90–100), which formerly possessed yew-lined avenues within an as yet unrecorded formal garden, still enclosed by a rectangular enceinte, a plan interestingly shared by the Van, Monmouthshire (a feature not noted in RCAHM(W) 1981, 191–203).

Elsewhere in south-east Wales, Elizabeth Whittle has undertaken a thorough investigation of the Tudor–Stuart gardens at Raglan Castle laid out by the 3rd, 4th and 5th Earls of Worcester *c* 1550–1646. The earthworks are remarkably well preserved and owe their survival to the castle's abandonment after the Civil War. Fieldwork and documentary research show that terraces for a pleasure garden were laid out to the west and north-west. The layout included *inter alia* a large lake, balustrading along the terraces, and a formal water garden or water 'parterre' laid out in channels and islands of triangular and diamond shape. These are probably pre-dated by a simpler, square water garden to the south of the castle (Whittle 1989).

Under the auspices of the Pembrokeshire Coast National Park Authority, now its guardian, excavations were continuously undertaken at Carew Castle from 1984–9. Excavation, which identified surviving early walled gardens as well as possibly buried ones, was undertaken with a view to restoration for future display (Davis 1987, 17). According to a survey of 1592, the castle was at that time 'approached from the east through two grassy courts flanked *[inter alia]* by gardens'... and... on the north side of the castle was 'a tiny deerpark, only 1½ acres in size... and to the west extended a huge stable and garden.' The estate also included an orchard and dovecote (Howells 1987, 34).

Medieval–Tudor manorial and gentry nucleated gardens; some examples from the neighbourhood of Glasbury

The Parish of Glasbury in the Wye Valley offers great potential to the archaeologist searching for medieval and later settlement with or without gardens (Sylvester 1967). There, in the early 14th century, two important possessions of Gloucester Abbey yielded unusually high returns. These were Tyleglas and Pipton (Dawson 1918, 282–3). Both might usefully repay intensive survey in the search for medieval gardens. Until recently, Tyleglas remained a large farm with much interesting 17th century and later building fabric. Its hedged orchard occupies a site standing a good 2.5m above the level of the meadow to its north. This elevation is probably man-made rather than natural in origin, and it is tempting to see the orchard as occupying part of an original medieval garden,

Pipton and nearby Aberllynfi were both at one time important parishes which have lost their settlements and churches. Both retain stony mounds adjacent to church sites (SO 168 381 and 171 380). The Aberllynfi site is considered to have been a motte (Cathcart Ring 1961, 84). An alternative view (Savory 1954, 306) is that the Pipton example was a stony Bronze Age burial cairn. The question now arises as to what these mounds really were originally intended for. More usual than the cairn explanation is that of defensive motte. But in common with many others occupying similar nuclear positions in old villages, both mounds seem too small to have made convincing strategic features. However, as traces of early barrows on fertile valley floors are easily eradicated through a combination of continuous agricultural practice and silt deposition, this also seems as unlikely a solution as does Cathcart King's for its neighbour. If neither mottes nor barrows, what were they originally intended for? The only remaining possibility seems to be that of garden viewing mound or prospect platform. Situated on the edge of lost manorial gardens in old village centres, many similar status symbols might be suggested as having formerly existed and even survived, throughout the Welsh March. Indeed, a number of those early earthwork 'castles' mapped by Cathcart Ring (1961), Hogg and Cathcart Ring (1963), and Stanford (1980, 206) may actually have served as viewing mounds rather than for defence. Although 'baileys' are commonly absent from the vicinities of these mounds, and although this absence has often been remarked upon, few, if any,

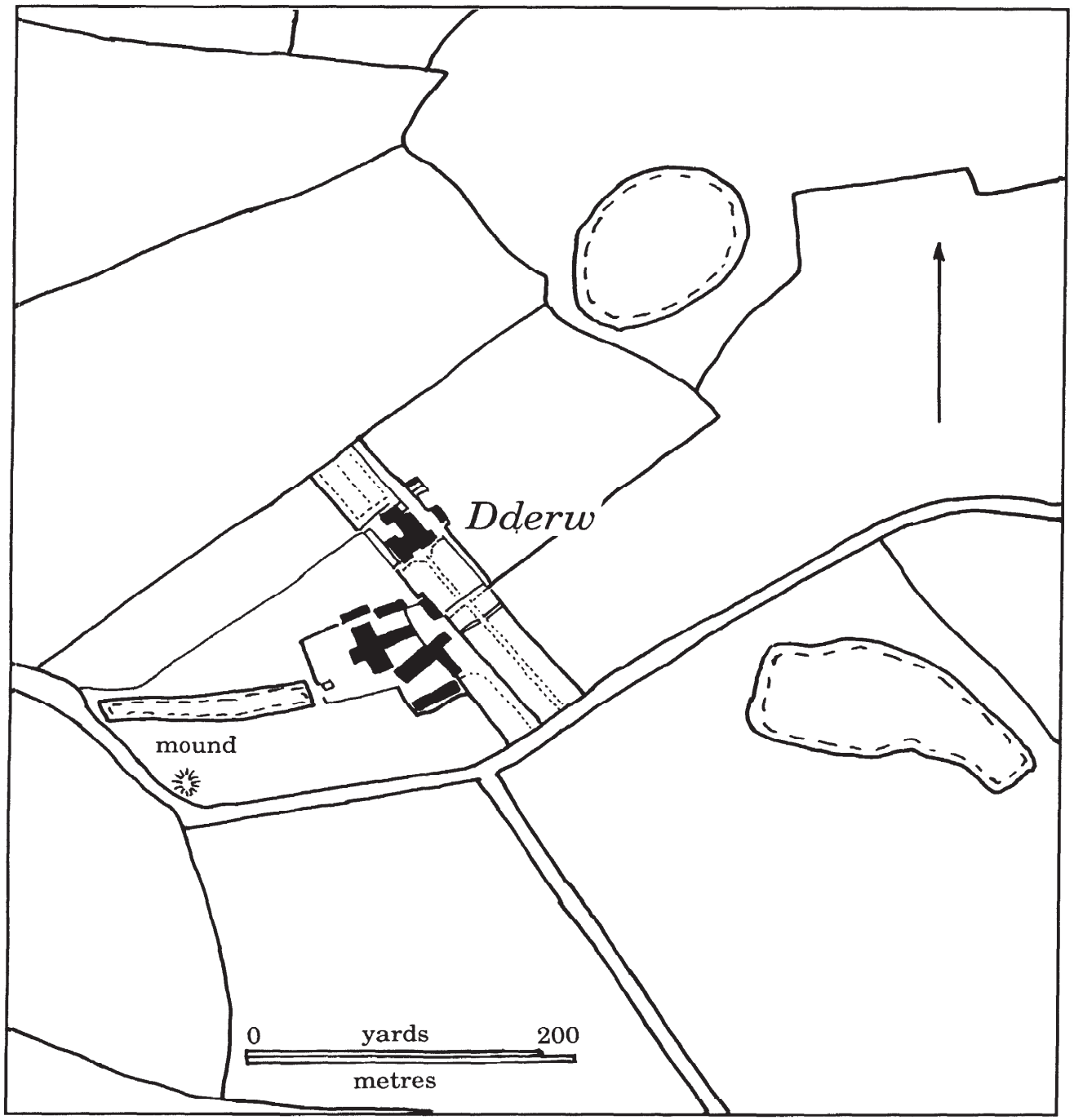

Figure 12.10 Y Dderw, Breconshire (based on 1905 OS 25–inch map)

solutions have been offered to explain the phenomenon.

A similar Bronze Age mound at Y Dderw (SO 1386 3748; Savory 1954, 306), was partially excavated by the Clwyd-Powys Archaeological Trust during its destruction in 1976. This yielded only a 19th century button and a sherd of pottery thought to have been Roman, lying upon the old ground surface (Cain 1976). Its situation suggests a tentative connection with the nearby regular axial garden layout (Pig 12.10) and the recognition of another ploughed-down mound midway between

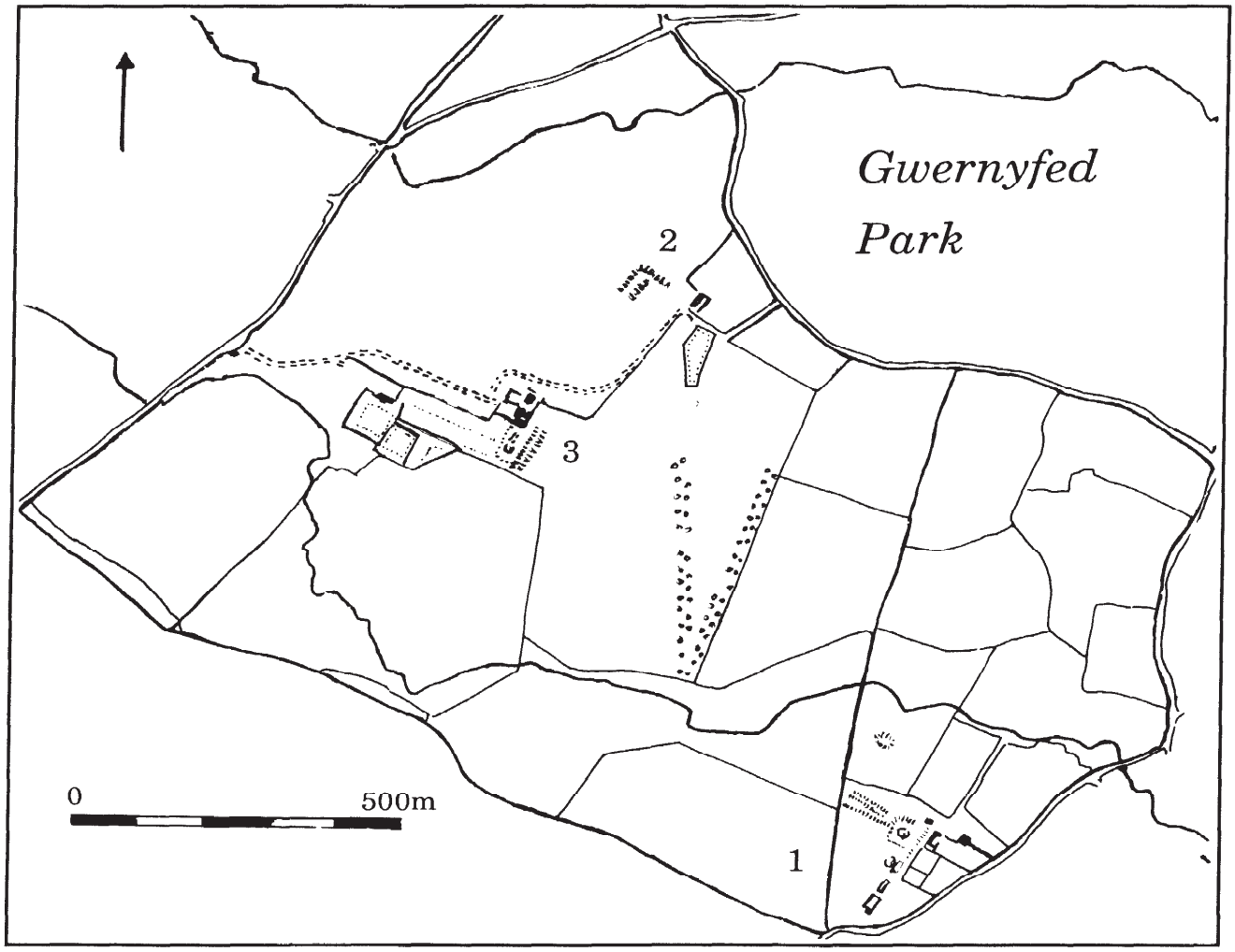

Figure 12.11 Gwernyfed Park, Breconshire

the two ponds poses further tantalising questions of this interesting farm plan. Were both mounds originally intended for viewing?

Viewing mounds or small mottes are a commonplace throughout more lowland parts of Wales, and in the context of this discussion an example in Rûg Park (Merioneth), is of considerable interest. In Edward Lhuyd's day, during the 1690s, it was 'adorn'd for an ornamt' in the park. It was later subjected to excavation as a motte and yielded medieval artefacts, though not before a masonry octagon 24ft *(c* 7m) in diameter 'of no ancient date' (perhaps for a summerhouse or gazebo of Repton's landscape) had been unearthed. The greatest irony is that at its centre lay a Bronze Age cairn (Gardener 1961). How many more prehistoric burial cairns have enjoyed such full lives? Among those with shorter periods of activity was Castle Mound, Panteg, Gwent (ST 3113 9905), statutorily protected as a motte. Limited excavation on top of the mound in 1989 brought to light foundations of a Victorian summer house, a combination of circumstances which tempted the excavators (Maylan and Sell 1989) to compare it with a 'motte' site at Wilmington, Shropshire (Cathcart King and Spurgeon 1965, 74, fig 3, 75).

As early as 1848, Hudson Turner, in discussing the introduction of garden 'mounts' to England in the 15th century, explained them as analagous to the 'mound... usually thrown up within the banks of a Norman fortalice' (Turner 1848, 310). The similarity between the two types of monument has often since been overlooked. Obviously the problem of motte and viewing mounts will be better understood only after more comprehensive excavation and thorough survey of their environs.

Gwernyfed Park, seat successively of Griffith Gunter Vychan, *(temp* Henry VIII *[teste* Dawson

1918, 301]), of Sir David Williams *(temp* Elizabeth I), and Sir Henry Williams *(temp* James I and Charles I), runs contiguous to Tyleglas, and it has been suggested the manor may have been gifted by Bernard Newmarch to Sir Peter Gunter at the time of the Norman Conquest of Breconshire (Dawson 1918, 301).

Today the park bears witness to three successive houses and their gardens. The earliest, an Elizabethan building (Listed Grade 1; Haslam 1979, 318–19) of roughly the same dimensions as St Fagan's, Glamorgan, lies with one wing in ruins, and 'the remains of the terraces and fish-ponds, the stately avenue, and particularly two small round towers flanking the court-yard' (Anon 1853, 313). The avenue to the house is now gone, but ornamental gateposts standing proud upon a sunken, formerly walled, square formal garden, were shown upon the 1905 and later OS 25–inch plan, overlooked by the house occupying the terrace some 2–3m above. Low earthwork garden features of possibly Elizabethan origin now occupy a roughly triangular area under about 8 acres *(c* 3.5ha) of pasture (Fig 12.11).

It seems likely that the remaining earthworks comprise about one-third of the original garden; its extension northwards is suggested by the identification in 1973 of a barrow at SO 1818 3672 measuring 40 x 24ft *(c* 12 x 7m) now lying under a cereal field (Pye 1973). The shape and siting seems more reminiscent of a viewing platform than a barrow.

So far, it has been possible to recognise three small square islands set in the most southerly of three ponds (perhaps ornamental or duck-breeding features); the most northerly is overlooked by what appears to be a summerhouse base; there are walkways and possibly canals; the parterre is 35–40m square with a slightly raised central boss distinguished by dead vegetation, presumably a fountain or sundial base. To the extreme north of the site are three rose or fruit bush terraces protected from the elements by the house and originally by the parterre wall. It is still possible to detect a sunken carriage drive running parallel to the present road on the east, and documentary evidence suggests that this garden complex had fallen into disuse by 1753, by which time it was protected under an orchard (MS Map in National Library of Wales).

Also associated with the Elizabethan manor house is a roadway running northward through the parterre gateway, over a stream, at one time damming a large fishpond, the earthworks of which still survive. Beyond and to the north-west radiated two avenues of oak, well shown on the 1753 plan and the OS 25–inch maps. The odd pollarded oak is still to be seen.

At some time possibly as early as the late 17th century, a new house, (The Lodge), was built about 1km to the north-west, roughly between the gap created by the two avenues. This new site had its own garden enclosures one of which is today delimited by unusually large, ageing Scots Pines. A little to the the west of this site was probably a further symmetrical garden (pre-1753), this one elongated and still traceable as an earthwork at the foot of the slope before the house site.

This second site was eventually abandoned in 1880 for a remarkable pile erected on a gentle north-sloping site almost due north of the first mansion. This possessed a magnificent neo-Jacobean terraced knot garden to the south with extensive walled kitchen gardens running due north towards a fine gatehouse on the main Brecon–Hereford road. Now a school, the southern ornamental terraces gone, its kitchen gardens have become bowling greens and tennis courts. The western side of the park is taken up with housing development. Despite this, Victorian Gwernyfed still preserves some of the intended dignity of its original setting as a Renaissance (or earlier) deerpark.

Adjoining and to the north of Trefecca Fawr (SO 1430 3178), a fine Elizabethan house, is an earthwork generally supposed to have been a medieval moated site. In fact the site, now scheduled as an ancient monument, possesses extensive fishponds, the survival of which has recently been recognised by Elizabeth Whittle. A site so extensive as this bears comparison with some of those planned by Brown and Taylor in eastern and midland England. Further earthworks representing lawns and ponds probably from the formal garden period at Trebarried (SO 117 352), help underline both the importance of this particular area to garden history studies, and of the urgent need for survey of valley farmland at a time of changing priorities in the agricultural community.

18th century gardens and parklands

Although a glance at popular garden guides might suggest otherwise, Wales was quite rich in 18th century gardens and parklands. Unfortunately, many have gone with their houses (Lloyd 1986). Some are still only overgrown. A few have remained in continuous caring family ownership, whilst other well-known examples are now in the keeping of the National Trust or of public authorities.

Restoration of 18th century parkland can, however, pose considerable practical problems. Grant-aided by the Countryside Commission, the National Trust is currently attempting to consolidate Dinefwr Park near Llandeilo, and reinstate features believed to be associated with Capability Brown. Sadly, the old estate is now in multiple ownership, its two focal points, the scheduled medieval castle, surrounded by a nature reserve administered by the Dyfed Wildlife Trust; a further 4.5ha comprising the 'new' Castle or

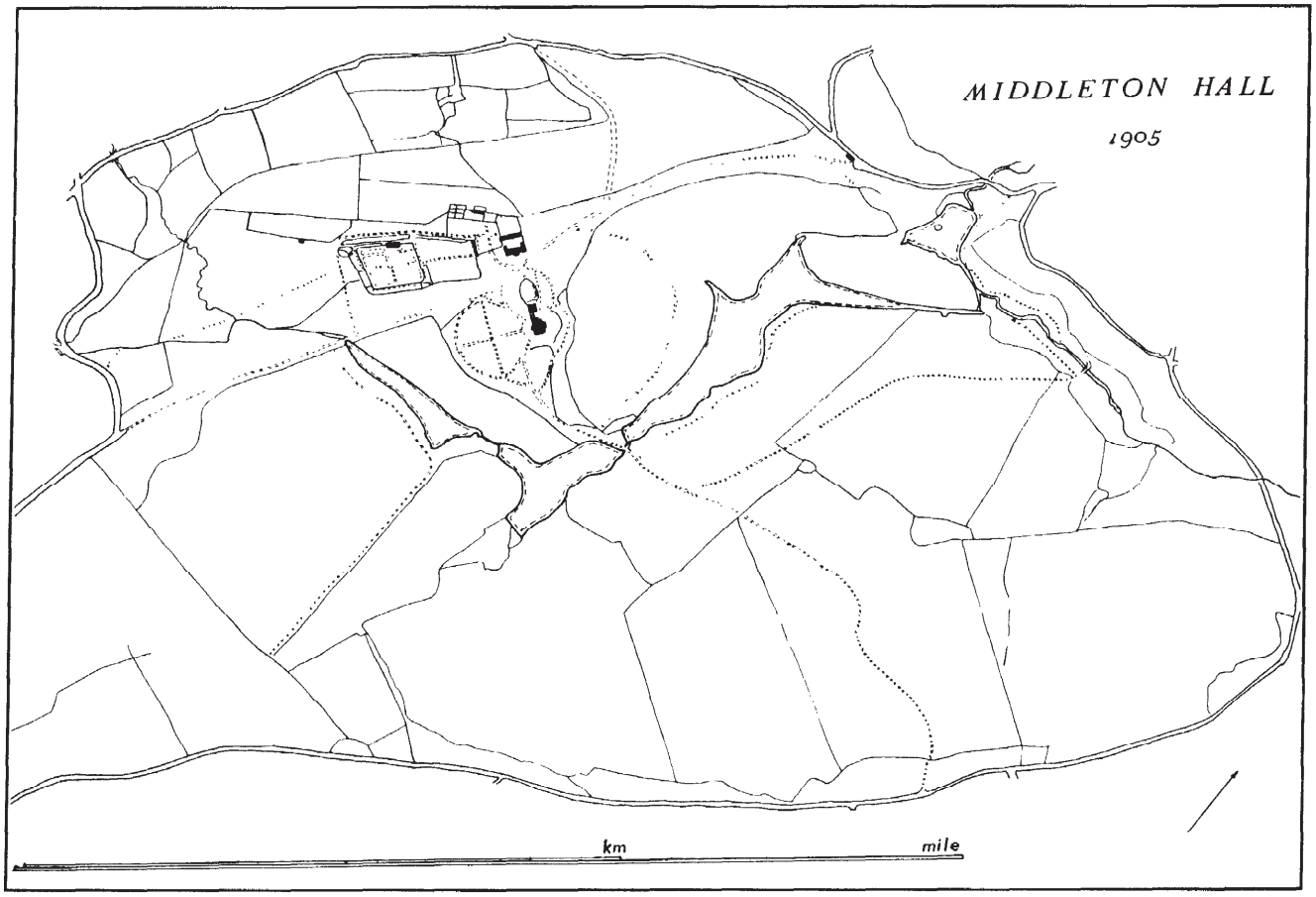

Figure 12.12 Middleton Hall, Carmarthenshire (based on 1905 25–inch OS map)

Newton Hall and its successor are still in private hands.

An internal management document compiled by the National Trust Archaeological Survey in 1986 identified over twenty features of interest within the park, recommending restoration of the ice-house, the dam, former lake, and slaughterhouse, as well as that of a number of intriguing features connected with domestic water supply (Latham and Plunkett Dillon 1986). Obviously it was not possible to consider the future of all garden features surviving within the 4.5ha around the 18th century house site, now so unfortunately detached from the long-term parkland restoration scheme, and control of developments in this area must therefore remain a matter of goodwill.

The modest park of the Paxtons at Middleton Hall, the site of which is owned by Dyfed County Council, has lent itself to a useful restoration scheme under an MSC workforce. Successful excavation and consolidation of the icehouse, cascade, and some of the walks complements that subsequently begun upon the kitchen garden (see below), and the site is now an important local heritage amenity (Lloyd-Fern 1988; Fig 12.12).

Unfortunately, parkland landscapes can be even more difficult to evaluate archaeologically than aesthetically. Where vegetation and natural topography make up their most important elements, whimsical architectural features can on occasion lose their significance. Yet these are what the archaeologist has to locate, measure and excavate, and these could be offered effective statutory protection. The most vulnerable, yet the most common types of structure encountered in 18th century parks include follies, of which good examples are Clytha Castle (Monmouths), Paxton's Tower, at Middleton (Lloyd-Fern 1988) and Derry Ormond Tower, near Lampeter (Wilks 1976). Temples, perhaps more common in England, are

rarer in Wales. The Dairy Temple designed by Capability Brown for Wynnstay is now dilapidated and in need of record and repair (Hinde 1986, 193–5, 219). But features would commonly include ornamental bridges, the walls of canals, cascades and ponds, summerhouses, obelisks, orangeries (for example Margam (Moore 1986; RCAHM(W) 1981, 323), early conservatories, and icehouses (Wiliam 1982). The recent meticulous excavation of Plas Machynlleth (Montgomershire) icehouse is noteworthy in this respect (Barfoot 1986).

In the better known parks these features may have been continuously maintained and sometimes enjoy statutory protection. However, many still remain unknown and unprotected (as shown, for example, by Kerkham and Briggs, this volume).

19th century gardens

Whereas medieval gardens attract archaeologists and those of the Renaissance and the 18th century have long been magnets to the intellectual and aesthete, the study and mapping of 19th century gardens now lags far behind that of Victorian and Edwardian architecture. Nevertheless it is possibly true to say that the 19th century was the golden age of gardens in Britain.

Although there are as yet no synthetic regional surveys and it is therefore difficult to argue from precise site documentation, this period almost certainly produced more numerous, more ambitious and more extensive parklands than the preceding century. Certainly, the surviving cartographic evidence (mainly OS 25–inch plans and some estate maps) provide a large, and as yet mainly untapped, source of information about them. Not all the information they depict is of direct concern to the archaeologist; whilst offering clues as to the age and nature of the estate, arboreta, avenues, copses, lawns, orchards, and relict hedgelines all enjoyed finite lifespans. Equally, it has to be conceded that maps tell only a partial story. For example there is no clue as to the existence of a tennis court, rose gardens and a rock garden at Craig-y-nos Castle, Brecknockshire (OS 25–inch 1887 and 1905, xxxvii: 16), yet their existence was within the recall of memory in recent years, when their uses could be painted into a fuller social and horticultural picture (Rosate-Lunn 1961).

Though often depicted on the maps, boat houses, aviaries and pheasantries (of wood), flower beds, and even ponds, might also leave little trace. But often the parks utilised existing features of antiquity as adornment (as for example at Abbey Cwmhir (Cooke 1981)) or, like their 18th century predecessors, faked fresh ones for effect; bridges, canals, carriage drives, conservatories, gazebos, grottos, icehouses, obelisks, ornaments and paths for parkland walks or for parterres — all are likely to leave traces discernible through sensitive archaeological survey or exacting excavation.

In order to gain some idea of garden distributions in the 19th century the writer undertook a census from the 1888 OS 25–inch plans for Brecon and Radnorshire, based upon map holdings at the National Library of Wales. The resulting distribution maps (Figs 12.13, 12.14) demonstrate the majority of those believed to have been in existence earlier than *c* 1900. The list upon which these are based is deposited at the National Monuments Record (Wales).

Kitchen gardens and glasshouses

Once the parkland has fallen into neglect, its trees felled and agriculture or other developments take hold, few such features survive. Only the nucleus of the estate around the house then hangs on. Here we find the kitchen garden and its glasshouses, usually neglected since the First World War culled its gardeners (Binney 1989), though sometimes modified for market gardening during the succeeding period of hostilities.

Beginning in the late 18th century, cheap sheet glass, coal, efficient cast iron boilers, and pipe systems combined to make available alike to industrial and agricultural *nouveau-riche,* the concept of the conservatory, formerly the exclusive preserve of the gentry. Usually complementing a walled kitchen garden, garden, and glasshouse were among the most common features of vernacular landscaping in 19th century Britain. They were built in almost every village, the largest usually at the 'manor house', with odd examples going up at large farms where high agricultural returns enabled it. Many fine examples were also attached to the new Rectories and Vicarages, which would exhibit many features of the successful 19th century picturesque parkland — a carriage drive and avenue, extensive terraced lawns, the odd pond, and the occasional glebe orchard. The example of Llandrindod Rectory is recorded incidentally by Oliver (1982). But it is of greater interest to reflect upon the fact that J C Loudon actually designed Marcher rectories which must have incorporated substantial gardens to his particular taste (Haslam 1979, 59; Hubbard 1986). No doubt this would have affected contemporary fashion, particularly for productive kitchen gardens.

Glasshouses invariably though not exclusively adorned the north wall of the kitchen garden. Less commonly they were tastefully attached to the mansion itself (a listed example is attached to the Talardy Hotel, St Asaph (SJ 030 748); there is another at Trefor Hall, Denbighshire (SJ 2563 4231); oranges and camelias are still grown in that at Rheola, Breconshire (Vaughan-Poppy 1980–81, 102). In its many forms the conservatory or greenhouse combined elevated social status with exotic table productivity. Yet despite the great numbers in which they were built, estate

glasshouses have a very low survival rate, which (in the absence of proper surveys) though difficult to quantify, ought to rate them high in architectural recording priorities.

Similarly, walled kitchen gardens are rapidly disappearing, though here again, a clear assessment is hampered by lack of proper survey. Some idea of what to look for is given by Susan Campbell (1985). Several examples in west Wales spring to mind. The kitchen garden wall at Gogerddan (now MAFF), near Aberystwyth, is part demolished; Trawscoed (also MAFF) houses several government buildings; Lovesgrove has been partly levelled for exercising horses; Nanteos survives uncertainly, with decaying garden furniture probably dating in style from the late 18th century. It has lost, post-War, the larger of two remarkable 18th century vineries. The future of the decayed surviving example is uncertain. Fronfraith also survives though without its house, and thankfully the example at Hafod is now listed. Like a number of others, this is noteworthy for its having remained in use until the 1930s, still retaining vestiges of original paths and box hedges.

Although few enjoy statutory protection, attempts have been made to restore or stabilise some examples. Middleton Hall kitchen garden, (one of the largest of its type surviving; Fig 12.12) has lost all trace of the once extensive glasshouses and internal paths. Nevertheless two outer concentric walls remain, the more northerly built as a terraced vine wall with a semi-circular arbour on the north-west corner. Efforts by an MSC team to cap or rebuild this enclosure ended prematurely in August 1988 with termination of the Scheme, leaving a praiseworthy enterprise unfinished. At Tyglyn Mansion, Aberaeron (SN 4985 5995), in 1987–8 another MSC scheme undertook provision of a 'Handicapped Nature Trail' around the parkland estate. Work here also included capping and making safe the walled kitchen garden. It is understood that there is also an intention to privately restore the walled garden and glasshouse at the nearby eponymous Farm, Ty Glyn Aeron (SN 5025 5975).

There are certainly many other similar examples of full, partial or intended restorations being undertaken quite without the making of prior record in full of the features to be altered. Because so little of this fabric has so far been properly recognised by its being afforded statutory protection, few have appreciated the potential importance of such a loss. Future government policy must therefore include the stipulation for recording all decayed or damaged fabric prior to its replacement or restoration.

Attention has already been drawn to the map search of gardens in southern Powys undertaken by the writer. This census revealed up to sixty walled gardens (most likely kitchen gardens) in Breconshire (Briggs 1991), Radnorshire appearing to possess slightly fewer, around forty. Some have certainly been destroyed; Builth Castle House and garden are now completely demolished. Hay Castle garden, originally a formal affair of *c* 1600 (perhaps by the same architect as Old Gwernyfed) in more recent times successively a Victorian kitchen garden and market garden, yielded to building pressures in 1975, though curiously the sundial is still to hand nearby. Craig-y-Nos Castle kitchen garden is a car park; Cwrt-y-gollen, destroyed by fire in 1911 (SO 2343 1715; Hawkins 1967), has become an army training complex; at Gliffaes (SO 1705 1990) the kitchen garden is laid out as a lawn, and at Llanthomas (SO 2107 4008) planning permission was granted in late 1988 to erect three bungalows within the walled enclosure. Clearly the need to survey those kitchen gardens which do survive is urgent. Any features potentially vulnerable to future development require measured assessment, and priorities need to be established for their selective preservation.

Conclusion

We began by addressing the question 'Are there historic gardens worth studying in Wales? Whilst it must be borne in mind that the present survey is extremely selective, the answer is strongly in the affirmative. Wales possesses gardens of all periods in history, as well as possibly from prehistory, some still in a remarkable state of preservation and many if not most requiring thorough investigation. Certain specific problems of study have emerged, among them the need to undertake both documentary research and fieldwork in order to locate monastic grange gardens and moated house-related garden sites; the difficulties of distinguishing between small mottes and viewing mounds; the partial survival of long-ignored Elizabethan and later formal gardens as earthworks; the rapid disappearance of 18th and 19th century parks with their glasshouses and walled kitchen gardens, and last but not least, the potential of earlier, particularly Renaissance gardens to survive beneath a veneer of later landscaping. All these issues lead to the more general problems of survey and protection.

The future of garden archaeology and garden protection in Wales

The problems of historic garden investigation and preservation are two-fold. First, there are sites which lend themselves to conventional methods of archaeological survey and excavation, where recording and research are the keystones to knowledge. Secondly, extant, living, gardens also pose questions of archaeological investigation, particularly when restoration and maintenance is

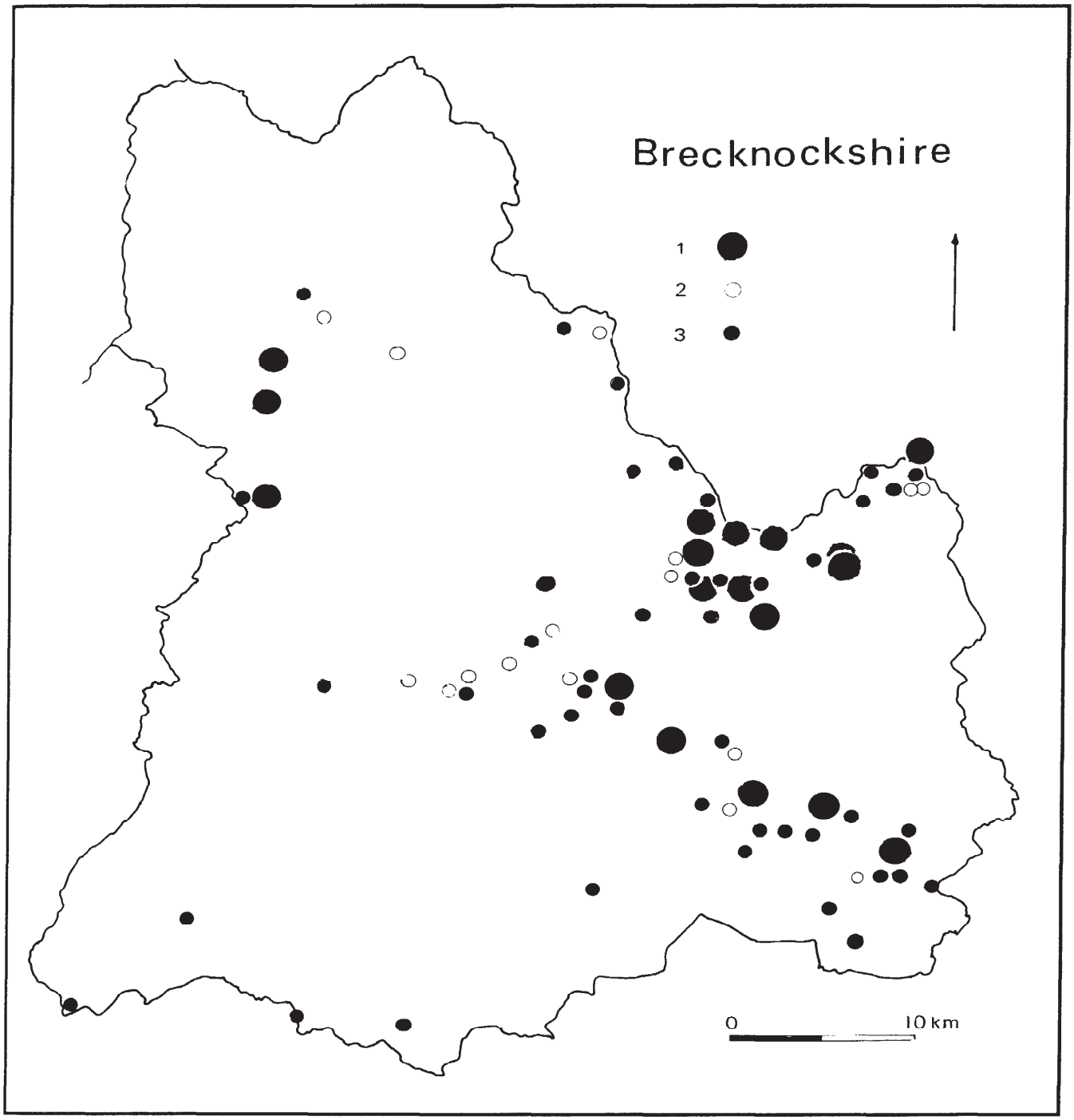

Figure 12.13 Distribution of gardens in Breconshire (Brecknockshire) (based on 1887–8 OS 25–inch surveys): 1) medieval and Renaissance gardens; 2) 18th and 19th century gardens; 3) 18th and 19th century gardens with a walled garden or a kitchen garden

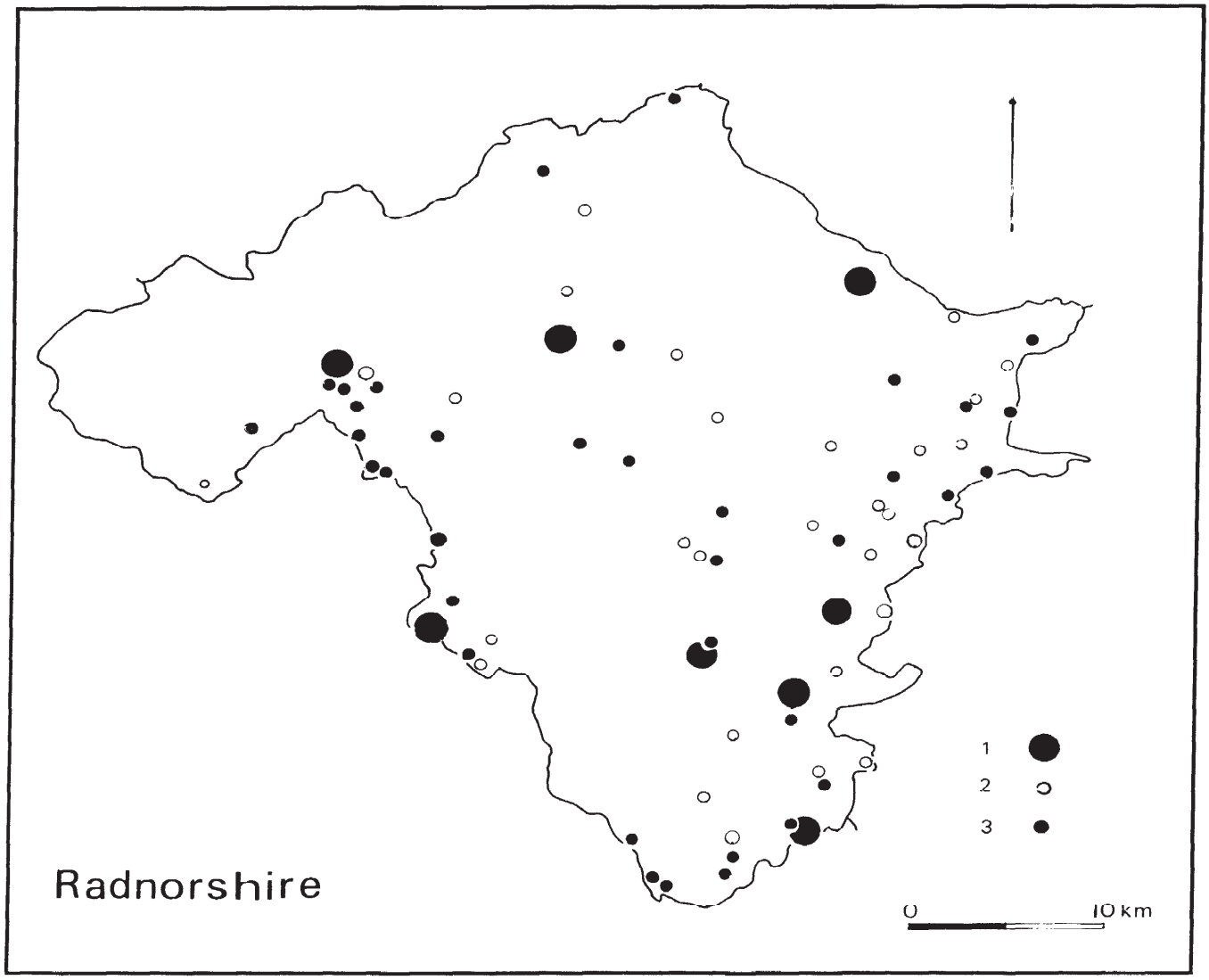

Figure 12.14 Distribution of gardens in Radnorshire (based on 1888 OS 25–inch surveys: 1) medieval and Renaissance gardens; 2) 18th and 19th century gardens; 3) 18th and 19th century gardens with a walled garden or a kitchen garden

complicated by the survival of more than one early site plan, or through pressures exerted by particular interest groups, some of them intellectually purist in outlook.

Although the power to grant-aid historic gardens in England, Scotland and Wales has existed since the passing of the 1953 *Historic Buildings Act,* available resources have almost always been devoted to buildings (Sharman 1980). Thirty years later, English Heritage began compiling a register of historic gardens and parks, though sadly the list was to have no statutory teeth. It is clear from the 1953 directive which includes gardens with historic buildings, and from the 1983 initiative at HBMC which asks for garden lists to be drawn up, that Parliament attaches similar importance to historic gardens as it does to other monuments (Binney 1988).

Up until the present time there has been a failure in official and academic circles in Wales to recognise the socio-economic importance, architectural or other aesthetic value of early gardens, and although the recording of yeomen and gentry houses within the Principality is generally

well advanced, sadly, the same cannot be said of the gardens on which their very maintenance usually depended.

In Wales a register incorporating a couple of hundred sites was compiled during 1986 by Miss Catherine Claypole for Cadw, working on an ICOMOS studentship. This register included many modern gardens and public parks maintained by local and national authorities. Although it is believed to have been presented to the Secretary of State, the intentions of the Welsh Office in respect of surveying or protecting the gardens it lists are still not clear.

Yet the need has now surely been demonstrated for a register of historic garden and parkland sites backed up by detailed survey and research at least of a representative number, before protection or conservation policy can be usefully formulated. In the absence of historic garden designation along the lines already adopted in England, statutory protection might usefully be afforded earthwork sites as scheduled ancient monuments, and architectural features could continue to be considered for inclusion under the listed buildings legislation. The establishment in the Principality of a Countryside Council to replace both the Countryside Commission (Wales) and the Welsh branch of the Nature Conservancy Council offers an opportunity to introduce radical new measures of environmental protection, integrating heritage with the traditional environmental interests to create a new and effective form of landscape designation which could be invoked to protect gardens and parkland.

There remains the question of what an archaeologist is looking for in his investigation of these gardens and parks. Obviously a major requirement is planning all recogniseable early structures, ornamental and functional. Excavation must be reserved for those cases where destruction is inevitable, where conservation is necessary, or where a well-considered restoration policy makes it a priority, whilst of course providing sufficient resources for its efficient execution. There should be no question that because a feature is relatively recent, ornamental in origin, whimsical in concept or decadent in design, that the archaeological technique applied in its investigation should be any less exacting than that employed on more ancient sites.

Of course, this might be considered an idealist's approach, but even where important parkland landscape features are in the guardianship of responsible heritage managers, there should be no question of hasty restoration and development without due consideration of all historical factors. The appointment of an Historic Gardens Inspector in Wales along the lines of the English appointment would make much-needed specialist advice available from the State in a way that is at present wanting. The establishment of an Historic Gardens Panal in Wales along the lines of the one convened by English Heritage would help streamline the existing government (and private) resources already committed to survey and conservation.

So far, much detailed research and historic gardens survey as well as restoration has been undertaken privately, or at least quite outside the framework of Central Government funding for mainstream archaeology. Perhaps now is the time for Wales to provide the resources to adopt the idea of a register in inventory form, compiled using the traditional surveying skills of the Royal Commission on Ancient Monuments, forming the basis of an Inspectorate of Ancient Monuments policy (and a Historic Gardens Inspector), for preserving those sites thought most worthy of preservation, and to assist in maintaining or restoring some of those which still have life?

Afterthought

This account was written in 1988–9. Within months of its completion, a Historic Gardens Trust for Wales had been established. Its stated objectives very much share the sentiments expressed in the latter part of this article and the Trust will no doubt enjoy an important future role in both raising levels of consciousness about the importance of historic gardens, and in raising levels of funding for their research, survey and conservation. In 1990 the Trust appointed an executive officer to become actively involved in monitoring development threats to historic gardens, and the Trust has itself begun commissioning historic garden surveys nationwide with a view to both conservation needs and recommendation for statutory protection. In early 1990 Cadw appointed Mrs Elizabeth Whittle on a three year contract to produce a register of the gardens of Gwent, along the lines of the English county survey. The project is jointly funded by the Countryside Council for Wales, the County Councils, and Cadw itself. It is not clear how soon after further appointments will follow, but at least a start has now been made.

Note and acknowledgement

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procedures for the compilation of registers in England. Assistance in various ways has been given both by colleagues Mr H Brooksby, Mr B A Malaws, Mr C R Musson, Mr A J Parkinson, Mr C J Spurgeon, and Mr R Suggett; and by Commissioners, Dr M R Apted, Dr R W Brunskill, and Prof D Ellis-Evans. Thanks are also due to Mr E Hughes and Mr P Roberts of Dyfed County Council, Mr B Cardwell, formerly of Ceredigion District Council now of the National Trust, Mr G Evans of Cadw Ancient Monuments Administration, and the staff of the Maps and Prints Department at the National Library of Wales. Acknowledgment is made to the Royal Commission on Ancient and Historical Monuments (Wales) for permission to publish copyright illustrations (Figs 12.1, 12.2, 12.7 and 12.9); also to Terry James of the Dyfed Archaeological Trust for permission to publish Fig 12.5. All opinions and errors of fact remain the writer's responsibility.

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13 A review of the archaeological potential of the Hafod landscape, Cardiganshire

Caroline Kerkham and Stephen Briggs

Introduction: brief history of the Hafod landscape

Hafod Uchtryd Demesne occupies the ground between Pontrhydygroes and Cwm Ystwyth (Fig 13.1). It comprised an important 18th century house set in an estate formative and central to the development of Picturesque, naturalistic landscapes (Clarke and Perry 1982; Jacques 1983; Kerkham 1991). The estate was acquired by the Forestry Commission in 1950. Although extensive unfinished Victorian Italianate additions were partly demolished in the early 1950s, for about ten years serious attempts were made to find a use for the 18th century Gothick mansion by Baldwin. Sadly, having already been gutted, restoration proved impossible and demolition became necessary, mainly for reasons of safety.

The creation of this house and landscape was until recently considered exclusively the work of Colonel Thomas Johnes (1748–1816). His grand scheme for the Ystwyth valley included laying out gravel walks, a bath house, excavation of a 'subterranean cavern', 'alpine' or rustic and stone bridges, an obelisk and other garden ornaments, and two small enclosed flower gardens. A Druid's Circle was envisaged but never undertaken (Brit Lib Add MS 36,498, fo 67 [Johnes–Cumberland corresp, 1796]; Vaughan 1925, 203). The usual domestic features included an ice house and kitchen garden with conservatories and a tree nursery. Many if not most of these are depicted on William Blake's plan (Fig 13.2), drawn to accompany George Cumberland's *Attempt to describe Hafod* (Cumberland 1796). Johnes' life and landscape have been popularised in the well-known romantic biography *Peacocks in Paradise* (Inglis-Jones 1950) whilst among his other attainments, printing (Dearden 1973), silviculture (Linnard 1970), architecture (Thomas 1973; 1975), and agriculture (Colyer 1976) have attracted interest. A scholarly appreciation of Johnes' landscaping appeared in Welsh over 40 years ago (Jenkins 1948).

Despite this near-total attribution of the early Hafod landscape to Johnes, it is now becoming evident that his predecessor on the site, John Paynter, a man of far greater landscape sensibility than heretofor appreciated (see Meyrick 1808–10, 365), probably had up to 25 years' start on Johnes in taming the wilderness.

Between them, 19th century *Rhododendron ponticum* and post-War afforestation until recently covered most of Johnes' walks and the two early flower gardens.

1 Mrs Johnes' Flower Garden or the American Garden (SN 7665 7312; *c* 1786) (Fig 13.3; 13.5)

The earlier of the two ornamental gardens, now under a 30 year old softwood plantation, is situated within the landscaped wilderness squeezed onto the flat valley bottom and comprising just over an acre (0.5ha). Known locally as the 'Garden of Eden' or 'The Adam and Eve Garden', like Mariamne's Garden (see below) it originated from Johnes' interpretation of William Mason's *The English Garden,* Book IV, (4 vols, 1772–1781). Inspired by Rousseau's vision of nature, the late 18th century flower garden and its plants were an expression of the moral virtues of the simple life. The shape of the garden enclosure bears a striking resemblance to Mason's own garden at Aston, near Sheffield, South Yorkshire (Mark Laird, pers comm). Set well away from the house amidst trees alongside the River Ystwyth, Mrs Johnes' garden was a carefully constructed paradise within the wilderness.

The garden wall, a 'rude stone-fence' (Cumberland 1796, 14), possibly originated during 1793–4, when John Nash began work at Hafod. The earlier garden may have been a more open woodland/flower garden, this view being supported by a painting from the Hafod Derby Service (1787), illustrating the 'little temple' (Cumberland 1796, 31; Kerkham 1991). Throughout the early 1790s the garden was modified for exotica, mostly of American origin, although plants raised from New Holland Flora certainly found their way into the shrubbery. The main requisite for a plant's admission into an American Garden was a peaty soil, relative shade, and moisture. Whereas Mrs Johnes always referred to this retreat as her 'flower garden', it is clear from a reading of contemporary letters and diaries, that by 1799 the plant species were recognisably American. Although research is incomplete, there is a strong likelihood that this was the earliest American Garden in Wales. The garden influenced Johnes' friends and relatives, notably the 6th Duke of Bedford at Woburn and the Johneses of Dolaucothi.

The enclosure was originally approached from either west or east through portals set with

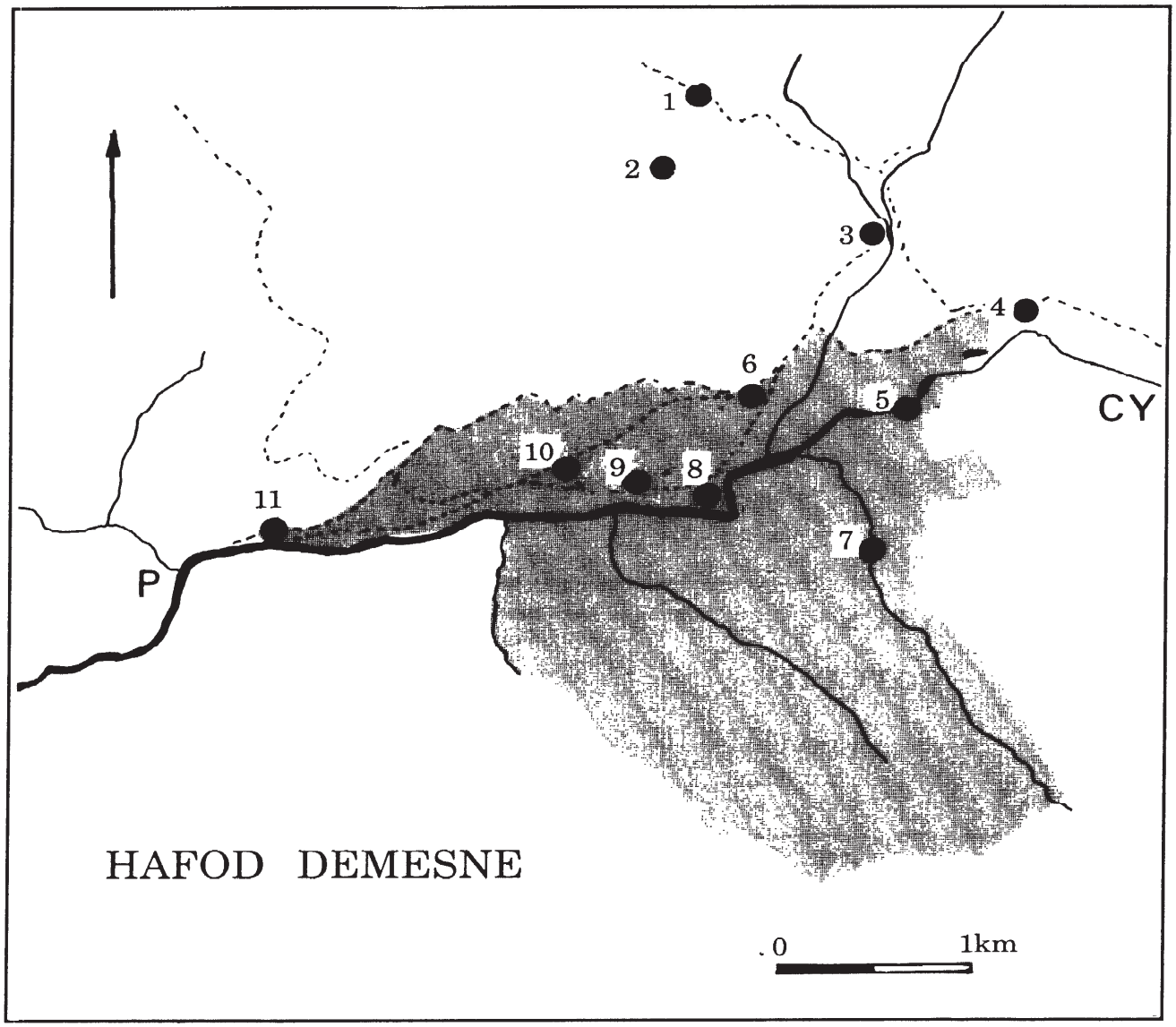

Figure 13.1 Hafod: location map. Shading shows areas of main afforestation and nucleus of original estate

Key:
P Pontrhydygroes
CY Cwm Ystwyth

1 Arch on Devil's Bridge Road (designed by Cumberland, 1806)
2 Site of lost Grange of Cwm Ystwyth
3 Pwllpeiran Experimental Husbandry Farm and early site of Hafod Press
4 Lodge (now restaurant)
5 Site of chain bridge (now inaccessible)
6 Eglwys Newydd and nearby Lodge (private residence)
7 Subterranean cavern (inaccessible)
8 Mrs Johnes' (the 'American') Flower Garden
9 Mariamne's Garden and Bedford Obelisk
10 Site of House
11 Lodge (private residence)

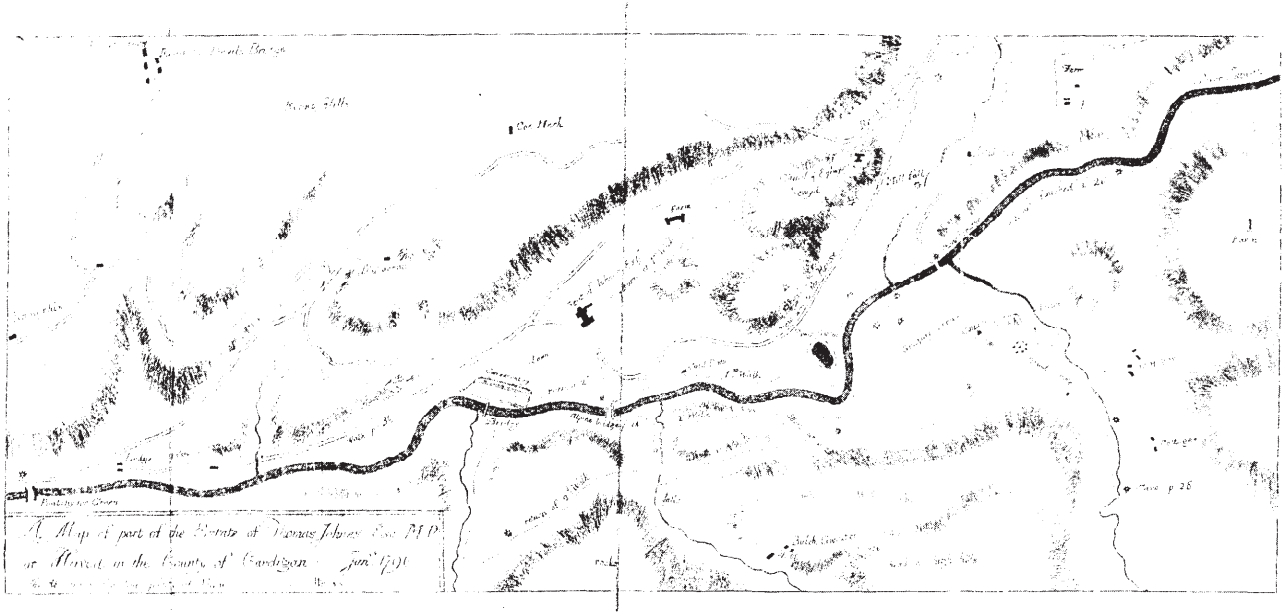

Figure 13.2 Hafod: William Blake's plan of estate walks in 1796, from George Cumberland's Attempt to describe Hafod

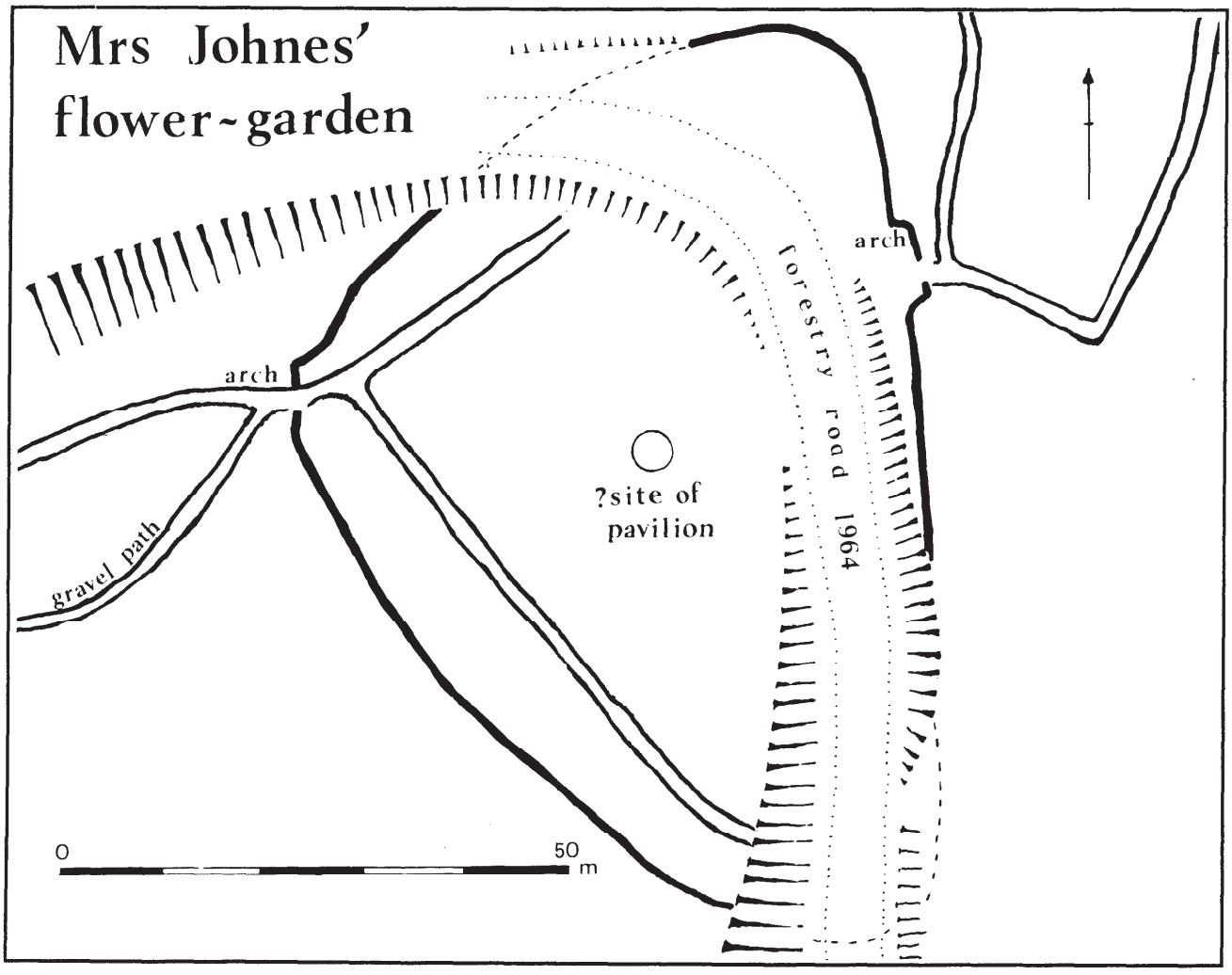

Figure 13.3 Hafod: Mrs Johnes' Flower Garden

Figure 3.4 Hafod: Nymph and Satyr keystones from the arches into Mrs Johnes' Flower Garden. (Photo: Douglas Hague, reproduced by courtesy of Joan Hague)

rusticated Coade Stone voussoirs and blocks, decorative blocks, and impost block. The arch keystones, dated 1793, depict a satyr (west) and nymph (east) (Fig 13.4; cf Kelly 1990, 158). These symmetrical artificial stones were among Johnes' few concessions to the Classical Tradition in his wilderness.

In 1964 the garden was bisected by a forestry road, removing perhaps a third of the enclosing wall and the same proportion of the enclosed area. Of the two original arched portals, one had been completely demolished. This sadly advanced state of deterioration and the imminent collapse of the remaining arch during 1985–6 prompted the writers to approach the Forestry Commission with a view to initiating restoration. Help was forthcoming and the wall was restored under an MSC scheme, though neither to its original height nor to the original Cotswold section. Although the Coade Stone of the portals was at first thought to have been lost, a well-wisher had taken one complete set of voussoirs into safe-keeping during the late 'fifties and these he willingly returned. Copies for use in restoration indistinguishable from the originals were cast by Mr John Davies of Trapp Craft Workshop near Llandeilo. Redesigned keystones in keeping with the originals now adorn the arches, both of which John Davies entirely restored between September 1988 and April 1989 (Fig 13.5).

Long-term plans are in hand for eventual clear-felling of the garden area and replanting with appropriate shrubs. But there are practical

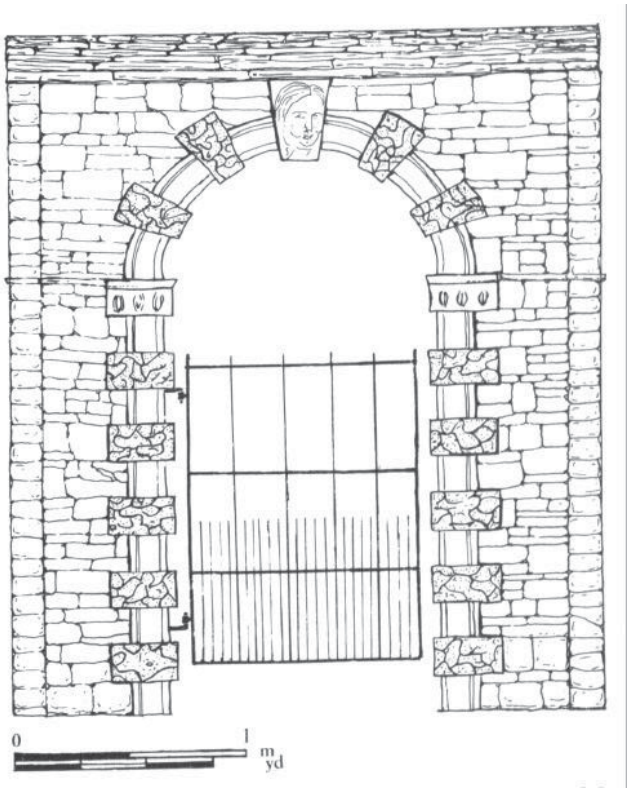

Figure 13.5 Hafod: ornamental arch into Mrs Johnes' Garden of c 1793

Figure 13.6 Hafod: summerhouse, from Hafod Derby Service. (Copyright National Library of Wales, illustrated by permission of John Twitchett, Curator, Crown Derby Museum)

difficulties to be overcome before this can be fully accomplished. First, for a site of such significance to the history of silviculture and horticulture (the first American garden in Wales surviving within its original enclosure), diversion of the forestry road would be desirable and must be seriously considered in the long term. Even were resources readily forthcoming for such a scheme, the topography of the site makes this technically difficult. Secondly, clear-felling discrete areas within forestry blocks may produce blow-outs. And thirdly, the garden is known to have contained a summerhouse. Possibly of Coade Stone, it was described as 'a sequester'd seat' in 1787 (Fenton 1790, 142; Thomas Lloyd, pers comm) and by Revd James Plumptre in 1799 as a 'Chinese Temple' (Cambridge Univ Lib Add MSS 5816 (e), fo 163). Although Malkin referred to the garden in 1804 as 'still further to be ornamented by a Doric temple from a design in Stuart's *Athens* [1762]' (Malkin 1804, 348), it seems reasonable to conjecture that the delicate Gothic building illustrated on the Hafod Derby Service is in fact the 'Chinese temple' (Twitchett 1980, 158, pl 174; Fig 13.6). Inaccurately described on the plate as 'Cold Bath Hafod', the painting clearly shows a Gothic-style garden pavilion with a dome possibly of wood and lead, having corner-clustered columns. The entablature is indistinct, but appears capped by a parapet and pinnacles, making it remarkably similar to surviving contemporary Coade Stone examples (cf Kelly 1988, 120–2).

Also of Coade Stone was the Triton *(teste* Plumptre, *ibid),* having been rescued in fragments from the garden site by Mrs Simpson of Pendre, it is now safely in Forestry Commission ownership. Recognisable pieces of Triton's thigh, dolphins, and conch shell base survive (cf Kelly 1988, 117, fig 5).

The original gravel path delimited flower beds and a central lawn. Although early 25–inch OS maps (1888 and 1904) do assist in giving some idea of the paths a century after the garden was established, the exact site of the pavilion has not been ascertained and no gravel paths have yet been located, although these can be conjectured from OS 25–inch plans. The nature of the flower beds can only be formulated from detail given in Jane Johnes' correspondence with Henrietta Liston of Millburn Tower near Edinburgh *(Liston Papers,* Nat Lib Scotland; Tait 1984; Kerkham 1991).

It is questionable as to whether or not sufficient pollen spectra could have survived in buried soils for useful recognition or quantitative identification. Nevertheless, today's pine canopy is shallow-rooted, and pedology may help establish some details of horticultural practice.

2 Mariamne's Garden (SN 7640 7320; 1795–6) (Fig 13.7)

Up the hill to the north of the American garden on the south-facing craggy slope of the river valley, was an overhanging, secret flower and shrub garden containing many alpine plants. It was first designed and planted during 1795–6 by Dr James Anderson (1739–1808), the noted Scottish Agriculturalist, for the express use of Johnes' daughter, Mariamne (1784–1811). A botanist in her own right, she certainly collected plants and presumably also tended them *(Smith Correspondence,* Linnean Soc, *passim).* The approach to the garden was from a steep zig-zag climb up stone steps. The shrubbery was surrounded by a semicircular wall locked at a postern to all but the most special visitors (Shepherd MS, Manchester College Oxford, vol 4, fos 43, 47).

Anderson divided the site into an *Upper* and *Lower* garden. The latter, possibly a heather garden, occupied the rocky platform below the south-western entrance *(ibid,* vol 14, fo 13). Thomas Johnes wrote to James Edward Smith in 1803 that Mariamne had 'five gardens... to look after. The Upper one... wonderfully pretty... lately

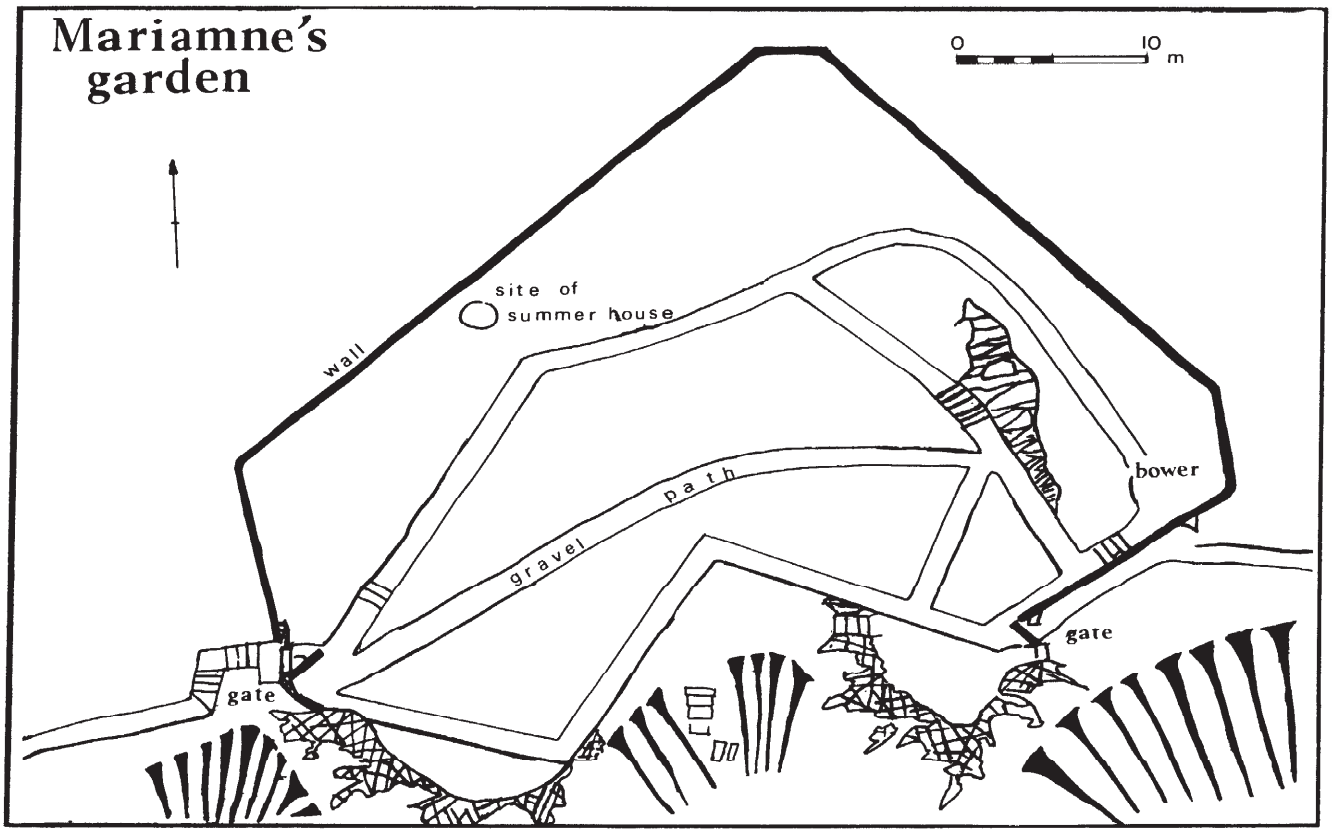

Figure 13.7 Hafod: plan of Mariamne's Garden

ornamented with a beautiful vase...' *(Smith Correspondence,* Linnean Soc, 16 xi 1803). The Upper Garden was probably subdivided to accommodate specific plant requirements. Its rocky nature was particularly well-suited to alpines and the steep southern overhang would have provided an attractive habitat for rare scree and moraine plants *(Smith Correspondence* Linnean Soc; M Johnes to J E Smith u d (1801)).

Whereas the paths were originally bordered by American rhododendons, possibly *R maximum* and *R catawbiense,* like much of the estate, this hillside has become naturalised by *R ponticum* (Smith 1810, 14). This has recently been cut back to be eventually replaced by less energetic varieties. Clearance of the garden is now almost complete, trees having been cut to leave roots in the ground so that potentially important man-made features might not be disturbed. Having been partially smashed by ancient fallen trees and eroded by nature, the outer retaining wall has been carefully relaid and has every appearance of an authentic restoration. Unfortunately, termination of the MSC scheme left messy cemented walls and steps at the more northerly entrance. Now that the public is to be invited into this area, to comply with safety regulations the Forestry Commission has surmounted the ascent with a tasteful black-painted steel safety rail. Eventually due consideration is to be given replanting the interior with authentic stock.

Within, paths of quartz fragments are still to be seen, though the surface of the much used central path is eroding downslope. Local amateur interest in the project is strong and has resulted in the uncovering of steps descending the steepest, south-eastern, part of the rock exposure here. Although this digging has resulted in useful discovery, there is very real danger that such activity will not only attract further exploration by the general public, but might also disturb the soil originally forming the discrete plant habitats of Mariamne's Alpine Garden. In fact, these steps descend to what was in all probability Mariamne's 'Fernery', a site demanding the closest of controls in any future scientific investigation. Problems of restoration and re-planting are similar here to those encountered in the American Garden. Our ignorance centres upon the nature and location of Mariamne's five distinct gardens at this site; the original 'moss-house' (Shepherd MS, *loc cit* 14, fos 11–16; Malkin 1804, 348); the nature of a ?19th

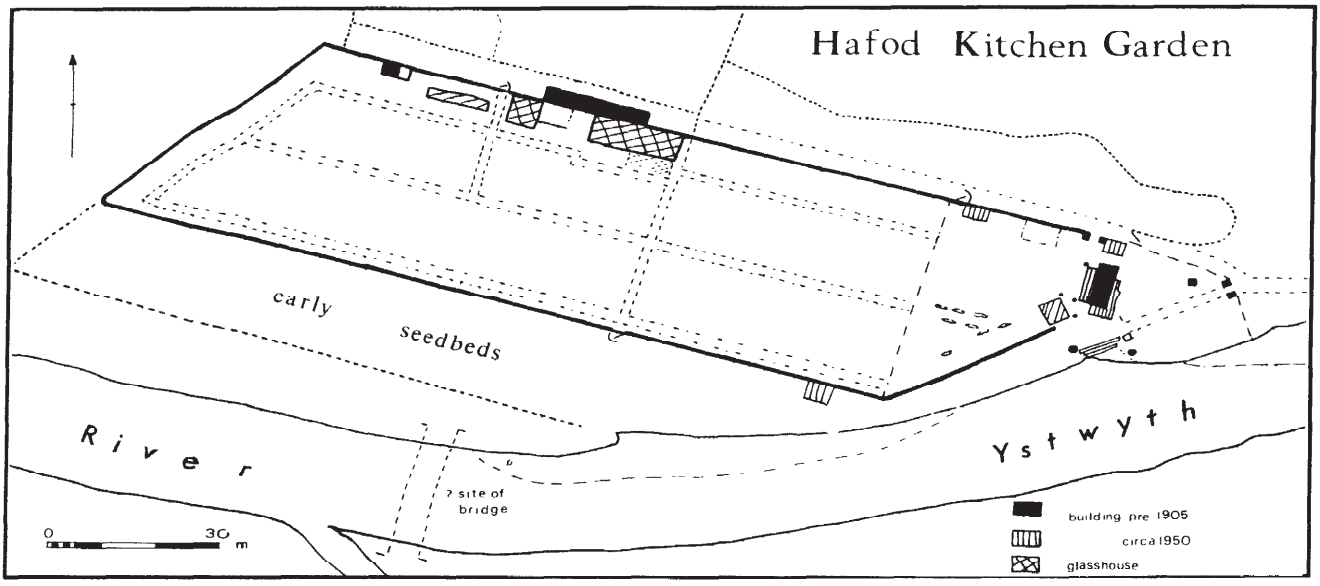

Figure 13.8 Hafod plan of kitchen garden

century summerhouse marked upon the OS 1888 25–inch plan, and the original siting of a Carrara Marble Urn, one of the last works of Thomas Banks, now on display inside the National Library at Aberystwyth.

As already noted, conservation and restoration was carried out from 1986–88 at both gardens and upon several of Johnes's original gravel walks under an MSC/NACRO programme. Garden perimeter walls were partly or wholly rebuilt and steps and pathways made safe under the scheme. Clearance of undergrowth from paths and gardens was well advanced to facilitate public access to a limited part of the demesne designated as a forestry walk to be opened in 1991. Controlled scientific excavation is needed before any replanting, and at the time of writing there seems to be some danger that exploration by enthusiastic amateurs, as well as further restoration itself, could be visually and structurally damaging to important features if not properly monitored.

3 The kitchen garden (SN 7560 7305; begun *c* 1790) (Fig 13.8)

Johnes' kitchen garden was upkept by the estate until around 1940, then maintained as a market garden before being taken over as part of a small private house during the 1950s. In 1988 this became one of only two Listed Buildings upon the entire estate. It was completely abandoned between 1968 and 1988, but is now reoccupied by owners who intend to undertake limited restoration, having been bought privately in July 1988. Despite years of neglect, it is still possible to trace the boxwood hedges which delimited the seedbeds, at least since Victorian times. Many internal features probably of early date seem traceable. Until summer 1989, its wall remained basically sound, but ground shrinkage during the drought caused extensive collapse, and rebuilding without the appropriate resources might prove to be a major future handicap.

The kitchen garden comprises a $2^{1}/_{3}$ acre (*c* 1ha) plot surrounded by a trapezoidally laid wall [480 x 190 ft: 146.3 x 57.91 m] about 3m high. It lies on a flat terrace of the valley and is separated from the Ystwyth by another trapezoidal area of 1.5 acres (0.6ha). Whether or not this plot was intended for raising plant stock, or even had flower beds, will remain an open question until excavations bring to light acceptable evidence for these functions (cf Kerkham and Briggs 1990, 199). It is extremely important that future research and archaeology ascertain where seedling trees were husbanded in Johnes' silvicultural experiments (Linnard 1970).

The garden is still stocked with many decaying fruit and rogue deciduous trees, the latter mostly of post-War origin. Along the south-facing north wall and west wall remain sections of steel wires for fruit cultivation; the walls are also pegged with innumerable nails from tagging and nailing. One part of the western wall is entirely of brick in the English Garden Bond (*teste* James Barfoot), brick being considered to have superior thermal qualities in successful peach growth. Here, surviving zinc species plates record pear cultivation.

Set against the garden wall are two glasshouses, one quite massive, 7m x 20m, now under a tin or

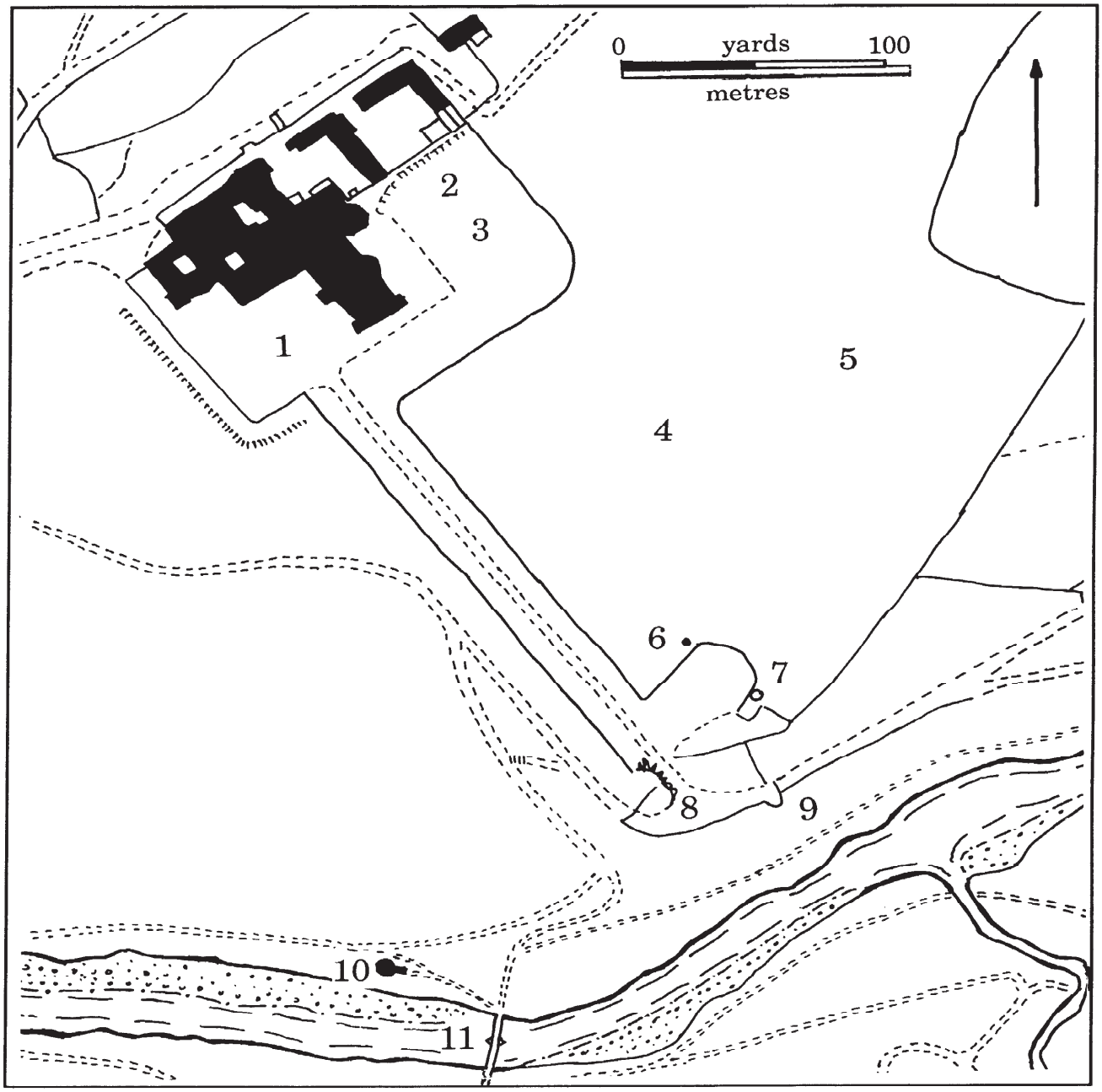

Figure 13.9 Hafod: plan of mansion from 1904 OS 25–inch map. Figures in brackets refer to text

Key:

1 Mansion (6)
2 Site of 1794–6 Conservatory (5)
3 Site of Victorian circular lawn and probably mason's yard to original Baldwin house
4 Site of Baldwin's Offices (4)
5 Site of Paynter's house (pre-1786)
6 Stone monolith (14)
7 Summerhouse base (13)
8 Rock-hewn carriage drive of 1786
9 Flanked viewing point on carriage drive
10 Icehouse (9)
11 Alpine Bridge (12)

asbestos roof. The smaller, still largely glazed, stands 13m x 7m (only 3m for half length). Both incorporate a certain amount of original Victorian or earlier mechanical window winding furniture. Only one is depicted on the OS 25–inch map of 1888. However, the original glasshouses are believed to have extended almost the full length of the north wall (Lipscomb 1802, 129). John Nash is known to have supplied glass for the Hafod glasshouses 1792–6 (Jones 1939, 94–5). In *Country residences* J C Loudon criticized Dr Anderson's design for heating hot-houses, outlining his own invention of an 'inner roofing' or curtain, which would 'not only save much fuel, but greatly lessen the risk of overheating or overcooling' . . . In Wales these improvements could be seen at 'Havod, where ten large hot-houses are altering according to the author's mode' (Loudon 1806, vol I, 290). Loudon's improvements were presumably to the original structures.

Behind the greenhouses, on the north side of the garden wall is a block some 20m long and 3m wide, comprising the original boiler house and garden workshops. Lipscomb's observation probably included the 'Stove House' referred to by Mariamne in 1795. This was almost certainly one of the earliest of the garden's glasshouses (M Johnes to J E Smith, *Smith correspondence,* Linnean Soc). There are also coldframes partly built of engineering brick and seedbeds and a pigsty nearby. In 1988 gardening paraphernalia, such as broken earthenware forcing pots and the top of a lantern cloche, littered the beds. Surviving plants then observed included rhubarb, raspberry, peppermint, and cherry laurel; daffodils in spring grew immediately before the brick wall (west section).

The original garden cottage, lying at the east end is much altered, though conversion of both building and immediate environs have been done with some sensitivity. Immediately around it survive some remarkable architectural features taken from the mansion, presumbly after its demolition in 1958.

In 1796 George Cumberland described a precipitous descent leading down Cae Gwartheg on the south side of the Ystwyth, crossing by way of 'a very long flying bridge' in order to view 'the conservatory and fruit-walls' (Cumberland 1796, 34). Although a thorough search was made for this structure on both river banks in autumn 1987 (between OS SN 7550 7300 and 7581 7299), no indications of such a structure could be detected.

A small number of important ornamental trees remain here and throughout the demesne. These include a remarkable *Magnolia acuminata,* which, together with several cypresses, is now the subject of a tree preservation order.

Examples of *Cedrus Libani* (Cedar of Lebanon), *Sequoiadendron giganteum* (Wellingtonia), *Arucaria arucana* (Monkey puzzle) and the *Arbutus unedo* (Strawberry tree) are but a few of the surviving ornamentals close to the mansion site.

4 The site of Baldwin's Offices (SN 7600 7380; 1790–94) (Fig 13.9:4)

Before Johnes began building at Hafod, it had for some time been in the tenancy of John Paynter, Lord Powys's Mining Agent. The earlier building probably lay upon the flat piece east of the present ruins, where the otherwise smooth line of the hillside is rather truncated in the way that is common where small farm buildings have been quarried from rock faces in their immediate vicinities. A view from the Hafod Derby Service entitled 'Hafod West Front' (Gerald Pendred, pers comm) clearly illustrates a low, L–shaped building, possibly in the Cardiganshire vernacular, positioned on this site.

Watercolour drawings dating from 1790–92 show the site to have been later occupied by the domestic offices and stables of the Baldwin scheme. Clearly this is archaeologically a most sensitive area.

5 The conservatory (at Hafod Mansion) (*c* 1794–6) (Fig 13.9:2)

Running north-north-east from the ruin of the Rotunda there is still a conservatory garden wall with at least one flue at the base suggesting it might once have been a heated wall. Johnes is known to have had his Conservatory, originally 160ft (*c* 50m) long, on this line, and there is a strong possibility that, not having been later built upon, original foundations and bedding arrangements remain buried there.

Set within this wall are the remains of a marble fountain built into a slight recess and arched in engineering brick. Water was piped to it from domestic buildings behind, the spout being decorated by a masked head which spilled into a scalloped marble bowl (Nat Lib Wales MS 1340C, fo 137). This fountain, designed by Thomas Banks, was originally sited at 'the extremity of the conservatory' (Malkin 1804, 360). The conservatory is illustrated by Rees (1815, pl opposite 417) from a drawing by J P Neale.

6 The ruins (SN 7590 7325) (Fig 13.9:1)

Although having provided amply for decorative building and garden ornament, the mansion site itself remains a heap of stone and mortar, its massive quoins and slabs providing a potentially valuable source of Bath stone for architectural restoration. It is not known what were the original domestic drainage arrangements. However, beneath and around the site is an amazing labrynthine sewer arrangement lined in white ceramic tiles and capped by massive cast-iron man-hole covers which, having been re-designed in 1912 (Borron forthcoming, fn 67) probably incorporates some earlier features. To the north of the ruins the Forestry Commission has maintained Waddingham's stables and stableyard (rebuilt in

1882), giving the otherwise derelict site an important focus of survival.

7 The fishponds (?1788-90)

The existence of two working fishponds is first revealed in Jane Johnes' correspondence between 1788 and 1790 (Dolaucothi MSS Nat Lib Wales). Both appear on the first edition OS 25–inch map of 1888. The larger lies south of the home farm, Pendre (at SN 7622 7341). This figures in two illustrations from the Hafod Derby Service entitled 'From the Menagerie Hafod' (Hoyte 1990, 33; Roger Hallett, pers comm) and 'The Menagerie' (Thomas Lloyd, pers comm). Oval-shaped, it is about 220ft *(c* 70m), east-west, by 67ft *(c* 20m), north-south, and contains a small artificial stone island growing ?rogue shrubs. Heavily silted up, the pond itself now only supports pondweed, reeds and a few bullrushes. It originally took water from a stream running alongside the farm, channelled beneath a gravel track. More recently the flow has been diverted into a partially covered watercourse across the field parallel with Middle Hill, 'The Menagerie' (or pheasantry, in later parlance) appears as a small building beside the pond on a dish from the Hafod Derby Service, approximately on the site of the later, 19th century, Hawthorn Cottage.

The other pond lies some distance to the east (at SN 7706 7298), in a dense larch plantation on the south side of the river about 100m from the present forestry road which runs eastward to Dologau. On the OS 25–inch plan (1904) it appears segmentally shaped, the two straighter, embanked radii running approximately north-north-east and east-south-east. An east-west flowing stone-lined watercourse passes by and may originally have assisted drainage. Today, partially overgrown by broad-leaves, the surface water is roughly circular, about 17m in diameter. Two drainage cuttings now punctuate the western embankment. On the north-east side is a heap of imported stone suggestive of some collapsed and forgotten amenity, like a seat.

Other landscape features

8 Obelisk (SN 7637 7315)
Designed in 1803 (Colvin 1978,649) by W F Pocock (1779–1849), this was erected in 1805 to Francis, 5th Duke of Bedford, who died in 1802. It is sited on a slight plateau immediately below the entrance to Mariamne's Garden, commanding a fine view of the Ystwyth Valley. Square in section and surmounted by an ornamental urn, it is of micaceous sandstone slabs. Owing to its dangerous condition, this was dismantled and restored by the Forestry Commission during Easter 1988.

Figure 13.10 'Cold Bath Hafod' from the Hafod Derby Service (Reproduced by courtesy of Nicholas Harris)

9 Icehouse (SN 7503 7299) (Fig 13.9, 10)
This is located due south of the mansion overlooking the River. Of stone with the entrance partly collapsed and generally in poor condition, this requires excavation and remedial conservation work.

10 Subterranean cavern (SN 7747 7273) (Fig 13.1, 7)
This remarkable grotto was effected by driving a mining adit through the hypotenuse of a triangle of which two sides comprise a river and its tributary and is situated below the cascade on the south side of the valley about 1.5km from the Mansion. Thrown across the stream below the cavern's rock-cut steps was an alpine bridge. This is well illustrated by watercolour drawings from Malkin (1804, 345) and James Edward Smith (1810, pl V). Whereas no trace remains of this or of other Johnes rustic bridges, useful descriptions of them are found in the tourist literature. Today access is dangerous and not suited to unguided visiting.

11 Bath House (SN 7626 7308 approx) (Fig 13.10)
The Bath House, which lay roughly south-west of Mariamne's garden, was relocated by Mrs L Hallett

early in 1989. Its approximate site is strewn with broken brick and roofing slate, and all indications seem to suggest that its fabric has been widely disseminated by deep ploughing or clearance at the time of tree-planting during the 1950s. Described in 1799 as a small stone-built structure (Lipscomb 1802, 132), these features are clearly illustrated on the Derby Service (Thomas Lloyd, pers comm). By 1805 it was covered in flowering shrubs and was then said to be sufficiently large to house a changing room and alcove (Smith 1810, 12). Its precise position and form could now only be properly determined through controlled excavation.

12 Bwlch Gwallter Bridge (SN 7507 7296) (Fig 13.9, 11; Fig 13.11)
At the time of writing the wooden superstructure has been removed in anticipation of future restoration and whilst the masonry appears structurally sound, the base of the central pier is undercut and some of the higher course-work is fragmenting. It is unknown when the river was first spanned at this point but it seems this 'Alpine Bridge' underwent two rebuilds. Two drawings from Thomas Jones of Pencerrig's sketchbook (1786–7; Friends of Hafod Archive TJ 38–9b) illustrate a relatively simple walkway supported centrally (described as a 'long Alpine bridge'; Cumberland 1796, 13). Comparable structures were built by Johnes' cousin Richard Payne Knight at Downton Castle, Herefordshire (Watkin 1982). In 1797, one tourist referred to a 'stone Bridge' building over the Ystwyth (Nat Lib Wales MS 16133C fo 33). In all probability, this refers to buttress alterations accommodating the bridge described as 'formed of two wooden arches springing from a central pier' (Wood 1813, 164–5; pl facing p166; cf Lipscomb 1802, 131; here Fig 13.11). It is probable that John Waddingham restored wooden bridges during the 1870s and '80s, returning Bwlch Gwallter to simpler wooden trestles by raising the central pier some 1.5m.

13 Summerhouse base (SN 7606 7314) (Fig 13.9, 7)
In 1987 Mr Don Parker located, deep in the undergrowth close to the mansion, an octangular brick base. Artefacts associated with the site include coloured glass (cobalt and watery blues, green and grey-green, plum, rose, and transparent bricks, and roofing slates. A comparable colour scheme is recorded from a summerhouse at Dunkeld in 1768 (Hajos 1989, 44). While its origins are obscure, there is a possibility that this was originally constructed by John Paynter. It lies within a small hill-top garden terrace and requires excavation before restoration or consolidation.

Paynter is known to have constructed a summerhouse at Hafod, where the following inscription (in Latin) was copied by a visitor in 1768:

> he [Paynter] designed this small garden and small house [or temple] in like manner, built in the same place, for the amusement of his friends and so that he might in some measure wash away the more oppressive cares of life (Bodleian Lib MS TOP Wales (e) 1, fo 41; kindly translated by Dr Janet Marx).

In September and October 1786 Thomas Jones made drawings of a small castellated building on this site (Friends of Hafod Archive TJ 12, 39, 39a, and 40). Passing this way in 1799, George Lipscomb observed 'a small turret . . . happily placed on [craggy rocks] . . . which is executed with so much taste and propriety, that it can scarcely be thought artificial' (LIpscomb 1802, 126; also mentioned 131–2).

There is, however, the possibility that a second summerhouse was erected on the site in the mid–late 19th century, a possibility which must be borne in mind during any future investigation here.

14 Square ashlar obelisk (SN 7600 7112) (Fig 13.9, 6)
This sandstone monolith stands over 2m in height and lies in undergrowth near the house. Its date and original purpose are unknown, though there is a local belief that it records the spot from which Mrs Johnes and Mariamne watched the house burn in 1807.

Alternatively, the modest nature of the monument might suggest a Waddingham connection, possibly commemorating Margaret Waddingham's marriage to F R V Witts in 1876, or that of her brother James to Sarah Davies in December 1883.

15 Pont Newydd: alpine stone bridge with wooden trestles (SN 7704 7362; 1814)
Situated on the former eastern carriage drive, immediately above Pwllpeiran Waterfall, like Bwlch Gwallter Bridge, this was probably restored by John Waddingham. Archdeacon Henry Thomas Payne recorded (July 1815) a 'two-arched Bridge over the stream' here, which suggests some possible similarity in design with the second phase of that same structure (Nat Lib Wales MS Cwrt Mawr 101c, fo 8). Unused for some time now, the decaying superstructure was severely damaged between 1987 and 1988 by private forestry contractors, leaving the trestles in imminent danger of total collapse. At present the old road surface remains visible and in need of careful record, if not of full excavation.

16 Summerhouse (SN 7739 7359; 1805)
Sited upon the New Walk, the only known drawing of this structure before collapse is by Piper of about 1939. Archdeacon Payne wrote of passing 'under a rude arch of stone' before crossing 'a curious chain Bridge' (Payne, *loc cit,* fo 7). Two of an original four

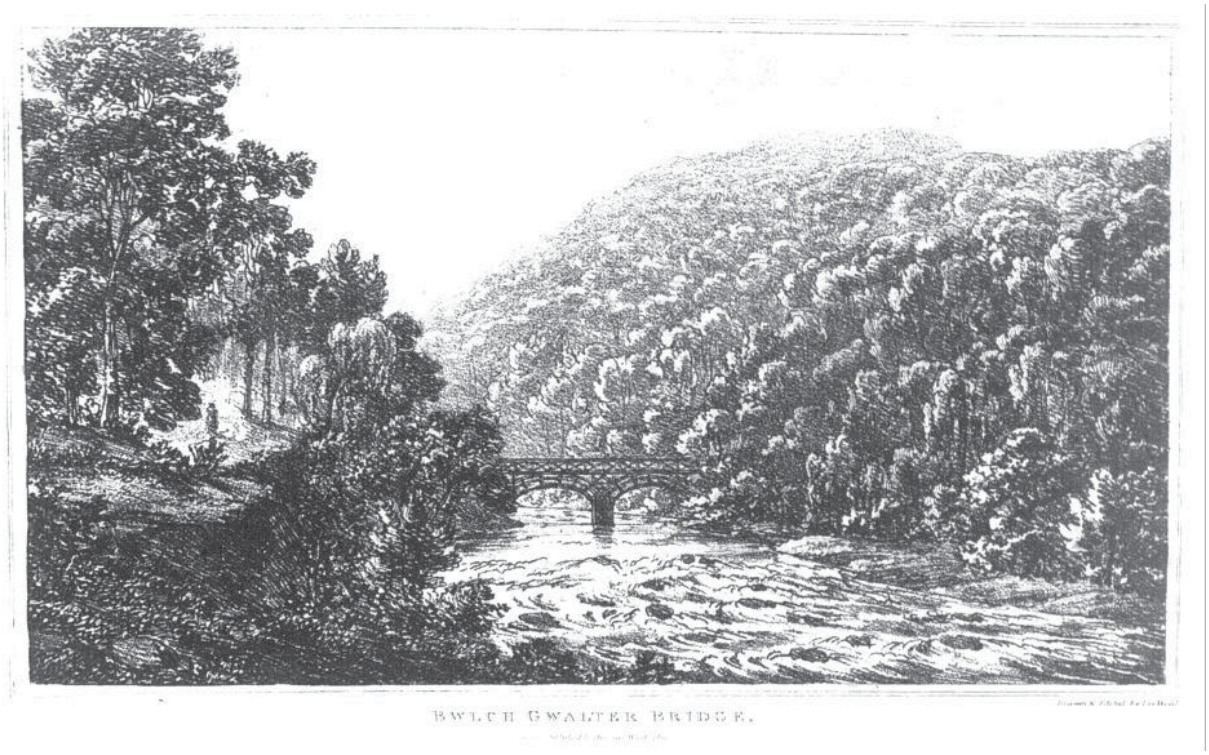

Fig 13.11 Hafod: Bwlch Gwallter Bridge, from J G Wood The principal rivers of Wales illustrated (Wood 1813, pl facing p 166).

pillars remain, overlooking a 15–20m deep chasm of the River Ystwyth. The site requires careful excavation before reconstruction.

17 Posts for chain bridge (SN 7745 7336; Fig 13.1,5; 1805; Rees 1815,428)
Along the same walk as the above summerhouse, situated some 60m from it, are the two remaining pairs of cast iron suspension posts for a chain or cable bridge over a rather more shallow river chasm. Two outer pairs of pillars carrying a wire restraining fence to the bridge, of slighter build, also survive. The pillar bases require to be dug out so that their design and load-bearing capacity can be fully appreciated. Wood described it as 'a bridge formed of chains, with planks laid across, hanging over a rocky chasm, the river roaring beneath' (Wood 1813, 164). It would be interesting to know who cast its pillars. The ornamental parapets at the Devil's Bridge were commissioned by Johnes from Aberdare Ironworks in 1814 (Chater 1978, 333). It is possible, however, that he had used the firm 'Winward & Co' for earlier work, since we find him recommending them to George Cumberland in 1813 as 'good casters' (Brit Lib Add MSS 36,504; fos 3–4 [Johnes–Cumberland corresp]).

18 Dologau (originally Tyloge) bridge over the Ystwyth (SN 7707 7334; pre-1796)
This is a single-arched stone bridge the road surface of which was damaged 1987–8 through use by private forestry contractors' vehicles. That the structure is illustrated upon a plate from the Hafod Service suggests a construction date pre-1787 (Judith Anderson, Keeper of Art, City of Derby Museums and Art Gallery, pers comm).

19 Nant Peiran stone bridge (SN 7694 7345; pre-1796)
Another single-arched stone bridge, this was similarly damaged to the above.

20 Minor ornamental features in Hafod Wood
(between SN 7575 7325 and 7595 7345)
Among the few remaining man-made parkland features are a number of small bridges sited over the streams flowing south through Hafod Wood. It has recently been suggested that these originally formed part of a Japanese Garden (Macve 1989, 68) which at one time framed the house to the north. Although there is good photographic evidence showing this hillside carefully planted with ornamentals by the Waddinghams, certainly before 1900, neither written nor reliable verbal evidence survives to support the view that it was ever

specifically Japanese in concept. Close identification of the tree and shrub species surviving in this area may shed more light on the problem.

21 Gazebo (SN 7696 7350 approx; pre-1796)
This gazebo was found on the gravel path north from Peiran bridge to Pwllpeiran Falls. A favourite resting point for visitors contemplating the cascades, it was much appreciated during the early 1800s (Kerkham 1978, 269). The structure was entered from the south through a small arch leading into a square building, there having been a seating arrangement inside, to the right, giving the visitor a view of the falls (Plumptre *loc cit* fo 163). A wooden bridge adjoined the gazebo. Probably constructed of two large tree trunks, with a rough wooden handrail similar to other rustic bridges described and illustrated on the walks, it was thrown across the Peiran at this point and led a gravel path through oak woods down to Tyloge Bridge (Cumberland 1796, 16; Smith 1810, 12, pl V, Malkin 1804, 345).

22 Abandoned or depopulated farms
Efforts begun by the authors to locate the sites of cottage groups and two farms known to have disappeared since 1796 (Briggs and Kerkham 1988, 78), are now being prosecuted by the Friends of Hafod. The remains of one cottage which survived until between 1888 and 1905 is located south of Dologau at 7714 7315; another, unmarked on any map post-1796, lies in dense woodland south of Nant-y-Cae at 7757 7285. One farm site, possibly depopulated by Johnes in order to improve the view from the other river bank is now completely ploughed out, and lay in a field to the south of the Cwm Ystwyth road at SN 7740 7375. Another was situated upon Cnwc-y-Fedw around 7757 7315.

23 Medieval mill (SN 7718 7373 approx)
Strata Florida Abbey's Grange of Cwm Ystwyth possessed a mill at Pyran. It has been tentatively suggested that this was located at SN 775 746, the present-day Pwllpeiran Experimental Farm (Williams 1990, 69). The site of an 'old mill' is, however, marked on Cumberland's 1796 plan in Nant Peiran, not far above the falls (Fig 13.2), and though no vestiges were recognised during an intensive search in that locality in summer 1988, it seems reasonable to forward this as a more likely site for the lost monastic mill.

Johnes' walks east of Pontrhydygroes remain to be explored, remapped, and compared to early tourists' descriptions (Cumberland 1796, 35–43; Smith 1810, 17–20); also, the walks running south-east between Allt Dinanog and Cae Gwartheg from Bwlch Gwallter Bridge (Cumberland 1796, 32–4; Smith 1810, 12).

Besides these parkland and garden features, the demesne includes mine adits, the site of a large sawmill, several cottages, a home farm, and three lodges, all of which demand detailed investigation. In addition, Johnes is believed to have built at least 13 miles of drystone agricultural enclosure wall upon the demesne, much of which remains overgrown with moss and hidden in softwood plantations. In the absence of reliable estate records and of incomplete depiction upon the OS 25–inch plans, all traces of remaining walls ought to be surveyed and recorded.

A number of architectural details taken from the grounds over the past half century are believed to remain in private hands, The establishment of a local display would probably attract them back to the site and assist an understanding of the demolished features.

Retrospect and prospect

The local and national importance of Hafod is not in doubt. Johnes' landscape concepts were widely admired if not copied. While the two distinctive flower gardens bear a strong relationship to the late 18th century Paradise Garden, both anticipate early 19th century developments towards smaller more manageable garden types.

In 1990 the Forestry Commission established a Hafod Garden Panel, comprising (besides Commission staff) a botanist, an archaeologist from the Royal Commission on Ancient and Historical Monuments (Wales) (RCAHM(W)), an historian from the University College of Wales, and a representative of the Friends of Hafod. The Panel's objectives are through far-reaching consultation to present a conservation strategy ostensibly to protect the few remaining though unique features. This may be used as the basis for limited restorations of some features from Johnes' landscape. During 1991 the Forestry Commission will open a car park above Hafod Church (OS SN 768 737) and waymarked paths will facilitate access to a walk based upon features central to the understanding of the conceptual Paradise Garden. Prior to completion of this scheme and to any further restorations, detailed surveys and careful attention must be paid to the condition of the icehouse, of the original paths, the pavilion, summerhouse bases, and flower beds. Most importantly, before the public is allowed entry to the two shrub gardens, detailed specialist recording and geophysical surveys, together with proper scientific excavation such as would obtain in mainstream archaeology, must be commissioned and undertaken. Without this there is imminent danger that the documentation remaining to be squeezed from fragile soil profiles and apparently inconsequential stone settings will be irreparably and irredeemably damaged under visitor pressure.

Although there is still scope for documentary research, it is now clear that the key to an understanding of this 'garden' and its potential preservation or conservation can best come through thorough fieldwork, survey, and excavation.

Already, the recognition or discovery of important man-made components of Johnes' Hafod landscape highlights more universal difficulties of garden protection, investigation and restoration in Wales, and more generally, in Britain. Aware of these difficulties, local Forestry Commission staff in the Ystwyth Forest were led, before his retirement in 1989, by Forestry District Manager, John Davenport. He, his staff (particularly John Roe), and successor, Trefor Owen, have offered every encouragement and assistance to overcome them. However, the absence of statutory protection, rather than indifference or lack of concern, meant that a qualified archaeologist was not required to help supervise the MSC/NACRO employment scheme.

What must be sought is access to the scarce resources likely to be required to fulfill the heavy demands of archaeology, restoration, and access. Officers of the recently established (1989) Welsh Historic Gardens Trust have expressed concern and interest in helping to secure such resources. However, effective, long-term remedies to the requirements of landscape conservation must ultimately be sought through national initiatives. Nowhere better than at Hafod can we see the need for a government directive at full survey of historic parkland and garden landscapes, followed by selective statutory protection and long-term excavation programmes prior to restoration or restocking. To neglect this need is effectively to condemn to oblivion a landscape, unique alike to local and national aesthetic values.

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14 The state of garden archaeology in Scotland

Catherine H Cruft

The most rewarding gardens for archaeological investigation are those forming an ornamental accompaniment to vanished castles and country houses, which, through the evolution of history and changing taste, will often have survived as gardens along with the newly encased house, but have been altered out of all recognition. In England the examination of vanished manorial houses has resulted in an interesting series of abandoned formal gardens with designed parterres, long canals, ponds, and wildernesses. These important manor houses are absent in Scotland. Pleasure gardens were contained within the fortified enclosures of the tower-houses, or attached to the laird's house and were often provided with summerhouses and other architectural features (Figs 14.1 and 14.2). Very occasionally, where the castle or house stood on the edge of a steep slope or cliff, the gardens were terraced, so that a series of narrow areas linked by stone staircases provided contemplative areas with pavilions for shelter. Many existing Scottish gardens were developed and enlarged during the 17th century mostly as part of improvements carried out to existing castles and houses, and consequently the buildings and planting of earlier centuries were destroyed.

The years from the Restoration saw the start of the building of the great formal gardens in Scotland, at Alloa, Clackmannan District; Glamis, Angus District; Hatton, Midlothian District; Holyroodhouse, Edinburgh; and Yester, East Lothian District. *Slezer's Theatrum Scotiae* of 1693 is the first topographical book published in Scotland to give bird's-eye views of burghs and of a

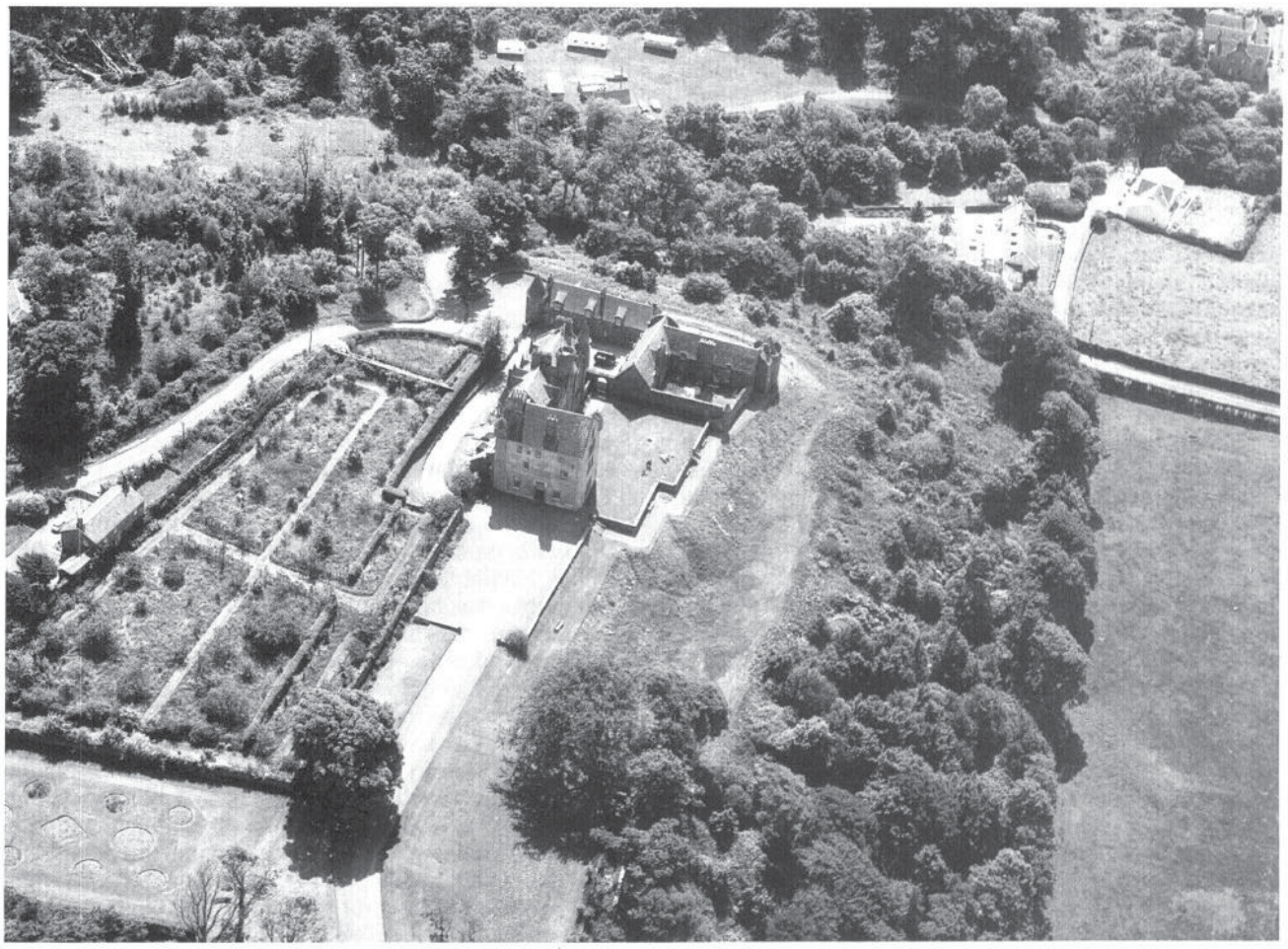


Figure 14.1 Skelmorlie Castle, Cunninghame District: aerial view showing 16th–17th century house with attached garden, 1977 (copyright RCAHMS)

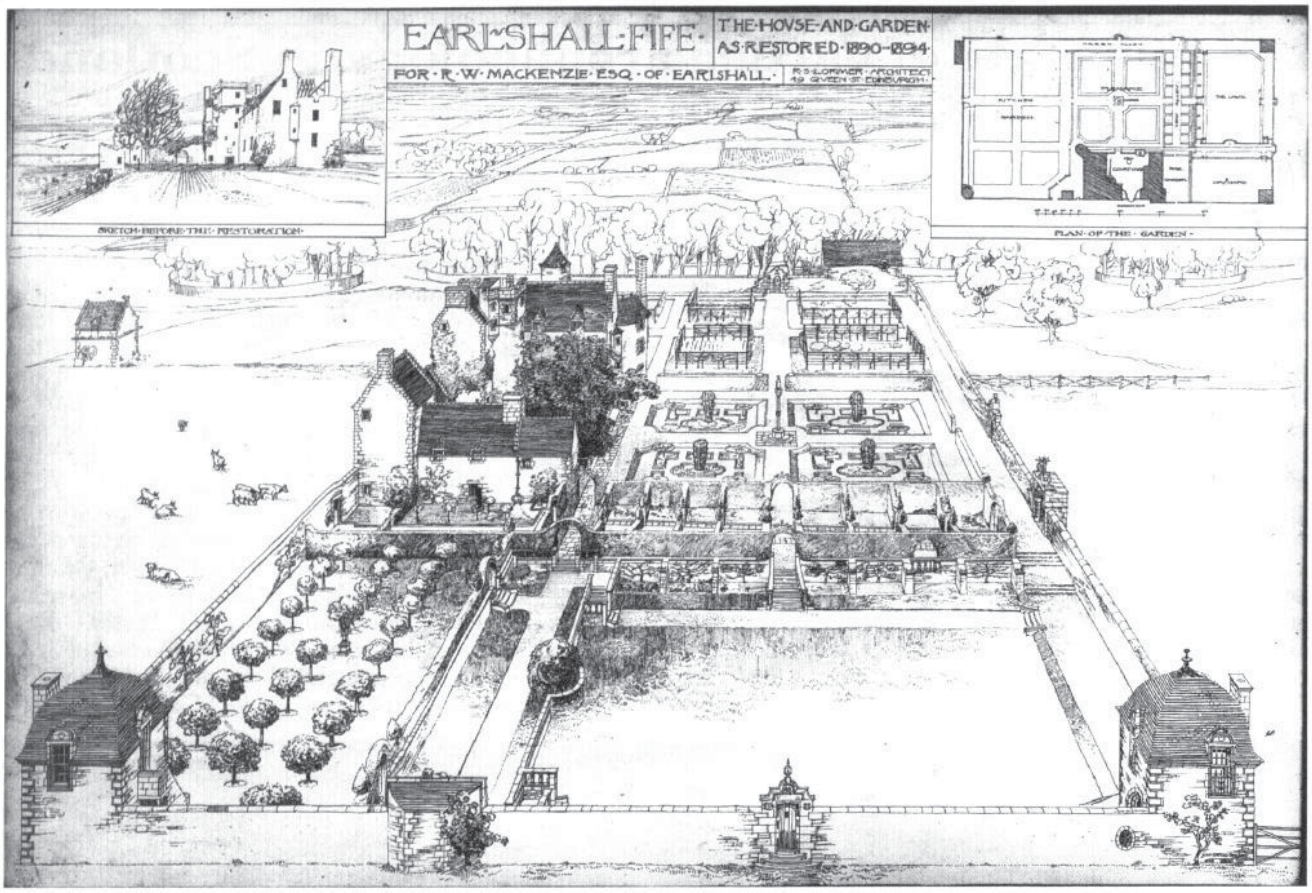


Figure 14.2 Earlshall, NE Fife District: garden designed by Sir R S Lorimer using 17th century garden walls. Bird's-eye view drawn by J Begg c *1893 (copyright RCAHMS)*

few of the major houses and gardens (Fig 14.3). It is clear that most of the post-Restoration gardens were situated in the south of Scotland and the east coast belt; the creation of gardens in the Highlands did not develop until a much later date. Most of these large formal gardens have disappeared. Glamis and Yester were swept away by the invention of a freer and less rigid attitude to gardens and designed landscapes; a new classical house demanded an appropriate setting in the latest style as at Yester. The formal gardens that survive do so because the houses may have been deserted or abandoned for a period, or become a ruin, and therefore no effort was made to improve the garden by employing a landscape designer or trained gardener. Where the house had developed from a tower house, the later picturesque landscape overlay the formal vistas and compartmented gardens of the 17th century, as at Glamis.

Past work

Two of Scotland's greatest Renaissance gardens at Edzell Castle, Angus District, and Pitmedden, Gordon District, have been recreated earlier this century. The pleasance at Edzell Castle (Fig 14.4) is dated 1604, the date recording the completion of the enclosed garden created by Sir David Lindsay, Lord Edzell, and his second wife Dame Isobel Forbes, The garden was attached to the 15th century L–plan tower house, with further domestic accommodation added about 1580. The garden walls, divided into compartments containing sculptured panels and recesses for flower boxes, frame the formal parterres. The castle and garden were in ruins by 1764. In 1932 the owner, the Earl of Dalhousie, placed the pleasance in state care. The ruins were taken into Guardianship in 1935. Already in 1912 the garden was grassed over, but the walls had suffered little from their long neglect.

The Ministry of Works redesigned the parterres, the pattern comprising eight beds arranged round an octagon, each bed being bounded by low box hedging with a vertical emphasis at intervals provided by the insertion of pillars and cones of yew. The chosen designs for the knots were taken from some of the decorative work on the walls. Today, cavities in the walls are filled with alyssum and lobelia, plants unknown in 1604. The present parterres have probably destroyed traces of the early 17th century shapes which may have shown up in aerial photographs, or been found from excavation. No attempt seems to have been made to excavate for remains of any kind.

The present house of Pitmedden, built in 1860, incorporates an earlier house occupied by Sir

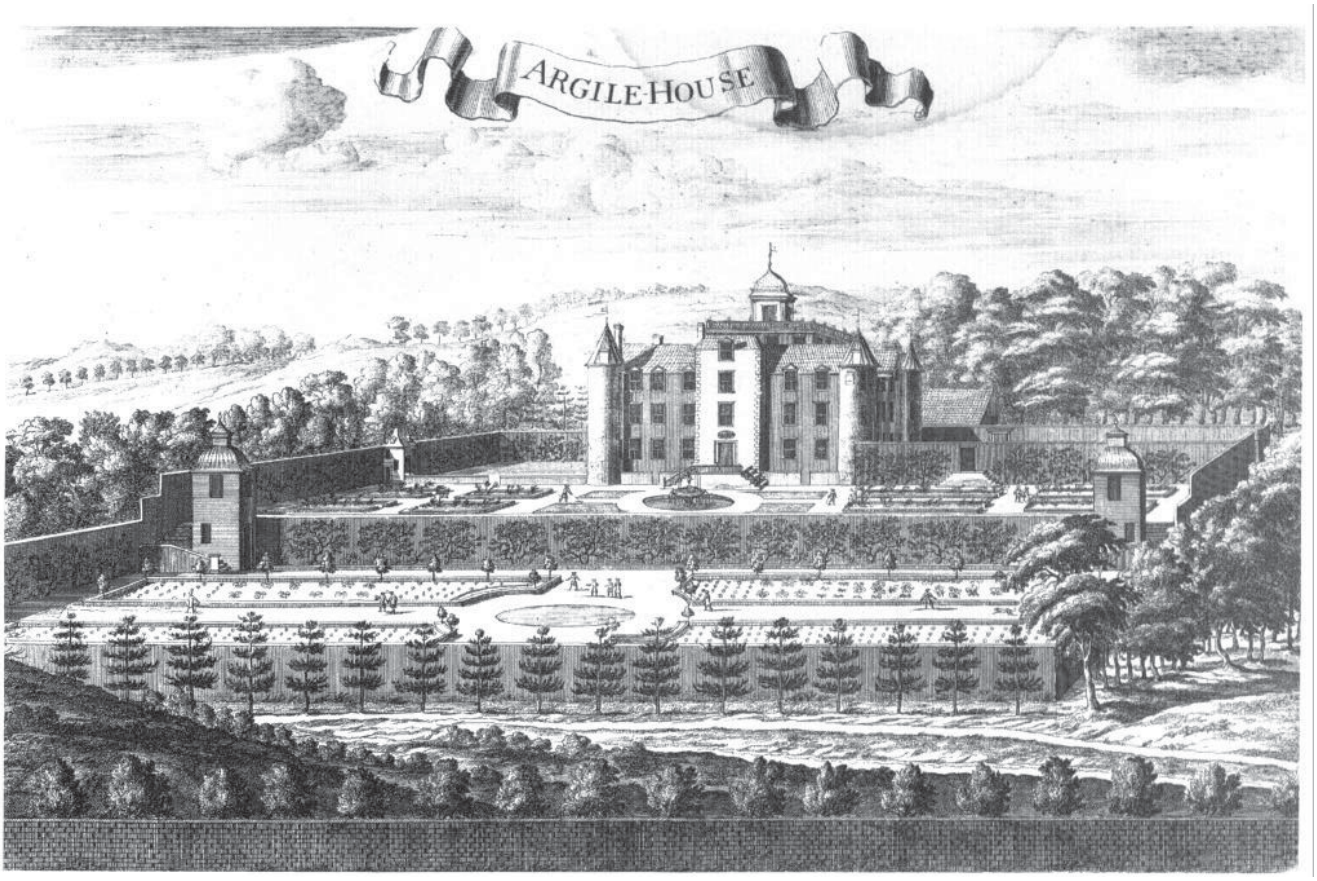


Figure 14.3 Hatton House, Midlothian District: engraving inscribed 'Argile House' shows Hutton House from Theatrum Scotiae, *a set of engravings by John Slezer (1645–1717)*

Alexander Seton and his wife Dame Margaret Lauder, who founded the garden together in 1675. Pitmedden is a great garden of over 3 acres (1.1ha), designed to express 17th century taste and sophistication. A high terrace terminates in garden pavilions and serves as a platform to view the parterres below. By the early 19th century the garden had become a well-cultivated kitchen garden and continued in this state until 1952, at which time Major James Keith passed the property to the National Trust for Scotland.

The Trust undertook the design of new parterres as no documentary references or evidence from drawings were found to restore the garden to its former glory. No excavation was carried out to discover the 17th century plan, but the ground must have been too disturbed by the constant cultivation of a kitchen garden during the 19th and 20th centuries for excavation to have been successful.

The formal design was created by Dr James S Richardson, Inspector of Ancient Monuments, Ministry of Works, who based his plan for three parterres on the designs at Holyroodhouse, which appear in a bird's-eye view on Gordon of Rothiemay's map of Edinburgh, 1647. The fourth parterre incorporates the arms and motto of Sir Alexander Seton. The present planting has been carried out with modern annuals, unknown to Alexander Seton. Dr Richardson also provided the plans for the parterres at Edzell some twenty years earlier.

Current work: the sources

What sources are available to the garden historian researching an abandoned garden or landscape and what has been done over the last few years to examine these sources and produce an overall picture of the state of garden archaeology in Scotland?

The three basic sources are archaeological evidence, documentation, and pictorial information. Archaeologists apply their skills in uncovering gardens and in excavating for garden remains by using a range of techniques from, for example, resistivity surveys to find walls to the recovery of actual plant remains. The identification of plant remains must be treated with caution however, as seeds of plants from later introductions can be found in lower levels. Surviving topographical evidence indicates clearly the existence of garden structures, earthworks, and surviving planting, but documentary proof is essential to identify the period of garden earthworks, which are difficult to date from what may be found on the ground.

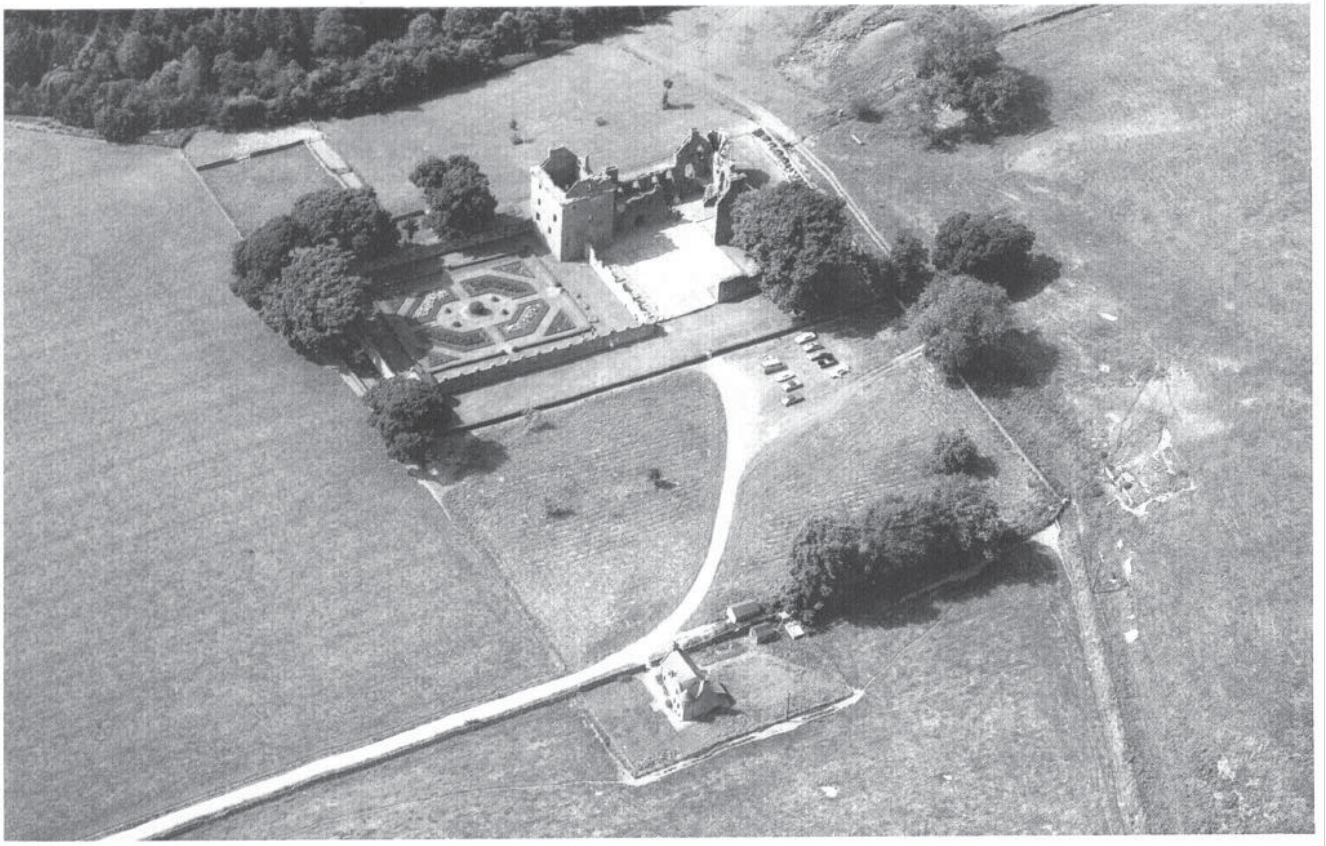


Figure 14.4 Edzell Castle, Angus District: aerial photograph, 1981 (copyright RCAHMS)

Historic photographs can be used to recreate Victorian and earlier gardens, as for example Prince Albert's former garden at Balmoral Castle, Kincardine & Deeside District (Figs 14.5 and 14.6). Drawings together with the documentation help to establish that work carried out in any particular period was created to the original design; a task fraught with difficulty as client and designer pursue their contentious course. Primary information dated from the 17th to 19th centuries on gardens and gardeners has recently been extracted from collections deposited in the SRO and a series of catalogue cards has been produced for public reference. Lists of authentic plants to grow in restored and recreated gardens of all periods are available, in particular those noted by John H Harvey and published by the Garden History Society.

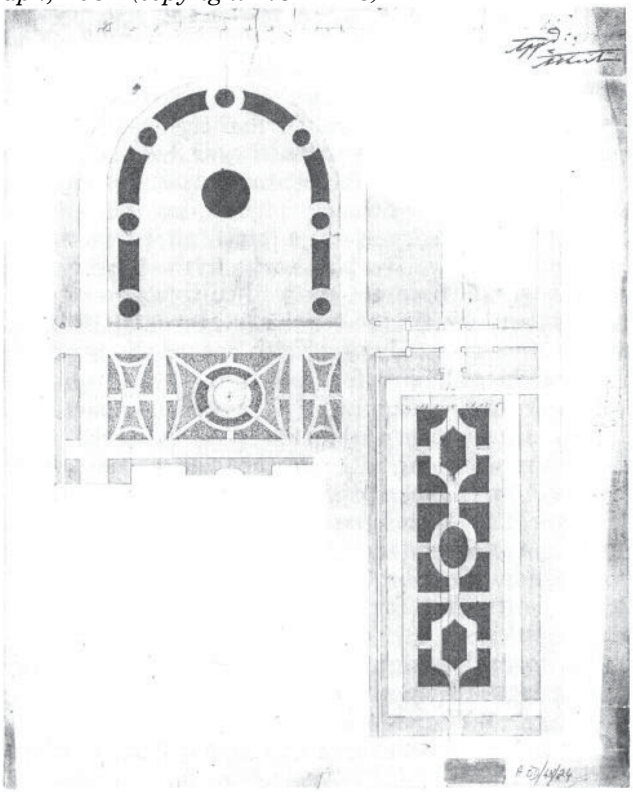


Figure 14.5 Balmoral Castle, Kincardine & Deeside District: garden layout suggested by design signed 'Appd Albert' (copyright RCAHMS)

Current work

Today in Scotland efforts to recover and restore gardens to their former splendour have been piecemeal. At Chatelherault, Hamilton District, the Duke of Hamilton's enchanting Dog Kennel, built between 1732 and 1743 to the design of William Adam, has recently been extensively restored by HBMD, SDD (Fig 14.7). The excavation of the parterre to the rear of the Banqueting Hall was

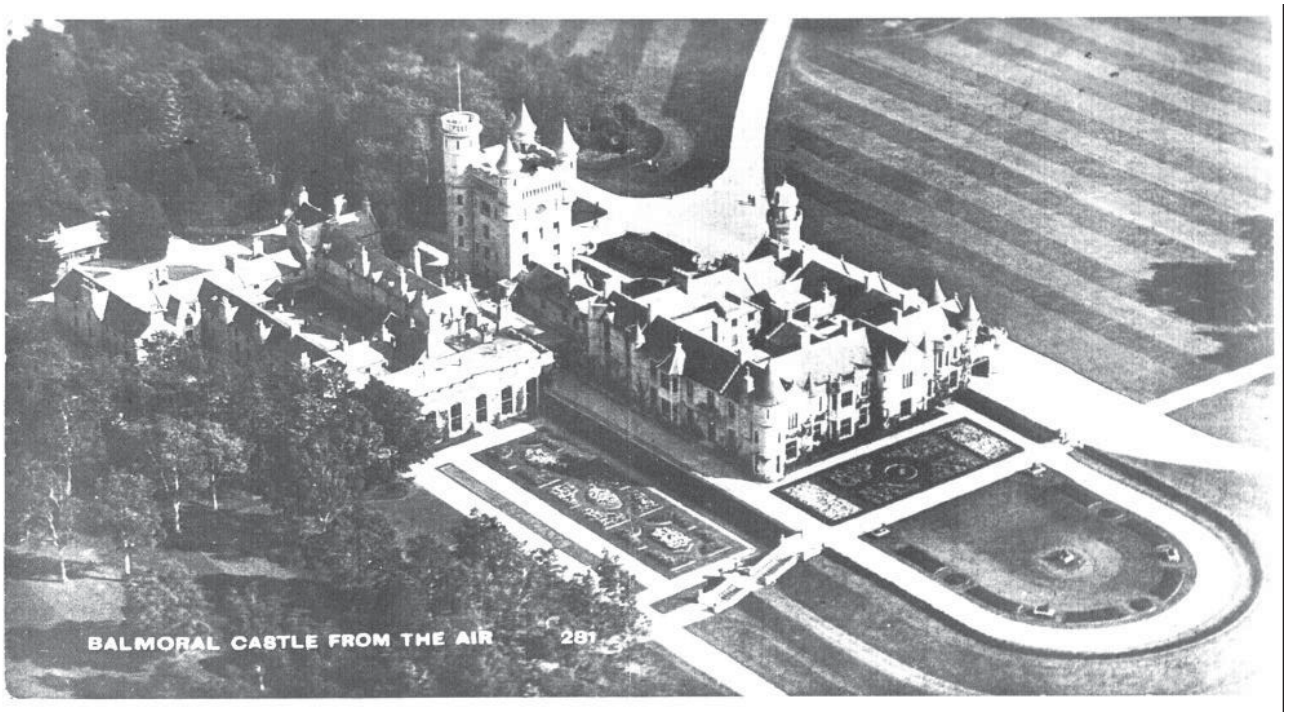


Figure 14.6 Balmoral Castle: aerial photograph of the 1930s, showing the garden laid out to the design approved by Prince Albert (copyright RCAHMS)

Figure 14.7 Chatelherault, Hamilton District: engraving by J Denholm, 1804 (copyright RCAHMS)

Figure 14.8 Chatelherault: view of parterre c *1925 (copyright RCAHMS)*

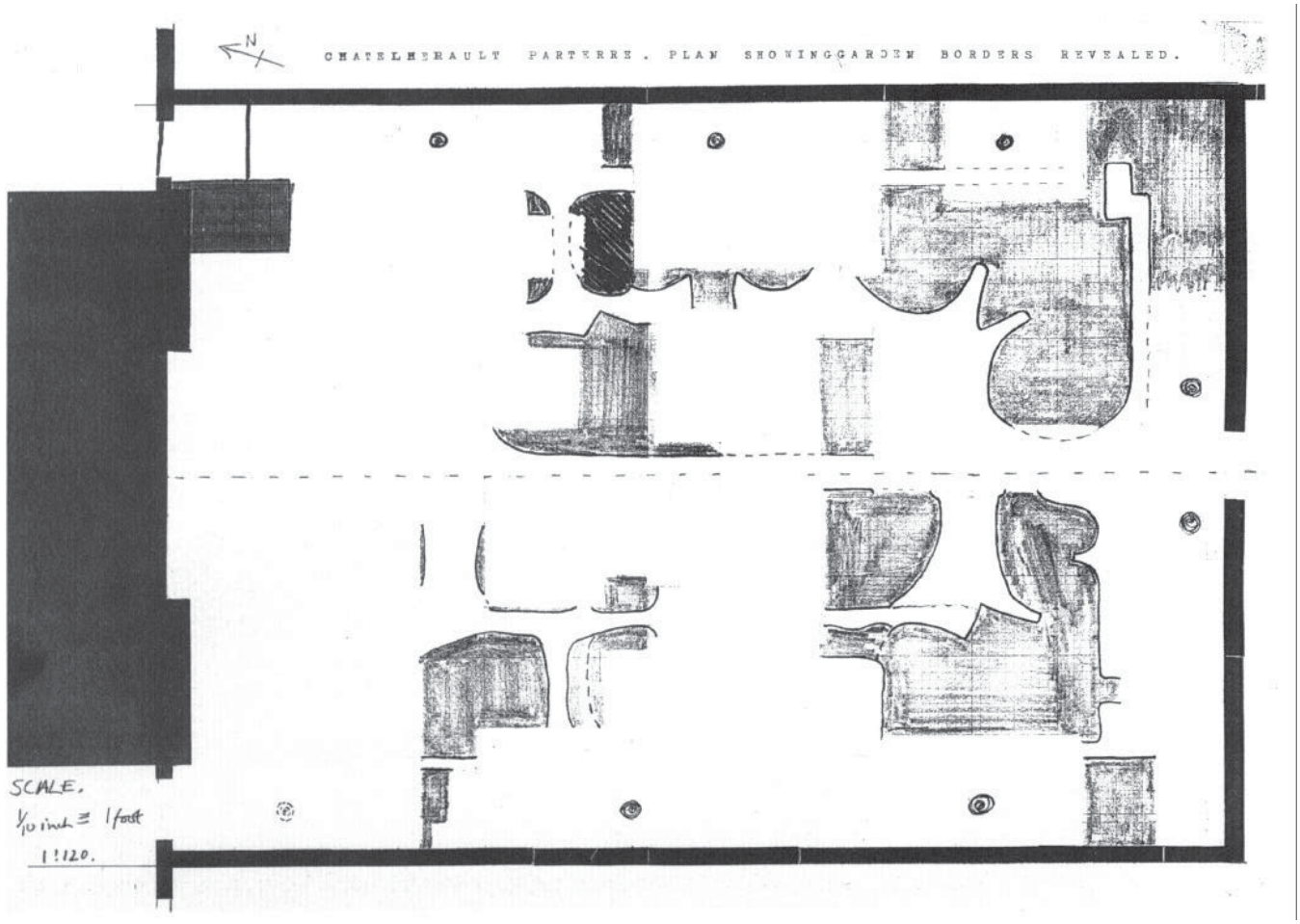


Figure 14.9 Chatelherault: plan showing shapes of paths and flower beds revealed in excavation, 1985 (RCAHMS, reproduced by permission of HBMD/SDD)

funded by HBMD (Fig 14.8). The design of the parterre was found by excavation, which showed light and dark areas, but no gravel or edging to the beds was discovered (Figs 14.9 and 14.10). The garden was recreated and an effort made to use period plants and early cultivars, but maintenance has posed a problem; consequently shapes have been outlined with low box hedging and the rest put down to grass. Chatelherault is a major feature of Strathclyde Country Park, which is open to the public with many leisure facilities. The parterre is small and it is hoped that in time it will be possible to furnish the area with plants known to have been supplied to the 5th Duke of Hamilton.

Nearby, Dalzell House is surrounded by the remains; of a designed landscape, which contains parkland, woodland, terraced gardens, a badly overgrown Japanese garden, and a mausoleum created by Lord Gavin Hamilton in memory of his wife Lady Sybil who died in 1933. The estate is divided between Motherwell District Council, which owns most of the designed landscape, and the occupiers of the flats in the converted mansion house who maintain the garden round the house. Some archaeological work has been carried out on the terraces in front of the house, and the stonework rebuilt (Fig 14.11).

The formal terraced gardens were created at the time that R W Billings was remodelling the mid 15th century tower-house, putting in a large Scottish Baronial addition in 1853. Originally the formal beds on the three terraces lining the steep slope to the burn were edged with box hedging and contained topiary and planting of bedding plants in the Victorian tradition, begonias in particular making a vivid display. Presently the terraces are maintained as lawns. E H M Cox (1935, 62) described Dalzell as an object lesson to the gardening historian for it should teach him that appearances of age are deceptive! There may have been terraces in this area as part of the earlier garden scheme, but documentary evidence has not been found to substantiate their existence and any evidence has been destroyed by later 19th century work.

There are physical remains of an early designed landscape, in which the structure of the planting still corresponds to that shown on General Roy's map of 1750. Much could be done at Dalzell to recreate the Victorian planting by the house, but multiple ownership may make impractical the possibility of undertaking a mutual scheme of bedding out. The landscape at Dalzell needs to be taken in hand by Motherwell District Council, but

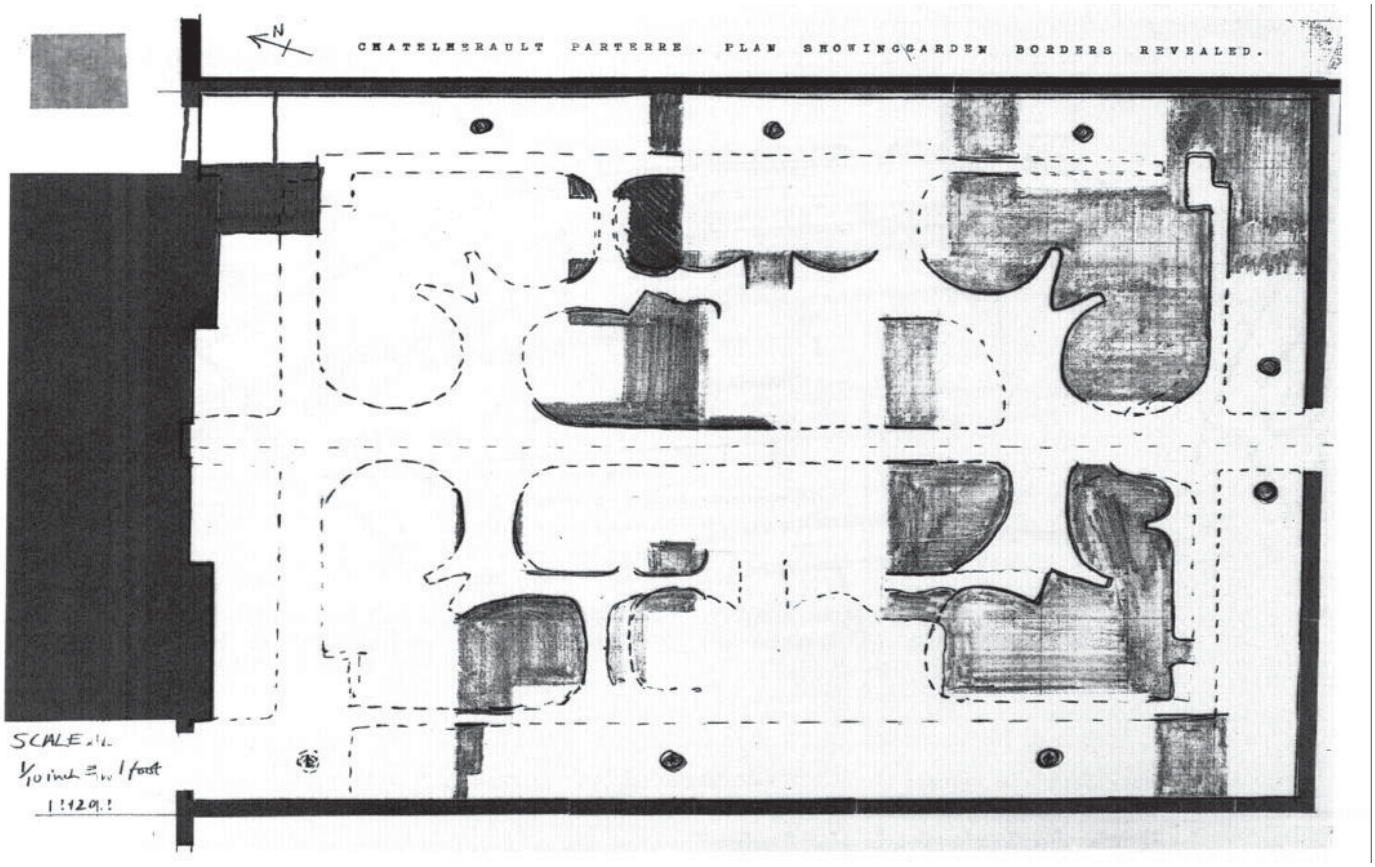


Figure 14.10 Chatelherault: plan showing shapes of paths and flower beds revealed in excavation with the missing parts sketched in, 1985 (RCAHMS, reproduced by permission of HBMD/SDD)

Figure 14.11 Dalzell House, Motherwell District: view of upper terrace, 1986 (copyright RCAHMS)

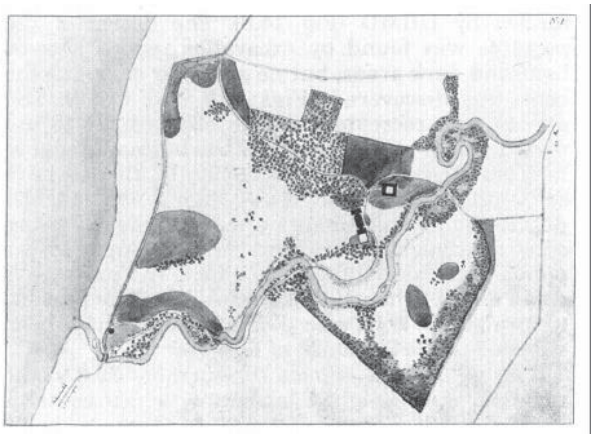
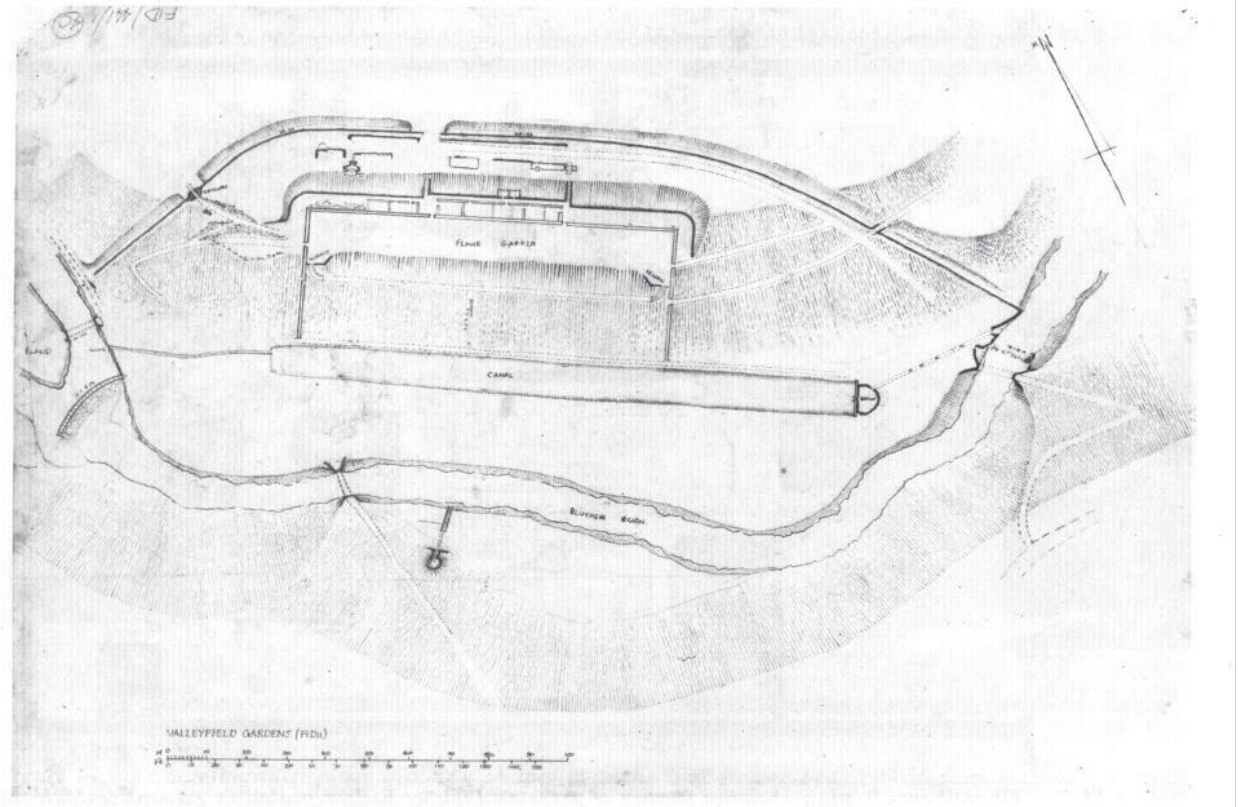
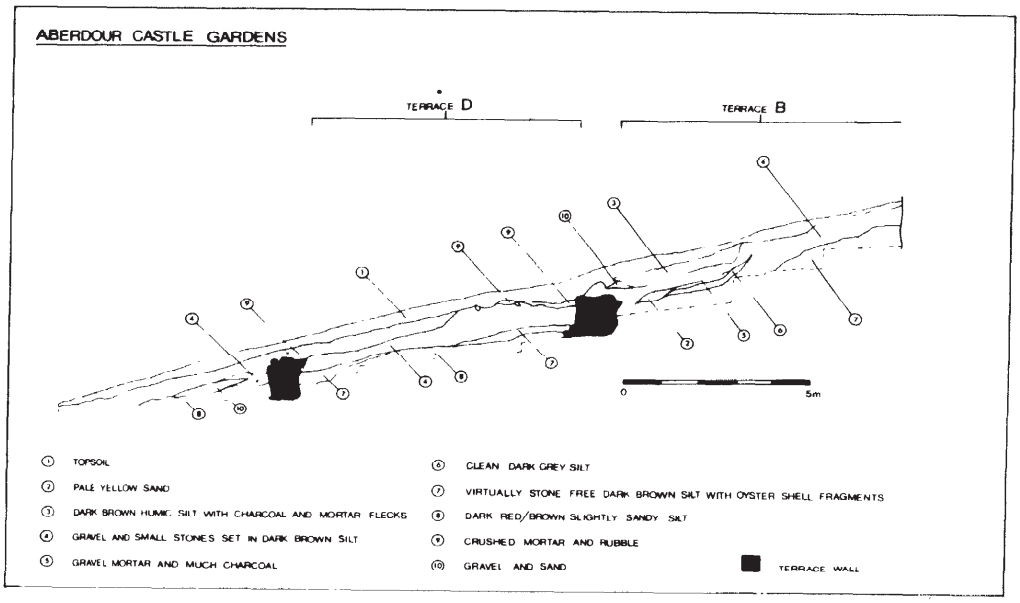


Figure 14.12 Valleyfield House, Dunfermline District: improvement plan from Humphry Repton's Red Book (RCAHMS, reproduced by permission of Lt Col R Campbell-Preston of Ardchattan)

Figure 14.13 (below) Valleyfield House: site plan of flower garden and burn, 1979 (RCAHMS, reproduced by permission of HBMD/SDD)





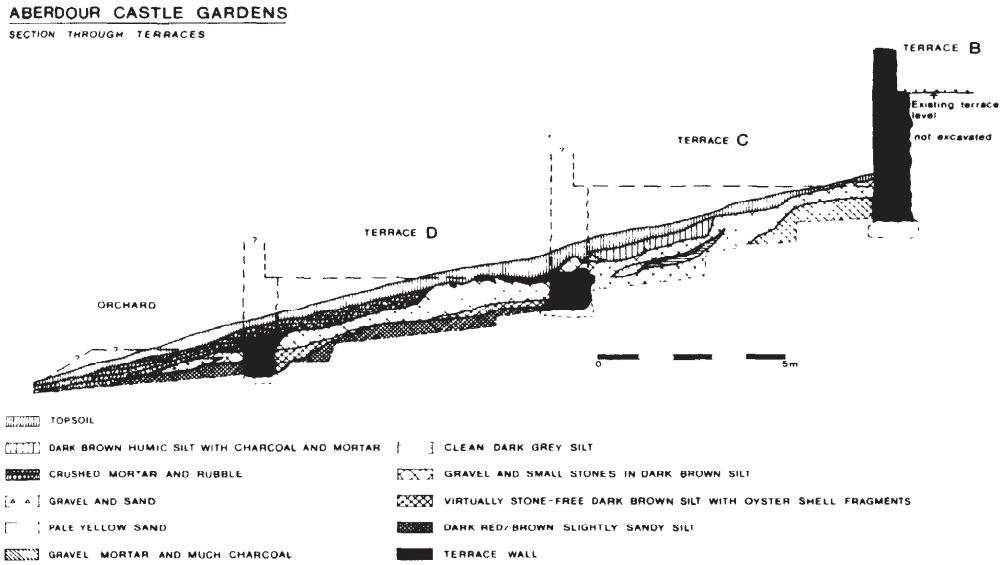


Figure 14.14 Aberdour Castle, Dunfermline District: sections showing full series of terraces revealed in excavation, 1978 (RCAHMS, reproduced by permission of HBMD/SDD)

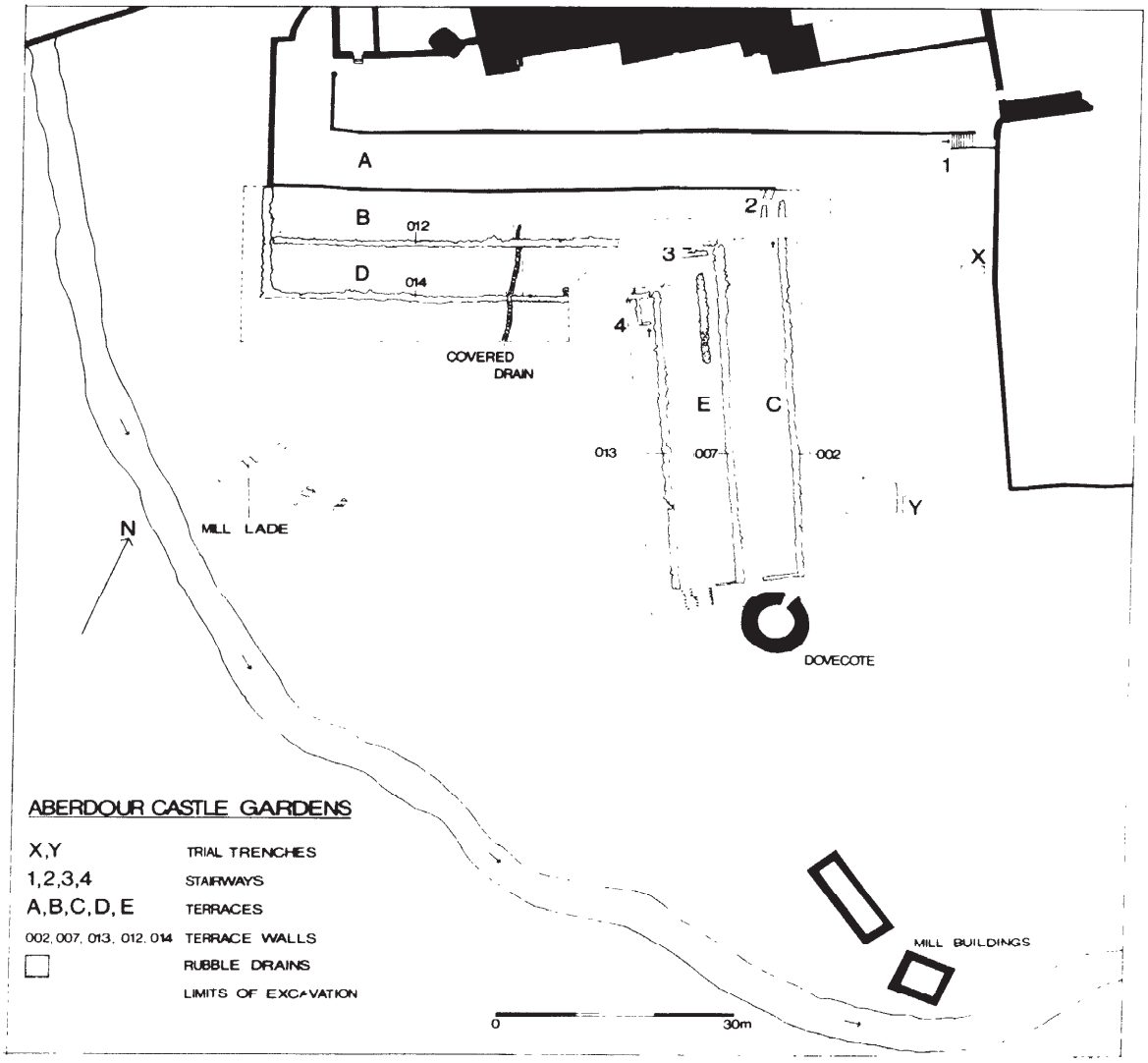


Figure 14.15 Aberdour Castle: site plan showing full series of terraces revealed in excavation, 1978 (RCAHMS, reproduced by permission of HBMD/SDD)

money is short and is therefore not available to spend on examining and recreating such an extensive landscape.

Valleyfield House, Dunfermline District, was built before 1800 for Sir Robert Preston. The architect is unknown, but Sir Robert commissioned Humphry Repton to make alterations to the existing landscape using his only Scottish *Red Book* (Fig 14.12). The survey work on the designed landscape and supervision of the operations was carried out by Humphry Repton's sons John Adey and George. The house and park were often visited by travellers passing north (William Cobbett) who delighted in the walled flower garden, the ornamental pond, and the rustic-style bridges over the Bluther Burn.

Valleyfield's designed landscape is a magnificent subject for the application of garden archaeology. The restoration of the garden using Humphry Repton's *Red Book* as the basis for the repair and replanting of the walled flower garden, its gateway, ornamental pond, icehouse, and a number of the derelict bridges, would bring back Repton's only Scottish commission by clearance and reinstatement (Fig 14.13). Coal extraction has taken place for many years in the area, providing the Bruces and the Prestons with the wealth and means to build and lay out their gardens and designed landscapes. The Valleyfield estate remained in the ownership of the family until the end of the 19th century at which time development commenced to provide better housing for miners working in the

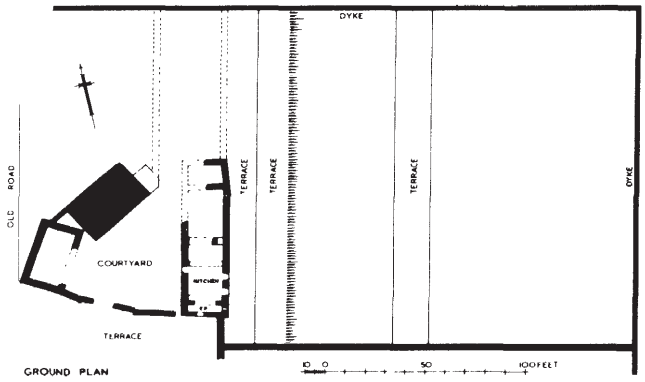


Figure 14.16 Whytebank Tower, Ettrick & Lauderdale District: site plan (copyright RCAHMS)

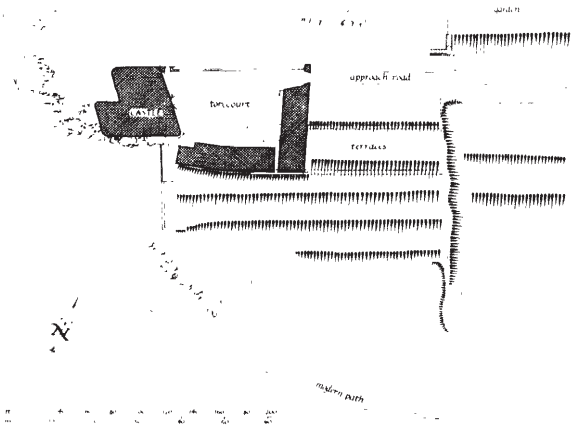


Figure 14.17 Neidpath Castle, Tweeddale District: site plan showing terraced enclosures, 1964 (copyright RCAHMS)

High and Low Valleyfield mines. The estate was abandoned by 1918 and the house subsequently demolished. The Forestry Commission bought High Valleyfield woodlands, felled them and replanted Repton's plantations. These plantations were sold recently to Dunfermline District Council; the rest of the estate belongs to the National Coal Board.

Aberdour Castle, Dunfermline District, dates from the 14th century, with additions in the mid 16th century by Regent Morton, 4th Earl of Morton, and between 1606–1648 for the 6th Earl of Morton. The castle fell into disrepair after a new house was built for the family to the south of Aberdour village, and the surviving ruins were ultimately taken into Guardianship in 1924. In the 1970s the Secretary of State acquired about 3 acres (1.1ha) of former garden ground to the south to improve the extensive views from the castle. An estate plan of about 1740 indicates a series of garden terraces falling in three tiers, the lower of which by the 1760s appears to have become flattened.

Excavations, funded by HBMD, SDD, were carried out on the site during 1977, 1978, and 1980, to test the accuracy of the original documentation, to date the garden terraces, and to find out the extent of the remains and planting details. The evidence from the excavations indicates that the terraces shown on the earlier estate plan existed with minor differences of detail (Figs 14.14 and 14.15). The steps built to mount the terraces were found in different positions from those shown on the 1740 map.

Although the terraces could not be closely dated the finds and the known development during the time of Regent Morton and the 6th Earl indicate that the second half of the 16th century saw the main work on them. The restoration of the exposed terraces to their original form began in 1979, and for ease of maintenance they were finally grassed over. Because of the constant cultivation of the ground, and possible lack of contemporary planting, soil samples proved disappointing with traces of contemporary plant material totally wanting (Hynd and Ewart 1983).

Whytebank, one of four towers in Ettrick and Lauderdale District dating from the late 16th century, has remains of terraced earthworks (Fig 14.6). This tower is currently undergoing a scheme of reinstatement, and as part of this exercise a small excavation has been carried out to find out the extent and nature of the terraces. Were they designed as garden terraces to be seen as ornamental to the surroundings of the tower, or as revetments to provide a secure platform for the tower-house? Excavation has shown evidence of man-made terraces linked by flights of steps. There is no sign of a formal garden. Future excavation at the three other towers may result in some proof that the terraces were built as revetments and the steps provided for ease of access.

At Neidpath Castle, Tweeddale District, an interesting and complex garden is waiting for excavation and interpretation (Fig 14.17). The earliest documentary reference to a garden at Neidpath dates from 1581, but it is more likely that the terraces lining the steep slope down to the River Tweed date from the 17th century. Excavation should provide some solutions and add greatly to the earlier history of this important castle and garden.

The estate of Abercorn, West Lothian District, was purchased by Sir John Hope in 1678. He extended his lands by purchasing adjoining estates, one of which provided the site of a new house named Hopetoun built after his early death in 1682 by his wife, daughter of the 4th Earl of Haddington. The house designed by Sir William Bruce was completed in 1702. It is thought that Bruce designed a formal garden, but the nature of the rest

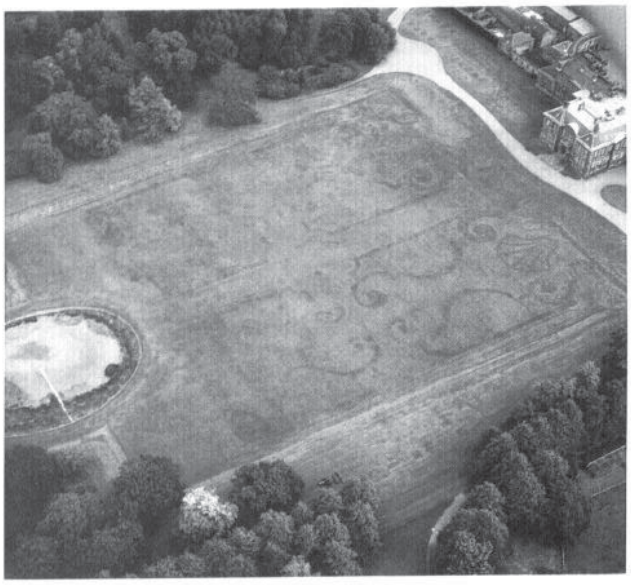


Figure 14.18 Hopetoun House, West Lothian District: view of the parterre, 1984 (copyright RCAHMS)

of the landscape is not known. The structure of the designed landscape that exists today was based on an undated plan by William Adam probably produced at the time he designed a new north front grafted onto the earlier house, and finished after his death in 1748 by John and Robert Adam.

The formal garden designed by Bruce is thought to have been to the east, that is to the rear of his house, but if this had existed it was swept away by the Adam design of lawn, ha-ha, and principal drive. The William Adam scheme included a formal garden/parterre, though whether the parterre was carried out by the Adams or by P Godrey, who is supposed to have worked at Hopetoun about 1753, is not known. A formal garden was first seen as light marks in the grass from the roof of the house in the dry summer of 1976. Subsequently the complete parterre was caught by aerial photographs taken in 1984 (Fig 14.18). The design of Prince of Wales Feathers, shells and crowns shows through the grass. Excavation should provide evidence of the composition of paths, and soil analysis some of the horticultural elements, although the bills of seeds and plants provided should give a better indication of what was planted.

Barncluith, Hamilton District, stands on the west side of the dramatic gorge of the River Avon, a short distance upstream from Chatelherault. The gardens are cut out of the steep bank resulting in high retaining walls supporting five narrow terraces with connecting steps at the ends of each terrace (Figs 14.19, 14.20, and 14.21). An archaeological approach is needed to discover what is 17th century and 18th century and even later. The Hamiltons of Barncleuch secured the estate of Barncluith by marriage and built the present 18th century house incorporating the original 16th century tower-house, and laid out the terraced gardens. For many years the property was leased, until 1908 when the 8th Baron Ruthven sold the property.

In the 18th and 19th centuries the gardens were a noted tourist attraction. William Patrick in the *New Travellers* described the topiary and bedding with box edging. The garden has developed over the years. Although it became ruinous in the mid 19th

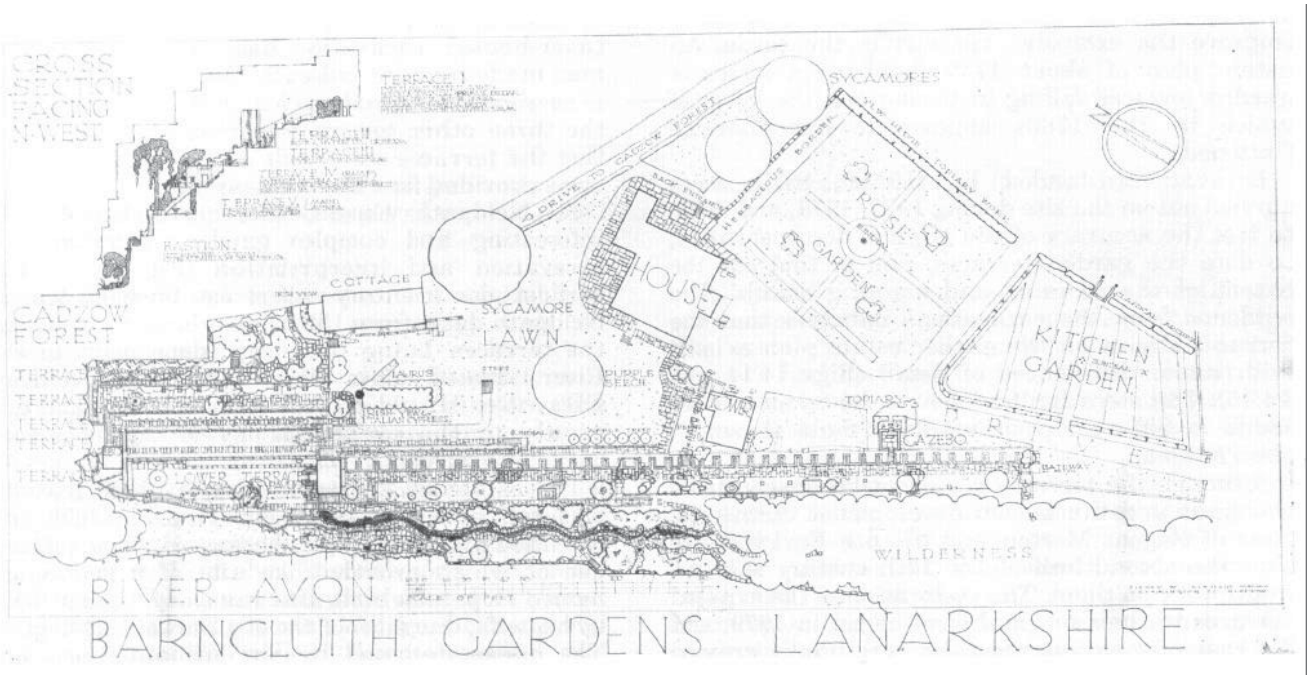


Figure 14.19 Barncluith, Hamilton District: site plan and details of sections facing NW. Surveyed and drawn by Sidney W Birnage, 1940s (copyright RCAHMS)

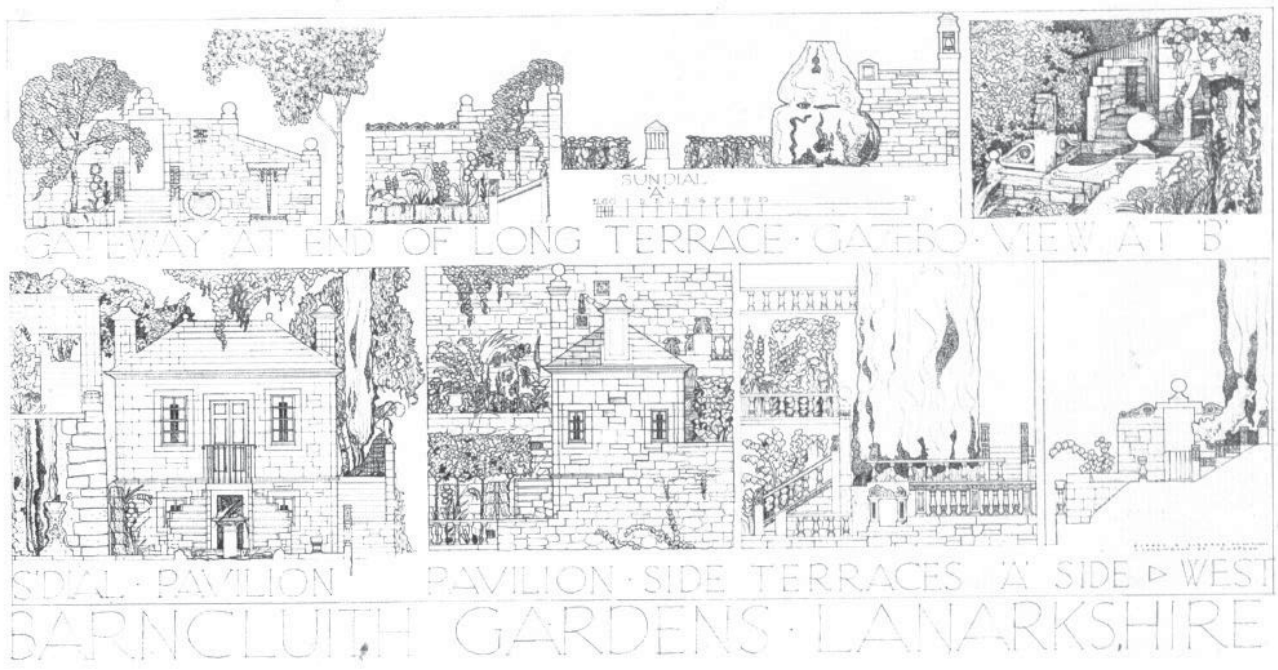


Figure 14.20 Barncluith: elevation details of structures. Surveyed and drawn by Sidney W Birnage, 1940s (copyright RCAHMS)

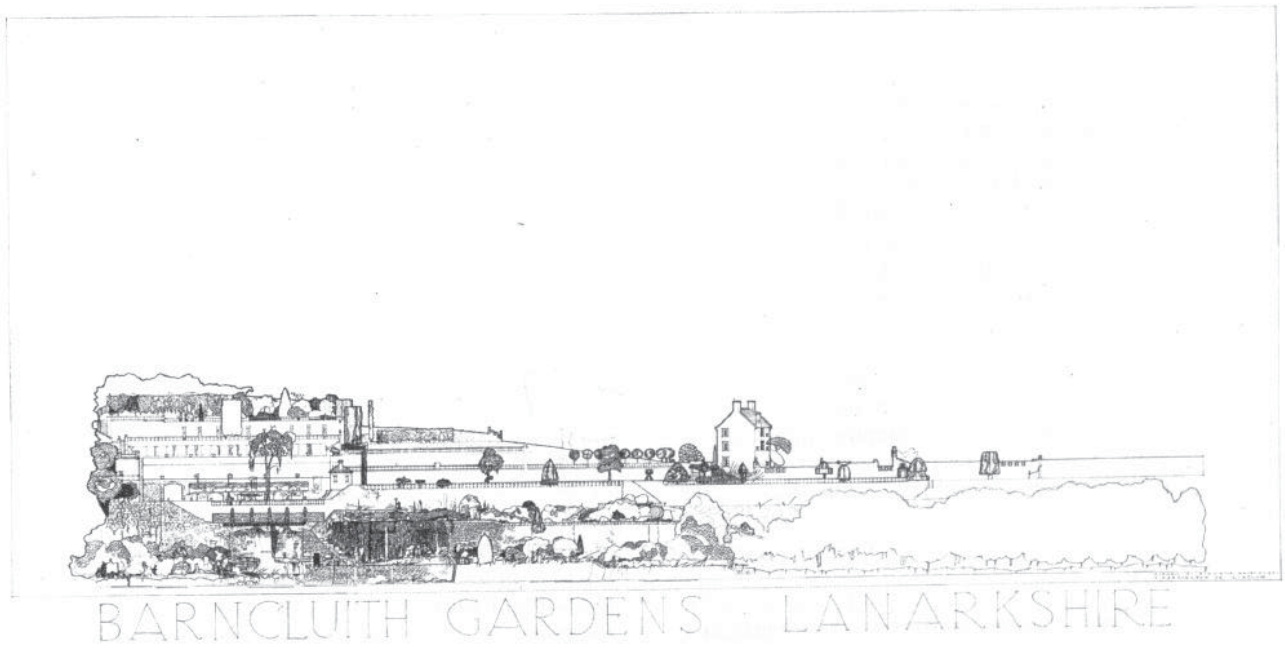


Figure 14.21 Barncluith: perspective elevation. Surveyed and drawn by Sidney W Birnage, 1940s (copyright RCAHMS)

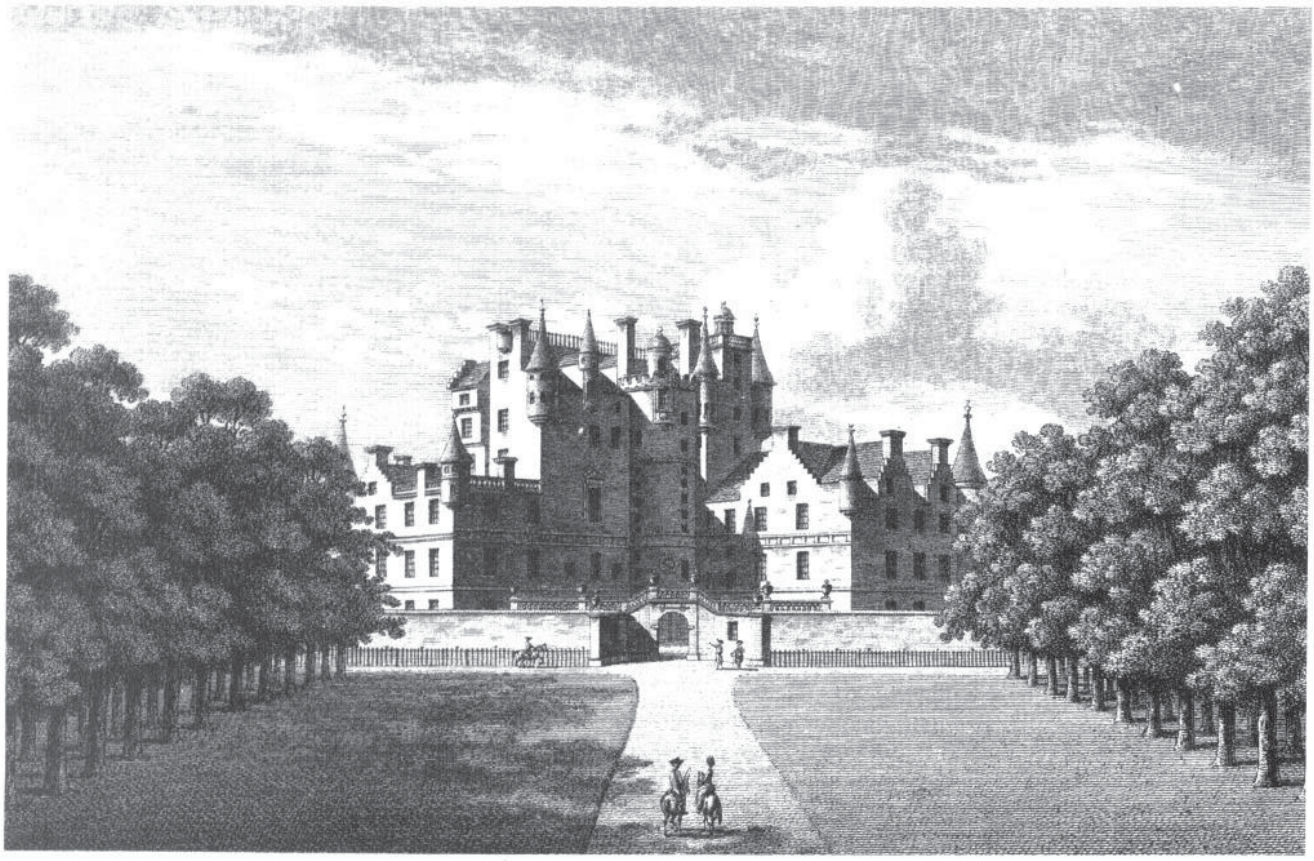


Figure 14.22 Glamis Castle, Angus District: view of principal front. Drawn by T Sandby and engraved by Watts, 1782 (copyright RCAHM(S))

century a later owner created a rockery and early this century a garden in the Japanese style was developed.

Unfortunately vandalism has been rife at Barncluith, the architectural features in particular falling prey to destruction. Barncluith is one of Scotland's most important surviving 17th/18th century gardens and deserves to be restored and enjoyed. Its proximity to Chatelherault and Strathclyde Country Park suggests a riverside scheme incorporating the existing heritage high spots. By its nature Barncluith will always be a difficult garden for access and control. The present owner keeps the garden adjacent to the house in good order, including the topiary hedging, cut to portray a crocodile, dormouse, and peacock. There is, however, enough evidence to reconstruct what is missing from the architectural ornamentation, restore the remaining topiary and clear the terraces of vegetation.

The future

The history of Scottish gardens embraces the formal 17th century garden, the 18th century ideal landscape, the visionary approach in the 19th century, and the arrangement of hardy permanent planting followed by Gertrude Jekyll and William Robinson in the early 20th century. The relative scarcity of surviving late 17th century gardens and landscapes in Scotland makes archaeological research a necessary and promising activity for the future, aided by the consultation of primary sources. It may not be too late in Scotland with some dedicated resources and a selective programme to search for and examine abandoned and surviving sites before they are obliterated, and our national heritage destroyed.

Archaeology can carefully recover the past by field survey of earthworks, by excavation and by the detailed examination of the fabric of garden buildings. This does not imply that the evidence unearthed should result in the restoration of all gardens and structures found. The information used together with some academic research should enable us to build up a graphic view of the history of Scottish gardens.

Therefore more survey and aerial photography will be required — Figures 14.22 and 14.23 show what can be done, where the 17th century radiating avenues at Glamis Castle, known from 18th century topographical views, although overplanted by the designed landscape of Thomas White *c* 1746, have been recently confirmed from the air. Within

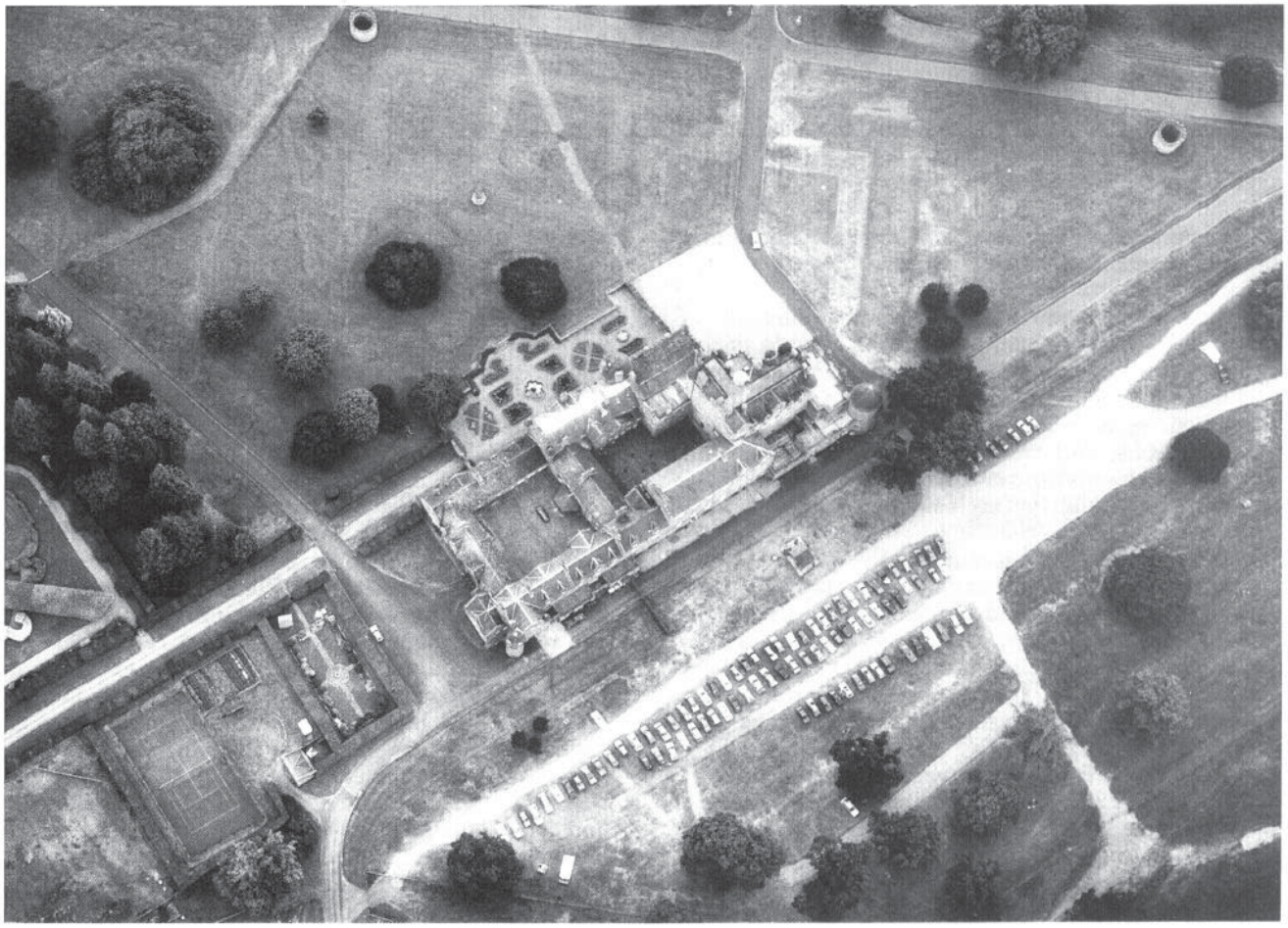


Figure 14.23 Glamis Castle: this photograph shows traces of the late 17th century courtyard and radiating paths, 1989 (copyright RCAHMS)

walled gardens, modern developments must be closely monitored to prevent the destruction of the potential to record and restore earlier paths and beds. Excavation, properly coordinated with other work, will be required, followed by decisions about what gardens to restore, in what manner, and with what kind of funding arrangements.

The recent publication of *An inventory of gardens and designed landscapes in Scotland* by land use consultants for the Countryside Commission for Scotland and HBMD, SDD (1987, 5 vols), aims to evaluate 282 of Scotland's most important examples and seeks to assess their importance both visually and historically. The survey covers basic research and planning and looks forward to future policy.

An initial survey of historic gardens in Scotland by the Garden History Society, Scottish Group, and the Architectural Heritage Society of Scotland, estimated that as many as 2000 sites may have been significant gardens and designed landscapes at some time. These two surveys have provided the first steps in drawing our attention to the rich heritage of gardens and designed landscapes in Scotland, and must inspire archaeologists to apply their skills to the excavation of former gardens, and the historians and conservationists to understand how they were created and how they can be conserved, so that we today and in the future may enjoy and learn from our gardens and designed landscapes of the past.

Acknowledgements

I would like to thank those who have assisted with this paper, in particular Neil Hynd of HBMD, SDD, and Patricia Thompson, editor of *An inventory of gardens and designed landscapes in Scotland.*

The views expressed in this paper are entirely those of the author.

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15 The protection of historic gardens

Deborah Priddy

The papers presented at the conference all clearly demonstrated the following points:

i Extensive and well-preserved remains of gardens dating from at least the Roman period do survive and that the garden, rather than simply being a cultivated area around a building, is an important and complex element in a site, and the relationship of that 'site' within the historic landscape, whether rural or urban, secular or ecclesiastical, high or low status.

ii Until relatively recently the potential for recovering information about gardens archaeologically, and the extent to which this evidence survives, has not been widely appreciated. As a result, gardens have very largely fallen outside the remit of archaeological preservation and recording policies.

iii It is clear from the severe storm damage of October 1987 and subsequent garden survey initiatives that, archaeologically speaking, we have a long way to go in terms of quantifying the evidence and that as a result our approach to preservation and recording is necessarily piecemeal.

Historic gardens and parks are not neatly accommodated by the current conservation and planning legislation. They vary enormously in size and form. Whilst some survive purely as archaeological field monuments under pasture or in woodland, many are 'living' sites, both in the sense of being part of a garden palimpsest which has been, and still is, evolving through continued cultivation, and because the plants and trees of such gardens are constructed for, or have, a finite life.

Statutory protection for some gardens may be forthcoming under the *Ancient Monuments and Archaeological Areas Act* (1979). In respect of this legislation, the Secretary of State is advised by HBMC. An Ancient Monument is defined as being any structure, work, site, garden or area which in the Commission's opinion is of historic, architectural, traditional, artistic or archaeological interest. Ancient Monuments judged to be of national importance against a series of non-statutory criteria are included on a schedule. Once so designated it is a criminal offence to demolish, damage or destroy a Scheduled Ancient Monument (including the use of metal detector without a licence) or to carry out works which remove, alter, or add to the monument in any way without the consent of the Secretary of State.

The Act also makes provision for the positive management of Ancient Monuments, whether they are on the schedule or not. HBMC or local authorities may purchase or assist in the purchase of monuments, take monuments into guardianship, contribute towards repairs, enter into management agreements, and fund archaeological recording.

It is fair to say that there are relatively few gardens specifically scheduled in their own right. Their remains have been included where they are associated with more easily identifiable garden buildings and structures. Clearly this situation underlies the need for survey and quantification, and it is to be hoped that the current reassessment of the schedule by HBMC — the Monument Protection Programme — will redress the balance.

That HBMC have recognised the importance of parks and gardens as part of the national heritage can be seen from the compiling in 1987 of a *Register of Parks and Gardens of Special Historic Interest* and the appointment of the first Inspector of Historic Parks and Gardens. The *Register* includes at the time of writing some 1085 sites, graded using the same symbols (I, II*, II) as for listed buildings to denote relative importance. The *Register* is, however, purely advisory, inclusion and grading carrying no statutory protection or control, although a local authority may regard inclusion as a material planning consideration. The only forms of grant aid available from HBMC to sites on the *Register* are for storm damage repairs, which must be related to an agreed restoration plan and public access agreement, and restoration grant for 'outstanding' garden buildings and structures.

Owners of gardens of outstanding historic, scenic, or scientific interest may receive Capital Transfer Exemption in return for agreed management which safeguards those features of value.

The *Town and Country Planning Act* (1971) provides a limited legislative framework within which historic gardens and parks may be preserved and protected. The listing of buildings of special architectural interest and the designation of Conservation Areas of special architectural or historical interest allows some degree of protection and control in terms of requiring planning consent for works which would otherwise be regarded as permitted development. In certain further cases, it may also be possible for a local authority to withdraw the benefit of permitted development by serving an Article Four direction. During the planning process it is also possible for the local

authority to make Section 52 agreements with applicants to safeguard, enhance, or record historic features.

There is this scope for local authorities to include policies in Structure and Local Plans to protect and enhance historic gardens and parks as part of integrated conservation policies and many have taken such policies on board. One such example is Hampshire County Council's *Countryside Heritage Policy*. Based on a series of topic reports which includes *Historic Parks and Gardens* (1983) it has identified a tier of Countryside Heritage Sites where efforts towards protection and enhancement will be directed.

Local Authorities should also work with and support voluntary groups in their efforts. A number of counties now have County Garden Trusts which exist to provide public support and have an important educational role. The Countryside Commission has lent support to such groups and in some instances has been involved in funding their setting up. Where garden restoration projects provide the Commission's interests there is also limited scope for grant aid. Other voluntary or non-government bodies such as Nature Conservation Trusts, the Council for the Protection of Rural England, the British Trust for Conservation Volunteers and the Farming and Wildlife Advisory Group may in specific instances be able to offer advice or practical help.

On a county level there is a clear need to ensure that historic gardens and parks are, where known, included on the County Sites and Monuments Record and to initiate survey, wherever possible, to assess their archaeological potential and identify new sites. Nationally, the learned period and thematic societies should, under the aegis of the Council for British Archaeology, draw up research priorities into the framework of which future preservation and recording policies for garden archaeology can be formulated; and the RCHM(E) could make widely available the result of the garden earthwork surveys it has conducted during recent years.

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by Susanne Atkin

County names are generally given as they appear in the text; otherwise the modern county name is used. Owners of houses have not been indexed.

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