

**Industrialisation and identity in Shropshire:
the Brookes of Madeley, 1544-1646**

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Abstract

The nature and extent of industrialisation in the Ironbridge Gorge during the sixteenth and seventeenth centuries is investigated. Three generations of the Brooke family made changes to the landscape, buildings, and industrial infrastructure of the Manor of Madeley in the period between the dissolution of the monasteries and the English Civil War. The Brookes developed coal mining, ironworking and steelmaking on their estate, and further afield; they introduced innovative technology and eventually operated one of the largest ironmaking concerns in the country. The wealth they created enabled the development of their country house and associated designed landscapes. The Brooke family were Catholics, and at times actively resistant to the Protestant hegemony. This thesis examines the role that their Catholicism played in informing the actions that they undertook, and the extent to which it was part of their social and cultural identity. The material evidence of the landscape and buildings, the archaeology of the industrial installations, and the documentary evidence for their social, political and religious networks are examined. The ways in which the three generations negotiated the complexities of a rapidly-changing society suggests that identities were nuanced and shifting: variously and simultaneously the Brookes were gentry, industrialists, Catholics, courtiers and political actors. Some aspects of these identities are reflected in the archaeological record, but many are not; an interdisciplinary approach is therefore adopted to enable some of the more intangible aspects of the Brookes' identity to be revealed.

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Author's declaration

I declare that this thesis is a presentation of my own work. This work has not previously been presented for an award at this, or any other, University. All sources are acknowledged as references.

This thesis contains some material which has been partly published before. The Coalbrookdale steel furnace excavations were published in *Historical Metallurgy* in 2007 as a joint-authored paper with Dr. Ronald A. Ross (Belford and Ross 2007). The work itself was directed by the author, who was also the lead author of the publication. Dr. Ross made a significant contribution to the detailed understanding of the stratigraphy on site; in addition Dr. David Dungworth contributed a metallurgical analysis to that paper which confirmed the site's steelmaking function. Short summary reports on the wider project of which that excavation was a component appeared in the *Industrial Archaeology Review* and *Post-Medieval Archaeology* (Belford 2003; Belford and Ross 2004). A summary of the Coalbrookdale Watercourses Project, part of which informs the description of the development of the water-power systems in Chapters 6 and 7, was published in the *Industrial Archaeology Review* (Belford 2007). A technical report on excavations at Wednesbury Forge, which is part of the discussion in Chapters 6 and 7, were published in *Post-Medieval Archaeology* (Belford 2010a).

A summary history of archaeology at Ironbridge, presented in detail in Chapter 1, was published in conference proceedings (Belford 2010b). Finally, some aspects of the history of Telford, and the Telford Development Corporation's impact on the historic landscape (issues addressed in Chapter 1), were published in *The Historic Environment: Policy and Practice* (Belford 2011).

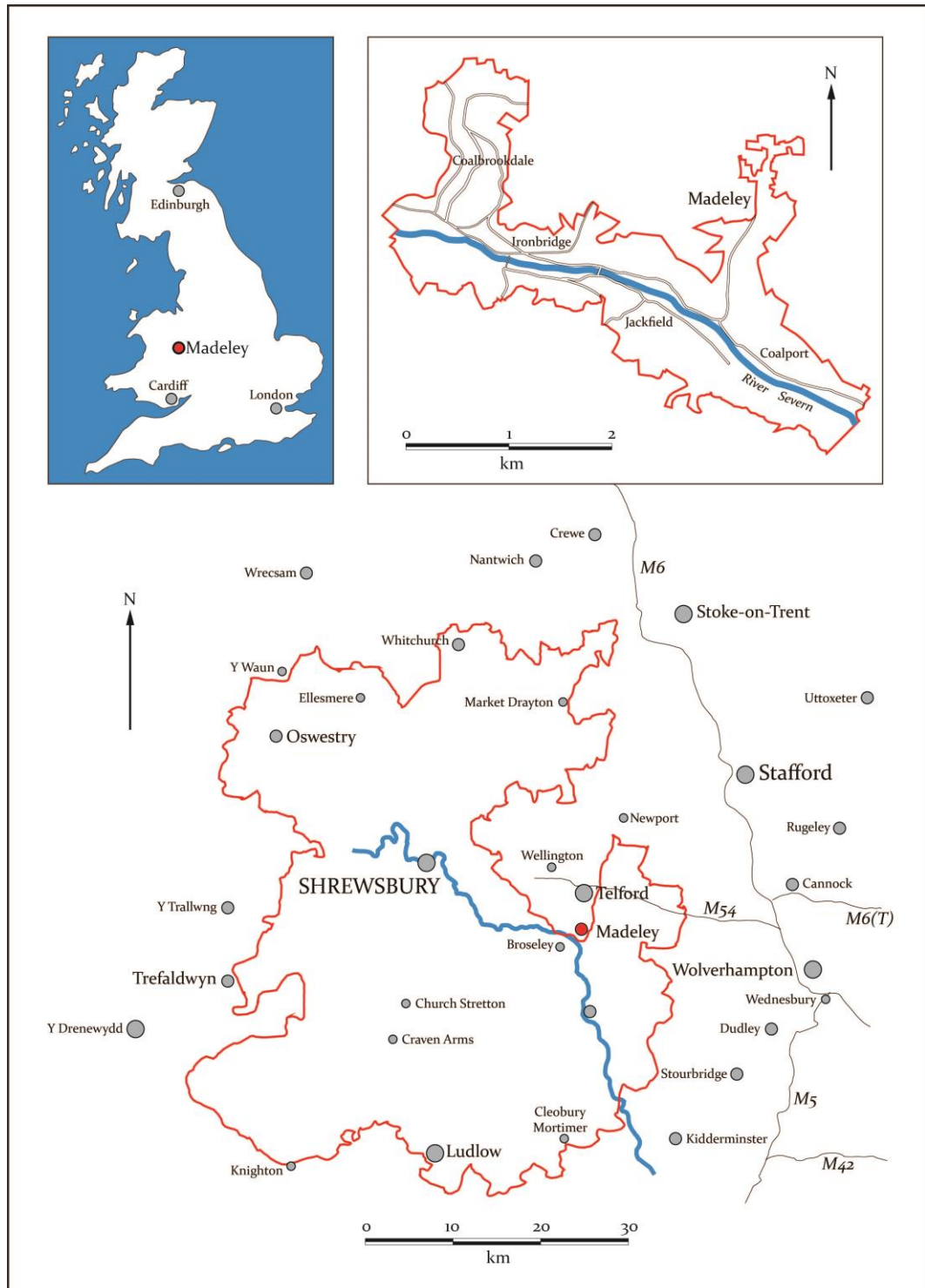


Fig. 1.01. Location of the study area. Main map: Modern settlements and motorways in Shropshire, Staffordshire and Worcestershire; the red line is the modern administrative boundary of the unitary authority of Shropshire Council. Top right: the Ironbridge Gorge World Heritage site, with principal modern communities. Source author.

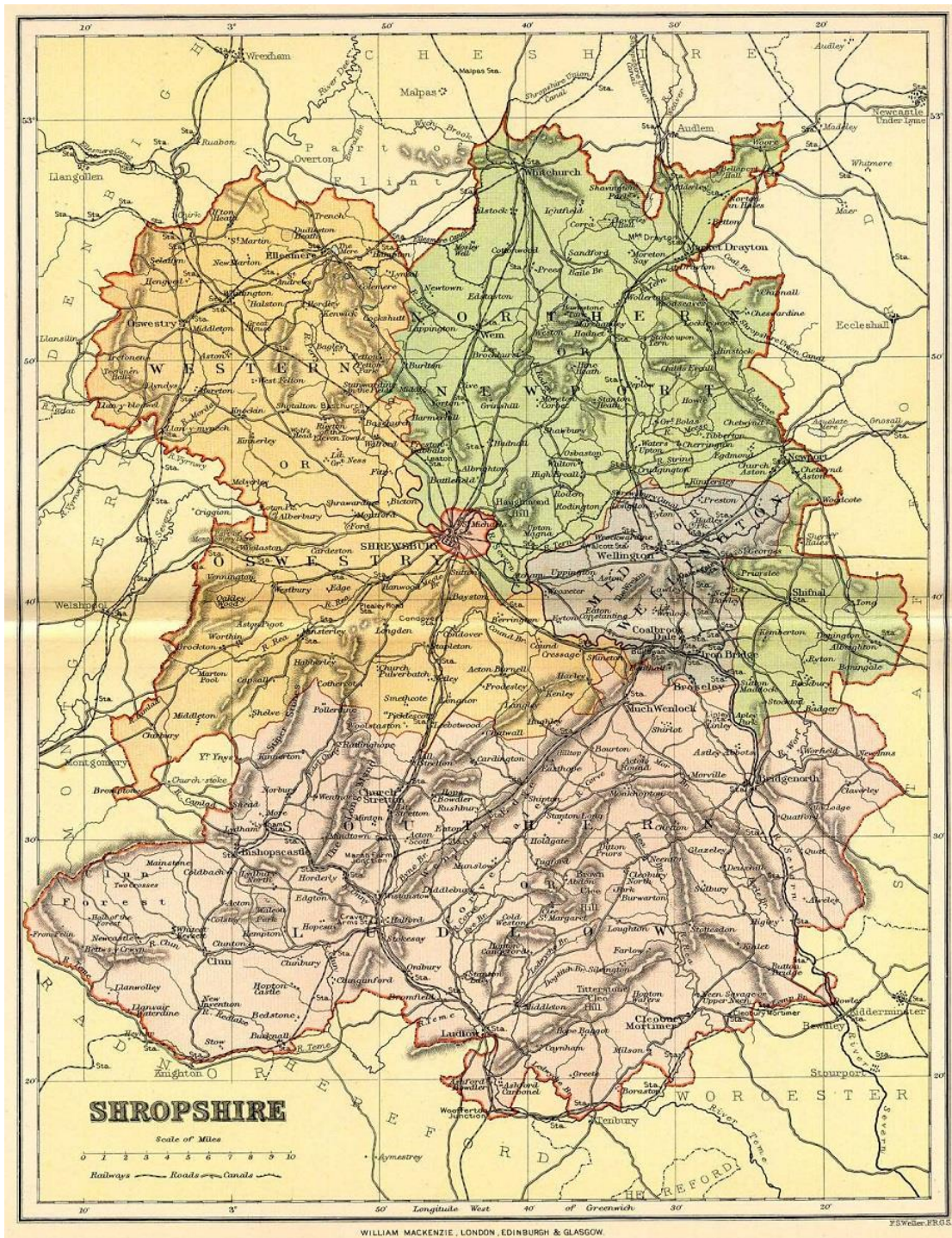


Fig. 1.02. Shropshire: a map published in 1890 by William Mackenzie. Subdivisions broadly correspond with areas of landscape character. ‘Western’ is mixed agriculture with rolling hills and some woodland, hillier to the west and flatter to the north; ‘northern’ is largely arable and flat and open; ‘southern’ is primarily pastoral, hilly with woodland and some moorland. Shrewsbury is shown in red; ‘Mid- or Wellington’ is essentially the East Shropshire Coalfield, location of the study area. Source: author.

1. Introduction

In 1708 Abraham Darby – a Bristol brass-founder and Quaker – leased a run-down and unprofitable ironworks in Shropshire and began to experiment with iron making. He was the first to be commercially-successful in smelting iron with mineral fuel (coke), and his son's similar success in enabling coke-smelted iron to be used in (coke-fuelled) forges, brought about a step-change in the quantity and quality of iron production in Britain. This was one of the key moments in the Industrial Revolution, that important piece in the complex jigsaw of the long transition from medieval to modern. The Darby family's resulting wealth enabled the construction of the first iron bridge and some of the earliest workers' housing. Their Protestant work ethic was essential to their success: excluded from conventional paths to social and financial security, the Quakers developed extensive business and social networks, predominantly based around their faith. Their non-conformist entrepreneurialism characterised the brave new British imperial post-medieval world that reached its zenith in late-Victorian industrial and colonial paternalism (Ashton 1924; Mott 1957a; Mott 1957b; Raistrick 1950; Raistrick 1953; Randall 1880; Schubert 1957; Trinder 1977; Trinder 2000). These are the traditional narratives: of Coalbrookdale specifically, the iron industry more widely, and of British national progress generally.

The facts, however, differ from this narrative. Darby did not acquire a piece of *terra nullis* in backward rural Shropshire. Rather, he acquired a well-established and sophisticated ironworks, with an excellent network of raw materials supply lines and access to markets. It had a long history of innovation and experimentation in ferrous metallurgy. It had been a leading supplier of coal along the River Severn for 300 years before Abraham Darby was aware of its existence. Since the early-sixteenth century this ironworks had been turning iron ore into wrought iron; in the early-seventeenth century it had also been the first to mass-produce high-quality steel in Britain with an entirely new process. The business of which it was part was at one time one of the largest industrial enterprises in England, with a portfolio which included extractive, metallurgical and other industries in England and overseas.

That portfolio had been created and managed by another, very different, dynasty. Three generations of the Brooke family controlled the Coalbrookdale ironworks and mines between 1544 and 1646. The associated estate featured a range of fashionable

accoutrements including up-to-date Renaissance-influenced park, gardens and house. The Brookes' technologically advanced, economically significant and philosophically well-informed social and economic complex provided the springboard from which the later and much better-known story of eighteenth century industrialisation in Coalbrookdale took off. The Brooke dynasty did not however conform to the conventional narrative of British national progress. The Brookes were Catholics, and at times very active in resistance to the post-Reformation Protestant hegemony.

Several questions therefore arise. What was the role of the Brookes' Catholicism in the development of the landscapes, buildings and industries which they created and inhabited, and in the shaping of their own identities? How were these identities expressed? To what extent are those expressions detectable archaeologically? How exceptional was the Brooke industrial dynasty in entrepreneurial and technological terms?

This thesis sets out to answer those questions. It will also suggest alternative agendas for future research into early post-medieval industrialisation, and will consider approaches to understanding expressions of identity in early modern England – in particular how the intersections between religious, political, social and economic identities may be subjected to a more nuanced analysis through an interdisciplinary approach.

1.1 Location, geology and topography

The main focus of the study is the Parish of Madeley, which is located in the north-east of the historic county of Shropshire (**Figs. 1.01** and **1.02**). It is 24km east of the county town of Shrewsbury, 12km north of the riverside market town of Bridgnorth, and 21km west of the industrial town of Wolverhampton. The town of Madeley lies 1.5km to the north of the River Severn. The historic parish extended to the banks of the river, but did not include areas to the south of the Severn.

The geological sequence has shaped topography and provided the resources for the human exploitation of – and impact on – the landscape, which are the main themes of this thesis. The geology provided the resources for the industrial expansion which is the subject of this study; it also created a certain topography, the features of which were enhanced and deployed in creating a particular vision of landscape. Arguably the Brookes' exploits could be seen as one of the early manifestations of – and contributions

to – the posited Anthropocene geological period: the estate’s most significant mineral-fuelled industrial expansion took place from the 1590s until the 1630s – a forty-year period which centres on one of the more convincingly-argued start dates for the Anthropocene (Waters *et al.* 2014, 7-11; Lewis and Maslin 2015, 177-178). However, the long-established geological schema which considers the study period to be in the Holocene is still current at the time of writing, and the following description is made in that context.

The main geological character of north-east Shropshire is that of the Coal Measures – Upper, Middle and Lower – which were laid down in the coastal and estuarine environments of the Carboniferous period (**Fig. 1.03**). The Upper Coal Measures do not contain workable coal seams; they are largely composed of beds of marl (Hadley Formation), siltstones (Coalport Formation), mudstones and sandstones. To the east of the region, these Upper Coal Measure deposits disappear beneath the Permian sandstones and marls that form the fringe of the eastern plain. The Middle and Lower Coal Measures, however, do contain workable resources of coal, clay and ironstone and along the Severn Valley – at Coalbrookdale, and within the parishes of Madeley and Broseley – they are in places exposed and elsewhere easily accessible. The Cambrian and Silurian foothills of the Wrekin mark the western extent of the Lower and Middle Coal Measures; they dip to the south and re-emerge in the Wyre on the border with Worcestershire (Earp and Haines 1971, 30-37).

The topography of the study area closely reflects the underlying Coal Measures geology. North-east Shropshire is dominated topographically by the Wrekin, a distinctively-shaped outcrop of Pre-Cambrian volcanic rock that is an outlier of the Long Mynd to the south. These outcrops are associated with a series of faults which comprise the western edge of the region: the Church Stretton Fault, the Brockton Fault and the Wrekin Fault. Other related Pre-Cambrian features associated with this fault are, to the south-west of the Wrekin, metamorphic Rushton Schists, and Primrose Hill Gneisses and Schists; and the igneous complex of Uriconian Volcanics, also found on the Wrekin (Toghill 1990, 19-40). Cambrian deposits in the region include a large area of Shineton Shales extending southwards from the southwestern end of the Wrekin, as well as the Wrekin quartzite and an outcrop of Cambrian Lower Comley sandstone at Lilleshall (Earp and Haines 1971, 35-52). The Silurian period is represented by marine rocks formed as the Iapetus Ocean retreated; the northern end of the resulting belt of limestone (Wenlock Edge)

extends into the region and a prominent northern outlier of this (Lincoln Hill) is located on the northern edge of the Severn Gorge and within the historic parish of Madeley.

At the end of the last ice age, the retreat of the Irish Sea Ice to the north and west resulted in the formation of Lake Lapworth. Previously, the catchment of the Upper Severn had drained northwards; however this route for meltwater was blocked by the still-retreating ice. Consequently the waters of Lake Lapworth drained between Benthall Edge and Lincoln Hill, cutting across the original drainage pattern, reversing the flow of the River Severn and creating the Severn Gorge in the process (Toghill 1990, 175-177).

The main drift cover is boulder clay, which was formed during the glaciation of north Shropshire; there are some localized patches of sands and gravels. The soils are generally seasonally waterlogged gley soils, usually resting on the Coal Measures and comprising a sandy loam. Leached soils in the eastern part of the region comprise a more silty loam (Ragg *et al.* 1981). As a result a mixed pattern of surface land-use has evolved in the last 2,000 years; the broad areas of landscape character today would be largely familiar to the inhabitants of the landscape during the study period (Fig. 1.02). In the early twenty-first century this comprises a more-or-less equal mixture of arable and livestock farming, and forestry. The forestry use is currently balanced between recreational and commercial uses, sometimes overlapping and sometimes not, much as it would have been in the sixteenth and seventeenth centuries.

Madeley is predominantly situated on a plateau which is effectively a northern outlier of the south Shropshire hills, marking the transition between the more undulating landscape to the south and the plain to the north (Fig. 1.03). The main area of settlement lies between 100m and 125m AOD, although the southern part of the parish slopes steeply down to the River Severn which formed its southern boundary. Watercourses marked parts of the western and northern boundaries: Birches Brook, Loamhole Brook and Lightmoor Brook. The eastern boundary was the watershed of the Mad Brook, another steeply-sloping tributary of the Severn (Fig. 1.04).

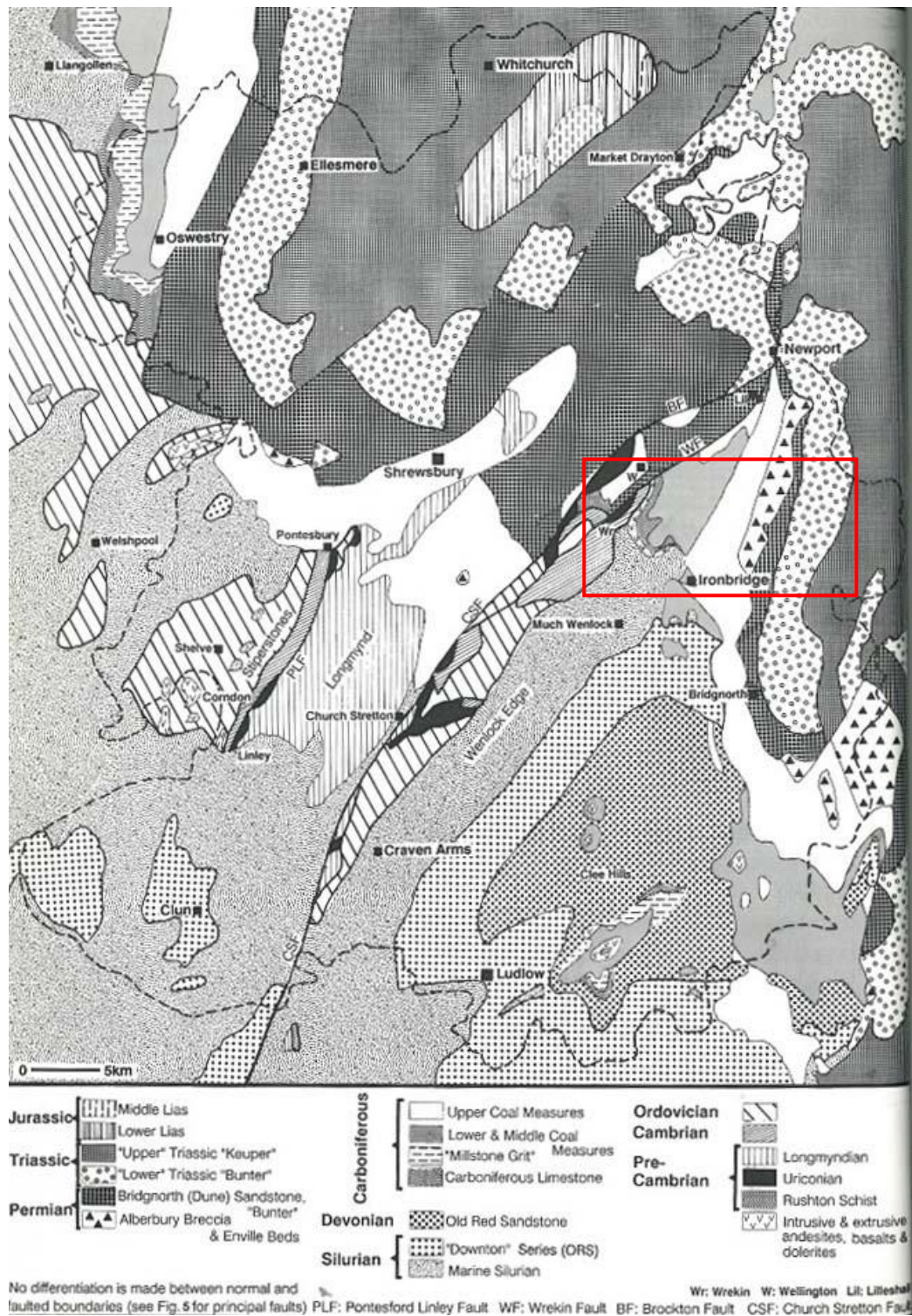


Fig. 1.03. The geology of Shropshire. The general location of the study area is marked by the red box. Source: Toghil 1990, Fig. 4.

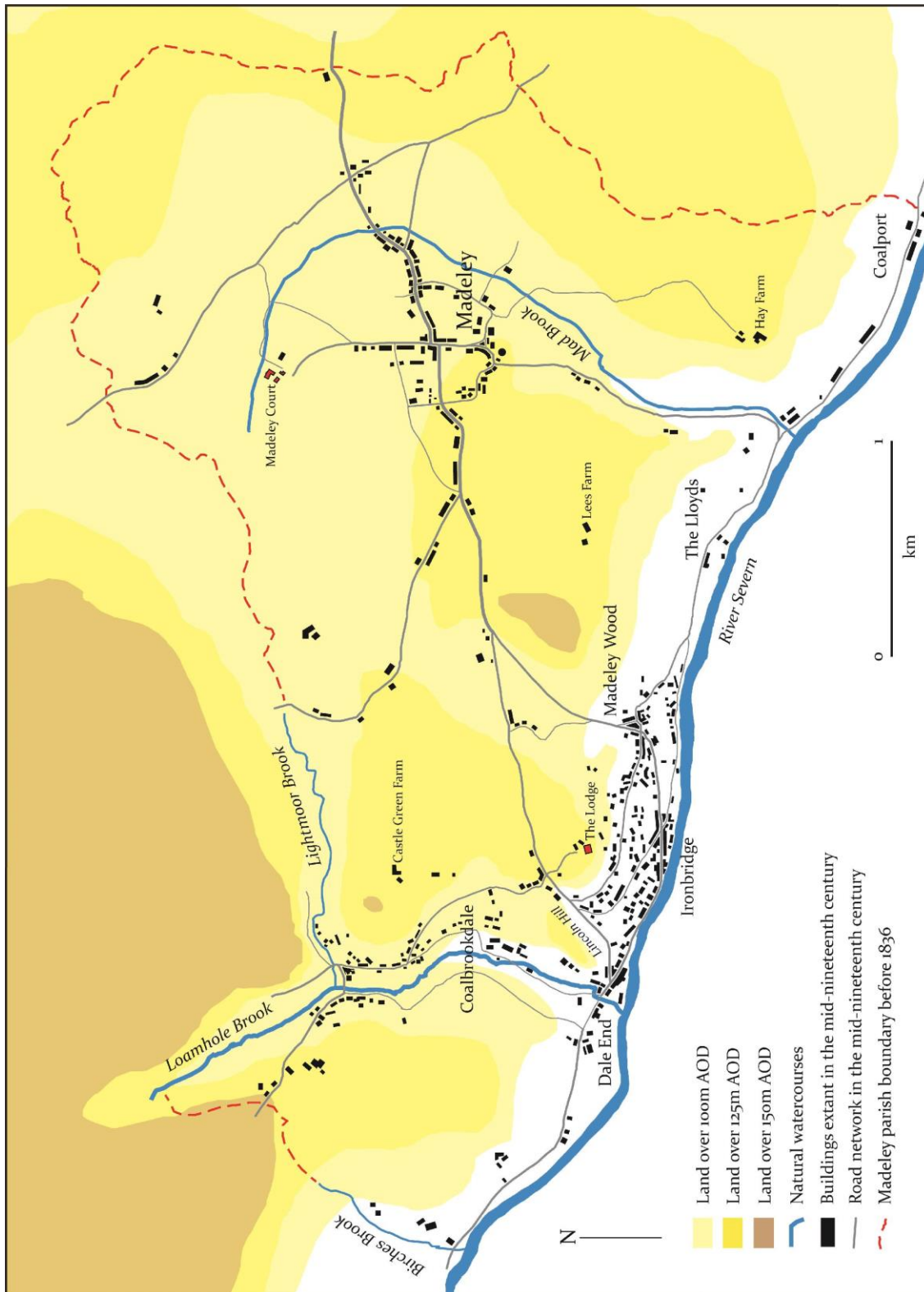


Fig. 1.04. Madeley: topography and settlement. Source: author.

1.2 Terminology: places, people and time

The present-day landscape is usually understood and described in terms of developments which took place during and after the eighteenth century, a process which significantly altered – and in many cases destroyed – the physical and social presence of earlier locales. Therefore it is necessary to provide an introduction to the geographical terminology used in this study. This section additionally contains brief notes about the ways in which people and their titles are described, and calendar dates.

The term ‘East Shropshire Coalfield’ came into use during the nineteenth century. It is a geological term that is widely used to identify the geographical area as a whole for the post-1750 period, and commonly (but erroneously) used as a geographical synonym for the area occupied by Dawley (later Telford) New Town¹ (Baugh 1985, 21; Trinder 1982; Trinder 2000). However its use will be avoided where possible here, except when discussing geology. This is for two reasons. Firstly, the various mineral deposits in these districts occur at different depths and were extracted in different quantities at different times. During the study period the areas south of the Severn tended to specialise in coal and clay extraction, whereas Madeley specialised in iron, limestone and coal. The depth of coal and ironstone deposits in Dawley and Stirchley meant that these did not begin to industrialise until very late in the seventeenth century. Secondly, these areas were under different administrative control during the medieval and early modern periods; consequently they developed separate identities which were strongly linked to those ownerships. A shared ‘East Shropshire Coalfield’ identity may have emerged in the nineteenth century; it has been identified and characterised by late-twentieth century historians whose histories were partly supported and resourced to create an identity for Telford New Town. (Trinder 1982; Baugh 1985; Trinder 2000).

Until 1540 the Manor of Madeley was one of the properties of Much Wenlock Priory. The parish remained part of the ‘Liberty and Borough of Much Wenlock’ until 1966 when it was subsumed into Telford New Town (Baugh 1985, 21). Broseley, Benthall and Jackfield were also part of the holdings of Much Wenlock in the Middle Ages, but their post-dissolution manorial history followed very different trajectories. The historic

¹ Dawley New Town was designated in 1963; its boundaries were enlarged in 1965 when it was renamed Telford New Town. For a more detailed history see Baugh 1985 and Belford 2011.

settlement of Madeley was in the north-east of the parish, with Madeley Court and its park to the north-west. Most of the industrial activity took place along the Coalbrookdale valley, with some mining along the banks of the Severn. Smaller settlements clustered in these areas certainly by the seventeenth century – at Dale End in the west and at Madeley Wood in the east.

Historically, the name ‘Coalbrookdale’ was applied to much of the activity along the north bank of the River Severn, as well as to the tributary valley. However, the construction of the Iron Bridge in 1779 created a new focus for an eponymous river-side settlement in the Severn Gorge. In 1836 that area which had become known as ‘Ironbridge’, together with the long-established mining settlement of Madeley Wood, had become so populous that they were detached into a separate parish known as ‘Ironbridge’ (Cranage 1897, 200). In 1851 another separate parish of ‘Coalbrookdale’ was created, incorporating the earlier settlement of Dale End; as well as being carved out from Madeley parish it also took in some areas that had formerly been part of Dawley (Cranage 1897, 190).

The name ‘Ironbridge Gorge’ has been widely adopted since the 1960s, and usually includes most of the southern part of the historic Manor of Madeley as well as portions of the parishes of Broseley, Jackfield and Benthall on the south side of the River Severn. The currently generally accepted boundaries of the ‘Ironbridge Gorge’ are those defined in its inscription on the UNESCO register of World Heritage Sites in 1986 (Fig. 1.01), although surrounding settlements – Broseley to the south, for example – also made a contribution to the early industrial development of the area. Of course an ‘Ironbridge Gorge’ could not exist before the erection of the Iron Bridge. This is not to say that there were not strong links between actions and actors on both sides of the Severn in earlier periods, with the river itself a vital artery of communication; however the modern construct of the ‘Ironbridge Gorge’ is not a helpful label when considering sixteenth and seventeenth century understanding of the place

In this thesis the following terms will therefore be used with these meanings (Fig. 1.05):

- Madeley: the principal settlement, or the whole and complete historic Parish, or the Manor, as it existed during the period 1544 to 1708. The context of the use of this term will make clear which meaning is evident.

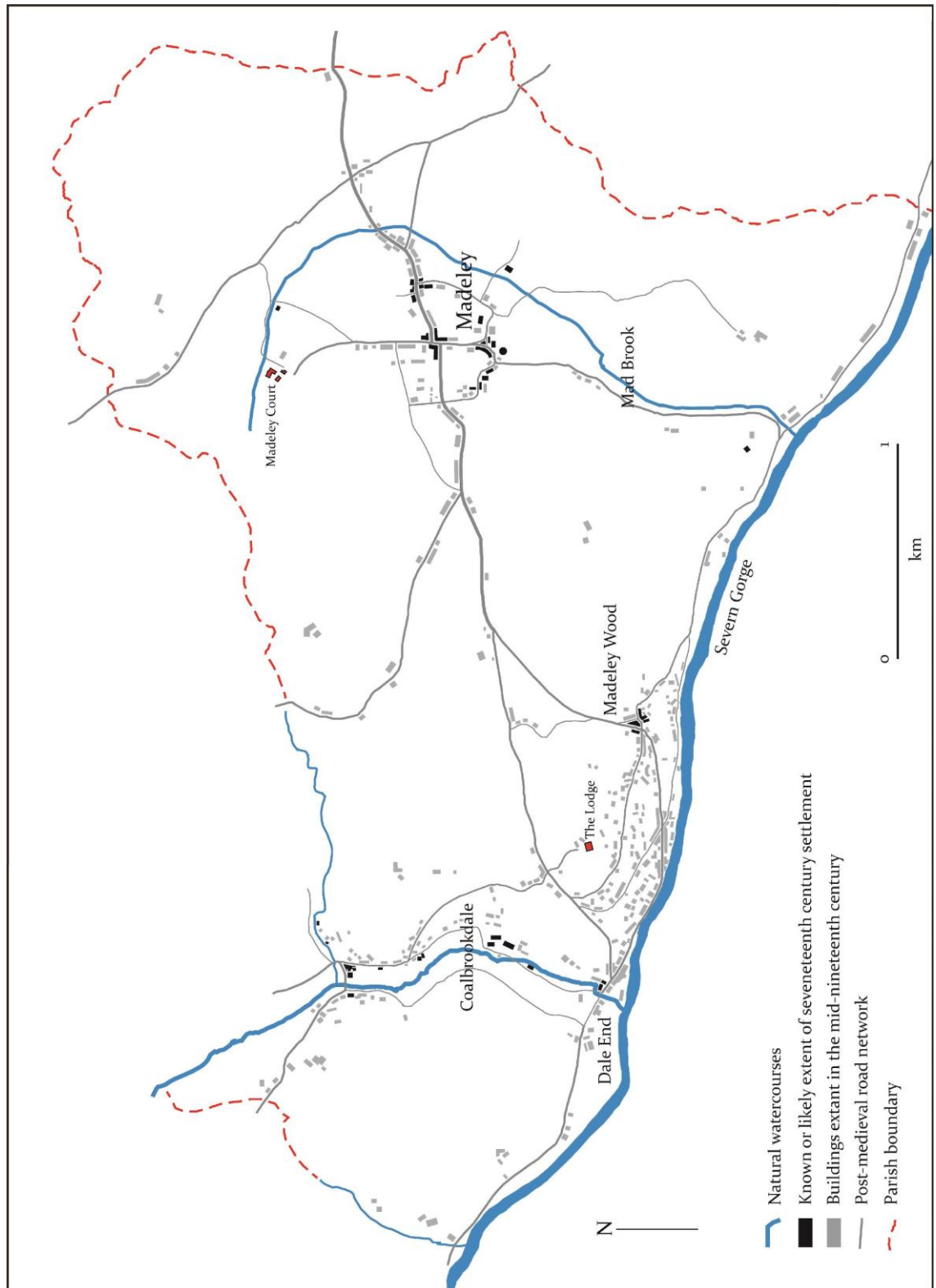


Fig. 1.05. Geographical terminology. Place names used in this thesis. Source: author.

- Coalbrookdale: the tributary valley of the River Severn in the western part of the Parish, including settlements and industrial features. The term ‘Dale End’ will be applied to the lower part of this valley.
- Madeley Wood: the small settlement roughly in the area of the present ‘Golden Ball’ public house, and its associated mining activities in what is now called ‘the Crostan’ and Lloyds Coppice.
- Mad Brook: the tributary valley of the River Severn in the eastern part of the Parish, including what is now Blists Hill and Coalport.
- Severn Gorge: the areas adjacent to the River Severn.

Two of the three principal actors – Robert Brooke and his grandson Basil Brooke were knighted (in 1554 and 1604 respectively), but John Brooke was not. Since the actions of all three are discussed thematically rather than chronologically, and to avoid repetition, they are referred to simply by name. For other characters formal prefixes (Countess, Lady, Lord, Earl, Sir and so-on) are used when appropriate.

Dates are given in Old Style, except that the year is reckoned to begin on 1st January.

1.3 Previous historical research in the study area

Awareness of the significance of the Coalbrookdale landscape to the history of English industrialisation began in the nineteenth century. The conventional narrative of events has been shaped both by the nature of the evidence and the development of the disciplines which have studied it. Consequently several different lines of enquiry have emerged, each with their strengths and weaknesses. This section considers the discipline of history, whilst the next looks at archaeology.

There are a number of secondary sources dealing with the history of the study area. The tradition of antiquarian enquiry begins relatively late in Shropshire, with the earliest coherent history – of the town and environs of Shrewsbury – being produced by Thomas Phillips in 1779 (Phillips 1779). This was subsequently plagiarised and re-worked by two clergymen – Owen and Blakemore – for their own histories, before being more comprehensively revised and enlarged by Charles Hulbert later in the nineteenth century (Phillips 1779; Owen 1808; Owen and Blakemore 1829; Hulbert 1837, v-vi). Charles Hartshorne’s *Salopia Antiqua*, published in 1841, contained an eclectic mixture

of observations derived from ‘personal survey into the druidical, military, and other early remains in Shropshire and the north Welsh borders’ (Hartshorne 1841). All of these sources are typical of their genre, and are of limited value to the modern researcher; however Robert Eyton’s *Antiquities of Shropshire* – a monumental 12-volume work produced between 1854 and 1860 – provides a parish-based history of notable families, including the Brooke family and their relatives and associates, some aspects of which can be corroborated with documentary sources (Eyton 1854-1860).

It was not until the late nineteenth century that local historians moved beyond druidical barrows, Roman walls and late-medieval gentry and turned their attention to the industrial history of the area. John Randall was an extraordinary pioneer in this regard. Born in 1810, he worked for most of his life as china painter at the Coalport porcelain factory. In the 1840s he became interested in geology, and began collecting specimens locally; he was awarded a bronze medal for his collection at the 1851 Great Exhibition. He began writing articles on local history, geology and other matters in the late 1850s, and published a series of local history books from the 1870s onwards (Trinder 1975, np). Randall’s *History of Madeley* (1880) is a rambling, disjointed and entirely unreferenced work, with considerable freedom being taken in the spaces between known facts. Nevertheless it is important as the first serious attempt to describe the early industrialisation of the study area. Parts of it were used as the basis for sections of the first volume of the *Victoria County History* (Page 1908), which also suffers from many of the same idiosyncrasies.

The earliest modern academic approaches to the history of the study area were rooted in the twin strands of economic and technological history. Economic historians began to look at industrial history from an early stage. In 1904 Max Weber published *Die Protestantische Ethik* (‘The Protestant Ethic’) which argued that post-medieval developments in trade and industry were a direct consequence of the reformation and its impact on moral and political thought (Weber 1904, trans. Parsons 1992). In the same year George Unwin published an economic study of industrial organisation in the sixteenth and seventeenth centuries (Unwin 1904). In 1924 Professor T. S. Ashton published his influential study of *Iron and Steel in the Industrial Revolution*, a pioneering work of metallurgical industrial economic history (Ashton 1924). Meanwhile, as scientific approaches to industrial production became prominent in the latter part of the nineteenth century there was concern among some practitioners (still at this time industrialists rather than professional historians) to make an account of earlier

techniques which were no longer in use or had died out altogether. In 1920 a group of engineers in industry, together with curators from the Science Museum, formed the Newcomen Society for the study of the history of engineering, industry, and technology. Several important papers on early metallurgical processes and sites were published in the Newcomen *Transactions* in its first few years, including a visit to Coalbrookdale in 1922 (Anon 1922, 112-123). The immediate post-war period saw further interest in industrialisation as an historical phenomenon, again largely motivated by the final disappearance of technologies and methods which were already on the fringes of living memory (Rolt 1944; Hadfield 1950; Singer *et al.* 1954-59).

Such studies continued to be framed by a very Victorian focus on 'great men' and 'great works'; an approach specifically informed by Samuel Smiles' *Industrial Biography* of 1863 (Smiles 1863). Smiles was an author of improving self-help books, and used the great industrialists of the eighteenth and nineteenth centuries as inspiration for his readers. His enthusiasm for heroic individualism coloured subsequent interpretations. Almost a hundred years later, H. R. Schubert's monumental 1957 study of the history of the British iron industry was still seeking to provide a heroic whiggish narrative of 'invincible perseverance which never shrank from unfavourable conditions nor was defeated by initial failure' (Schubert 1957, 2). It was in this context that the first historical investigation of the Coalbrookdale iron industry was undertaken. This – Arthur Raistrick's *Dynasty of Ironfounders* – was funded by the Coalbrookdale Company part of their 250th anniversary commemorations. Its primary focus was on the Darby family and their achievements after 1708; almost in passing Raistrick referred to the character of pre-Darby industrial activity as 'domestic' in scale and importance (Raistrick 1953, 1). As well as emphasising the achievements of the founders of the company which paid him to write the book, Raistrick's study was also influenced by his own Quaker faith and his enthusiasm for Quaker industrial history – set out in his earlier work *Quakers in Science and Industry* (Raistrick 1950).

In the short term, the publication of *Dynasty of Ironfounders* did lead to the recognition of the importance of some of the material remains at Coalbrookdale. However, in the context of the present study, it had two profound long-term effects. The first was to ensure that the post-1708 Quaker Darby period was the primary focus of subsequent research and interpretation; the second was to highlight the dominance of the documentary record as the primary resource for investigating the past. Raistrick's baton was taken up during the 1970s by Barrie Trinder. Trinder's numerous books on

Coalbrookdale, the East Shropshire Coalfield and industrialisation in Shropshire remain core texts for the study of this period and locale. Trinder was also an economic historian, whose work on Coalbrookdale began while teaching adult education classes for Shropshire County Council. With his students Trinder examined wills and probate inventories of the late seventeenth, eighteenth and nineteenth centuries (Trinder and Cox 1980; Trinder and Cox 2000). From this emerged *The Industrial Revolution in Shropshire*, which set out the overall economic and social history of the area; later *The Making of the Industrial Landscape* – a title which paid deliberate homage to W. G. Hoskins – made more general remarks but included material on Coalbrookdale and the East Shropshire Coalfield. As honorary historian to the Ironbridge Gorge Museum, Trinder produced a series of pamphlets and books, including an anthology of eighteenth and nineteenth century sources (Trinder 1973; Trinder 1977; Trinder 1983; Trinder 2000). Trinder was certainly more open to telling the stories of ordinary people than the previous generation, and to some extent also engaged with some of the theoretical approaches emerging in economic history during the 1970s and 1980s, such as proto-industrialisation (Mendels 1972; Butlin 1986; Medick 1976).

Trinder's influence has been – and remains – significant, and although no individual has managed to monopolise historical analysis since Trinder left Ironbridge in the mid-1980s, the frameworks he established have generally been followed uncritically by both amateur local historians and those who see themselves as part of the broader world of economic history. In the former camp, a number of useful studies have emerged – most notably by Neil Clarke, John Luter and Lance Smith – which have unearthed considerable historical detail but remain firmly empirical and unconcerned by theoretical developments in related fields (Clarke nd.; Luter 2005; Smith 2006). Among the latter, studies by economic historians Peter King and Richard Hayman stand out. Hayman has concentrated on the later eighteenth and early-nineteenth centuries, again specifically looking at documentary sources to develop an economic history of various technologies associated with iron forges (Hayman 2004; Hayman 2008). King's work on the post-medieval forge trade nationally has focussed on the West Midlands and has included several re-assessments of the Coalbrookdale accounts for the early- to mid-eighteenth century (King 2002; King 2004; King 2010). King has also examined the English midland and Stour/Severn iron trade during the seventeenth century, and to an extent the sixteenth century, in some detail (King 2005). Otherwise, historical studies of the pre-1708 period in the study area have been limited. Malcolm Wanklyn made use of Gloucester Port Record Books to extract some information about the nature of trade

along the River Severn, in particular focussing on the export of coal, iron and steel from Coalbrookdale (Wanklyn 1973; Wanklyn 1982). Some attention has also been paid to the Brooke ironworks in the Forest of Dean as a tangent or footnote to other studies (Hammersley 1973; Hart 1971; Hart 1995; Schubert 1957). Links between the Severn trade and the wider world – in particular the import of Baltic iron to Bristol as part of the late seventeenth century steel industry – have also been examined at a macro level (Evans and Rydén 2005).

1.4 Previous archaeological research in the study area

The Ironbridge Gorge can rightly claim to be one of the centres at the origin of industrial archaeology. The discipline emerged in the post-war period, and the term was first used in print in 1955 by Michael Rix, then teaching with the Workers Educational Association at Birmingham University (Rix 1955). It was characterised by one of the movement's early pioneers as 'the anxiety to preserve the baby from the discarded bath water out of which Industrial Archaeology was born' (Buchanan 2005, 19). One of these babies was the so-called 'Darby furnace' at Coalbrookdale. First recognised in the nineteenth century, it was only the demolition of part of the ironworks complex in the 1930s and 1950s which revealed the extent of the furnace remains. As the iconic material expression of the development of mineral-fuelled (coke) smelting, it became the focus of interest. In 1949 a group from Birmingham visited the site at the request of the Shropshire Archaeological Society. Among them was W. K. V. Gale, who initially felt that 'it was too late for anything to be done' to save the recently-exposed furnace (letter of 1950, cited in Darby 2010). However the furnace was restored – albeit at the expense of much of its surrounding context – and in 1959 a small museum was opened at the site (**Fig. 1.06**). This later formed the genesis of the Ironbridge Gorge Museum (Cossons 1979).

The development of the Coalbrookdale area as a heritage attraction took place as part of the regeneration of the area during the creation of Telford New Town from 1963. This was undertaken by the Telford Development Corporation (TDC), a central government agency which had wide-ranging powers. The TDC created the Ironbridge Gorge Museum Trust (IGMT) in 1967 as a mechanism for the 'preservation, restoration, improvement [and] enhancement' of 'features and objects of historical and industrial interest' in the wider East Shropshire area. (Cossons 1979, 184-185).

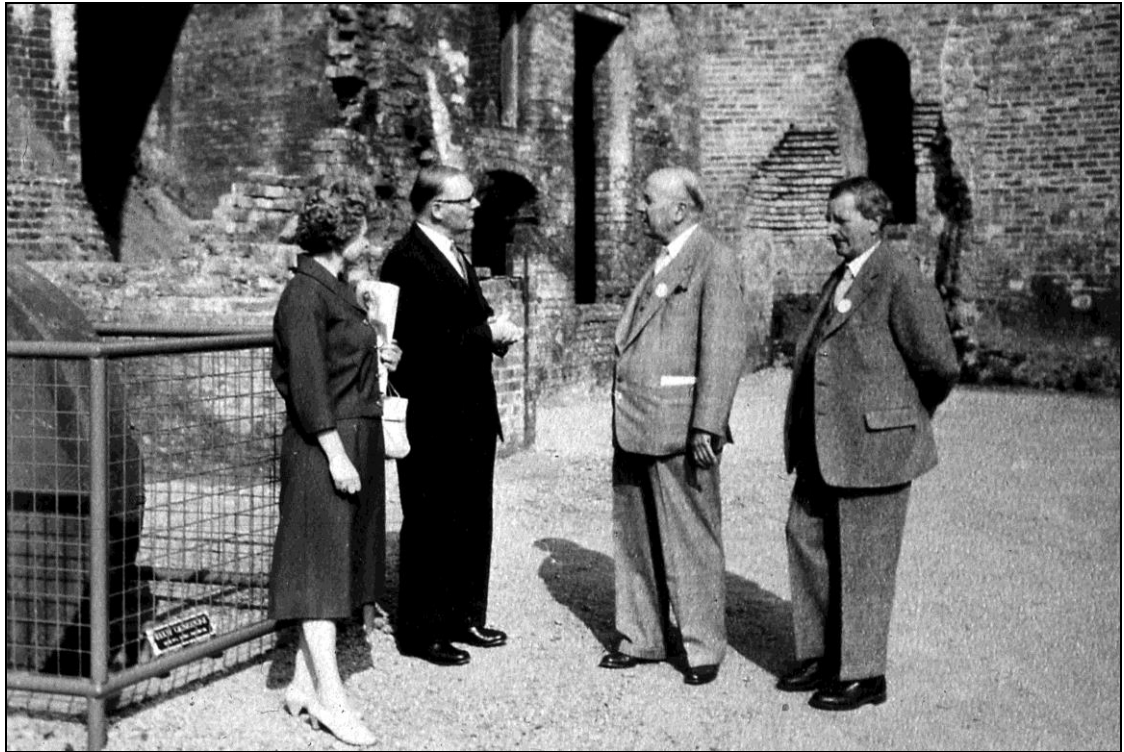


Fig. 1.06. Authorised heritage discourse. Delegates at the opening of the restored 'Darby Furnace' at Coalbrookdale in 1959. Left-right: Mary Tarver (Coalbrookdale Company Secretary), Fred Williams (Coalbrookdale Company Works Manager), unknown visitor, Arthur Raistrick. Source: Michael Darby, reproduced with permission.

The initial development of IGMT, its museum sites, and the Ironbridge Gorge area was strongly influenced by the regeneration and place-building agendas of the TDC. Heritage was deployed from the outset to create a unified identity which would assist the transformation from an 'assemblage of industrial hamlets' into a 'contiguous urban mass' (Tolley 1972, 343). The TDC was fully aware of the 'valued historical associations' of the Ironbridge Gorge, so incorporation of this area – helpfully located in a peripheral, difficult-to-develop, and subsidence-prone part of the New Town – provided reflected historical light in which the new town could bask (De Soissons 1991, 64–69; Thomas nd, 48; Buchanan 1986, 474).

With the Ironbridge Gorge having been set aside for its heritage value, the rest of Telford was effectively cleared for redevelopment in a way which was not sympathetic to most of the archaeological resource. Moreover, even within the Ironbridge Gorge, the approach to conservation was mixed. Although archaeological research was part of the

'preservation' and 'restoration' elements, it was not a priority for the 'improvement' and 'enhancement' parts of the programme. Thus many pre-Darby sites and monuments were cleared – including some early industrial housing – within what was later to become the World Heritage Site. It is also fair to say that the 'monumental' approach to the surviving remains did not encourage the preservation of elements of the historic environment which did not sit well with the established historical narrative. As a result the physical relationships between pre-eighteenth century sites within the Gorge, and their relationships with sites outside the Gorge, have been seriously eroded – and in most cases lost altogether.

Archaeology at Ironbridge evolved in a very *ad hoc* manner during the 1970s, and was mainly concerned with the recording of features and structures encountered during conservation projects undertaken initially by the TDC and latterly by IGMT. There was strong amateur involvement and little attempt to engage with broader theoretical developments in archaeology – reflecting the wider position of the discipline of industrial archaeology at the time. This changed for a period during the mid-1980s with the appointment of Kate Clark as the head of the embryonic archaeology team at IGMT, although tellingly her job title was always 'Monuments Manager'. Clark and her team were involved in several important early surveys of industrial buildings and monuments. With funding from the Nuffield Foundation, she worked with Judith Alfrey on what became known as the 'Nuffield survey' of Ironbridge (Alfrey and Clark 1986; Alfrey and Clark 1987; Alfrey and Clark 1989). Three of the intended four volumes were completed, involving an analysis of the landscape which used the plots shown on the 1901 Ordnance Survey plan as the basic unit of study (Clark and Alfrey 1993). Clark and Alfrey's work did go back into the seventeenth century, and developed a new approach to understanding industrial landscapes. After Clark left Ironbridge in 1993, archaeological studies of Coalbrookdale returned to recording conservation-driven interventions under the leadership of Wendy Horton. The results were highly detailed and in many cases led to important new understandings, but arguably lacked some of the imagination of earlier approaches (Hayman, Horton and White 1999).

Horton and Hayman left in 1999, and the present author took up the role of director of the archaeology unit of the Ironbridge Gorge Museum Trust from 2000 until 2010. As was the case under previous directors of archaeology at Ironbridge, the remit was principally the delivery of conservation-led archaeological recording programmes within the World Heritage Site. This work was inevitably proscribed by the framework within

which it was undertaken. There were two main restrictions. The first was that most of the archaeological work was to inform conservation; however since conservation was the primary objective, archaeological investigations were inevitably constrained by prevailing legislative and ethical obstacles to the demolition of buildings and structures. Secondly the role of the archaeology unit within the Museum had changed under IGMT Chief Executive Glen Lawes (in post 1995-2008). Its primary focus increasingly became the provision of commercial income and delivery of conservation projects; its potential to make an intellectual contribution to interpretation was increasingly sidelined during 1996-2010. Archaeological activity was to an extent viewed by the museum as a means of providing artefacts and images to support the known historical narrative. Archaeology was very much the 'handmaiden of history' (Andren 1998). Fieldwork was usually constrained to understanding the nuances of detail, often pointlessly: in one instance no less than 22 phases were identified in the life of a building between 1872 and 1945, yet there was little analysis of its broader architectural, historical or archaeological contexts (Belford 2009b). Conservation projects were undertaken to a tight funding timetable, and so even when new discoveries were made, there was little opportunity to integrate them into subsequent interpretation.

Notwithstanding these restrictions, the author was able to generally encourage a more theoretically-informed approach to fieldwork, and at the same time developed a series of research projects which were largely funded by revenue from the commercial operations of the unit. Two projects undertaken during that period have made a particular contribution to this thesis. The Coalbrookdale Watercourses project of 2000-2001 – part of the final transfer of TDC assets to the local authority² – brought a realisation that much of the infrastructure for the Darby ironworking complex had been put in place during the sixteenth and seventeenth centuries (Belford 2001; Belford 2007). Personal interest in Basil Brooke's steelmaking enterprise, together with a desire to develop new theoretical and methodological paradigms within which to situate the work of the IGMT archaeology unit, resulted in the 'Coalbrookdale Historical Archaeology Research and Training' project (CHART), which ran from 2001 until 2005. The primary fieldwork project was the excavation of the steel furnaces, although other

² The powers of the Telford Development Corporation were re-absorbed into the Commission for New Towns (established in 1961) in 1990; this body was itself abolished in 1999 and its functions were transferred to English Partnerships – an amalgam of various national and regional development authorities. English Partnerships was itself absorbed into the Homes and Communities Agency in 2008. The Commission for New Towns continues to retain a separate legal identity as an executive agency of UK government.

work was undertaken elsewhere in the Ironbridge Gorge under the aegis of the project (Belford 2003; Belford and Ross 2004; Belford and Ross 2007).

1.5 Lines of enquiry

The results from the two projects noted above have been supplemented by information gleaned from other conservation-led schemes and a variety of research-led projects undertaken before 2010, none of which have been published. Additional fieldwork has been undertaken since 2010 specifically to inform this thesis. The original intention of this study had been to set the site-specific work of these projects in a broader temporal and geographical framework, relating them to other smaller pieces of work and to broader research in the fields which the study occupies. However an approach situated entirely within the genre of historical archaeology has been constrained by two significant evidential shortcomings: the absence of a coherent landscape (**Fig. 1.07**), and the lack of any securely-provenanced excavated domestic material culture from the period. The historical record is also very limited.

This thesis is therefore a study at the forefront of historical archaeology, but it also integrates a dialogue with other fields within archaeology, and other disciplines beyond it. Thus some of the approaches more commonly applied in archaeologies of prehistory have been applied here, and the work has also mined some of the very rich veins of social, political, art and economic history which have addressed some of these issues in the study period. Reference is also made to anthropological and sociological strands of thought around agency and identity. There are areas where these lines of evidence overlap, and there are areas where they fail to intersect. The approach which has emerged is intended to tease out the mentions and silences between textual and the material remains. It may not always sit comfortably within many of the conventional frameworks of historical archaeology, but it has enabled the research questions set out at the beginning of this chapter to be answered.

Landscape investigation

The landscape of the sixteenth and seventeenth centuries has been considerably fragmented by later developments (Fig. 1.07). Even fundamental and long-standing landscape elements – such as the roads and trackways which linked these fragments together – have been substantially altered. Historic routes through the valley of the Mad

Brook between the eastern side of the town of Madeley and the River Severn were largely removed with the construction of the Coalport Branch of the London and North Western Railway in 1862. The western route to Coalbrookdale was also affected by the construction of the Much Wenlock branch of the Great Western Railway in 1864. The south-western route from the High Street and the Park Street diverged on the edge of the township. One route turned southwards, descending into what later became Ironbridge down 'Madeley Bank'. The alignment of the central part of this route as it stands today was affected in the 1820s by the mining activity of the Madeley Wood Company; more recently further deviations were caused by the construction of a housing estate in the 1930s, and its extension in the 1970s, along with a short bypass, another housing estate and new school buildings. The central part of the other part of the route, which appears to have remained on a more or less westerly course before turning sharply southward to arrive at The Lodge, has also been lost as a result of nineteenth century mining, the construction of the Madeley Union Workhouse (1880), and the TDC creation of the Woodside housing estate.

The intention had been to map the historic Parish of Madeley in the sixteenth and early seventeenth centuries; but this was only possible with a high degree of confidence in some areas.

Areas of confidence included some of the industrial elements of the Coalbrook and Mad Brook valleys, the partial extent of the southern part of the medieval park, and the extent of urban settlement within the parish. Unfortunately other important land-uses – mining, woodland and agriculture – were impossible to quantify. Field evidence for the former is notoriously difficult to date in any case; and most of the observable field remains are associated with known eighteenth century or later mining activity. As for agriculture, less than 5% of the area of the historic parish remains in any form of agricultural use (principally grazing land). The Tithe Map of 1847 (IGMT), although a helpful indicator of early nineteenth century land use, was not a reliable source for backward projection – even on the basis of field names – as industrial land-uses were already well-established by this date. Having said that it does provide the earliest parish-wide snapshot of the post-medieval landscape. The maps presented in this thesis are based on the Second Edition Ordnance Survey 1:10,560 map of 1901-2, with the 1849 Tithe Map used as a supplementary source. Additional information from earlier maps of Coalbrookdale (1753, 1786, 1806 and 1827) has also been incorporated where appropriate.

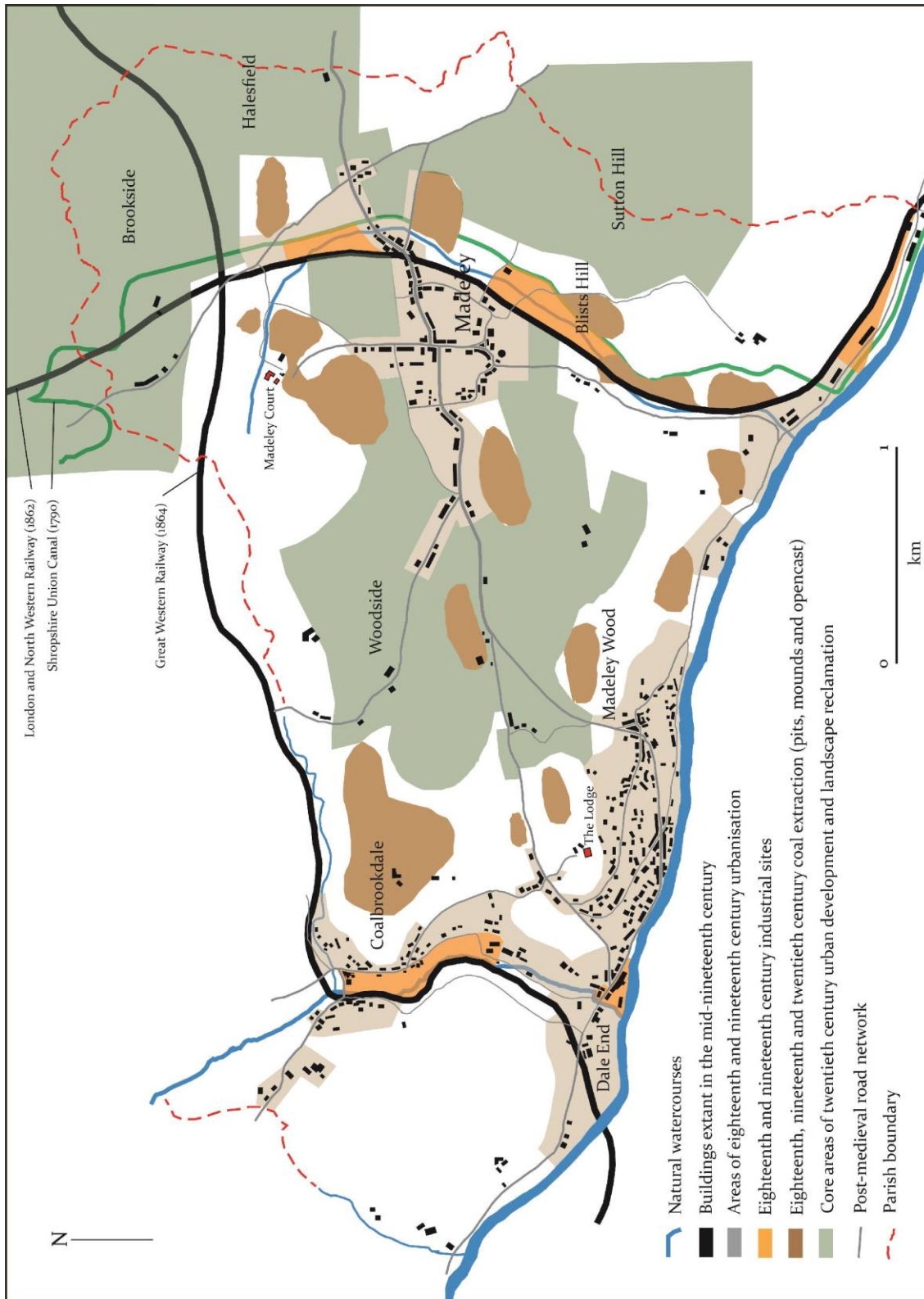


Fig. 1.07. Extent of eighteenth, nineteenth and twentieth century landscape change in the study area. Source: author.

Despite these issues, through a combination of map regression (Chapter 4) and visual analysis (Appendix 1), it has been possible to investigate some of the most likely routes and vistas, and to some extent therefore arrive at an understanding of how the landscape may have been designed and perceived during the study period.

Analysis of historic buildings

Relevant buildings situated in the study area have been subject to the same post-1700 fragmentation and degradation as the landscape in which they are situated. The medieval parish church – which might have been expected to offer some of the best evidence for post-Reformation expressions of Catholic identity – was demolished in 1794 after the partial collapse of the tower. The present building was designed by Thomas Telford: it was an entirely new structure of 1796, occupying the site of the original church (Cranage 1897, 3:205). The most significant of the surviving secular buildings – Madeley Court – was heavily restored in the 1980s, although these works were subject to archaeological monitoring (Meeson 1979; Worthington 1993). Some of the results have been published (Lewis 2009), and it was also possible to interrogate the surviving fieldwork archive in the IGMT library. Therefore no significant buildings archaeology at Madeley Court was undertaken as part of this study.

Two buildings have been comprehensively investigated as part of this study, in both cases for the first time. The first was The Lodge, a hunting tower built in the early seventeenth century overlooking the Ironbridge Gorge. Despite a complex and haphazard series of seventeenth, eighteenth and nineteenth-century additions, the core of the original building was sufficiently intact to provide some useful evidence. The second was Upper House, which was the home of Basil Brooke's business associate and prominent Catholic Francis Woolf. The house was substantially rebuilt in the later seventeenth century and again in the nineteenth century; it was unsympathetically restored by TDC in the 1980s. Some other secular buildings of the study period (of which there are few) were investigated more summarily as part of this study; they are not itemised here but are referred to in the text where relevant.

A summary of the survey methodologies are presented in Appendix 2, with analysis and discussion in Chapter 5.

Archaeologies of industry

As with landscapes and buildings, the post-1646 development of the Ironbridge Gorge has severely truncated the archaeological evidence for medieval and early modern industrial activity. Nevertheless, it has been possible to investigate several industrial sites that were in use during the study period. The fieldwork undertaken as part of the Coalbrookdale Watercourses and CHART projects was supplemented by work in other areas. One was at the Old Furnace (or 'Darby Furnace') in upper Coalbrookdale, a Scheduled Monument and the focus of the Darby-centred interpretation of IGMT. Although substantially modified by Shadrach Fox in the 1690s, by Abraham Darby I in 1708-1709, and again by Abraham Darby III in 1777, the furnace is the only standing remnant of seventeenth century industry in the study area. Some limited evaluation work was undertaken in 2009 as part of improvements to access and interpretation around the extant furnace stack (Belford 2009a), and this prompted a re-evaluation of the evidence for the date of the furnace which has had an important bearing on this study. This work was funded by the Heritage Lottery Fund and the Ironbridge Gorge Museum Trust. Investigation was also undertaken at the Lower Forge site in Dale End – again much modified, but identified as one of the forges in use during the study period. Possibly of medieval origin, the site was cleared for development in 2006, and evaluations undertaken by Marches Archaeology in that year were monitored by the author. There was a hiatus in the development of that site until 2014, when field evaluation and excavation were conducted by the Clwyd-Powys Archaeological Trust under the direction of the author. All work on this site was funded by Morris Properties.

Various other archaeological works have informed this study; they are not itemised here but are referred to in the text when appropriate.

Historical narratives

Documents are texts and they are also artefacts (Andren 1998). A study in historical archaeology necessarily needs to engage with documentary sources – and in this study the fragmented nature of the archaeological record has made this imperative. Unfortunately the documentary evidence for the study area in this period is also limited: there are no maps, and few primary references to the principal actions and actors. The situation is better for the seventeenth century than the sixteenth, but is still largely

limited to encounters with the various organs of state – a state which became more hostile to Catholics during the course of the study period. This hostility means that many of the Brookes' activities were deliberately invisible to the authorities, and where they were recorded, the inevitable bias in those records means that considerable care needs to be taken in their interpretation. Madeley parish registers before 1645 have not survived; there are no accounts for building work on any of the properties, nor accounts for the Coalbrookdale ironworks (although litigation has provided more information about other industrial activities). The contents of Basil Brooke's library are not known. Therefore in order to gain an historical understanding of the mindset which created the material evidence, it has been necessary to explore a variety of topics which at first sight may seem tangential, but provide a context and a setting for explorations of identity.

Historical research has involved a comprehensive review of the secondary literature, and a substantial amount of work on the primary documentation of the sixteenth, seventeenth and eighteenth centuries. This material is mainly located in the Shropshire Archives and the archives of the Ironbridge Gorge Museum Trust. However other significant bodies of relevant primary material have also been consulted in The National Archives (Kew), the English Heritage Archive (Swindon), the National Monuments Record (Aberystwyth), and local record offices and other collections in Staffordshire, Herefordshire, Warwickshire, Gloucestershire and London.

Equally, artefacts can be texts. The tombs of all three generations of the Brooke family are archaeological artefacts in their own right, providing evidence of status and identity; they have acted as springboards for genealogical research.

1.6 Structure

Chapter 2 is a literature review which begins by examining the applicability of some approaches in historical archaeology to this thesis. It then concentrates on the three areas of scholarly research which have primarily informed this study: landscape studies, historic buildings analysis, and industrial archaeology. It also reviews some areas of historical research which are germane to this study, before setting out the theoretical and methodological frameworks within which this thesis is situated.

Chapter 3 introduces the main actors, providing background to both people and places. It is both a *dramatis personae* and a description of the stage set, so it is in two parts. The

first part introduces the genealogy and biography of the three generations of the Brooke family who shaped the landscape. The various social networks and connections of the family are also explored, and the likely influences on their expression of political, religious and gentry identities. The second part describes and analyses the evolution of the landscape, settlement and industrial development of the Manor of Madeley up to the Dissolution – the point at which the Brooke family acquired the estate.

Chapters 4-7 describe and assess the historical and archaeological evidence for the study area during the study period. Chapter 4 introduces the landscape of Madeley, describing its evolution and development during the late-sixteenth and early-seventeenth centuries. Chapter 5 looks at secular and non-industrial buildings that were associated with the Brooke family. Both chapters specifically address questions around the expression of identity, and put the Brookes' endeavours in regional, national and indeed international contexts. Chapters 6 and 7 are concerned with the industrial activities of the Brooke family during the study period. They broadly deal with the same subjects: the acquisition of resources and the supply of raw materials, various processes in iron- and steel-making, other industries, and the significance or otherwise of the Brooke concern in regional and national terms. The division between the two chapters is a chronological one: there is a striking increase in the sophistication and extent of industrialisation in the seventeenth century. The date chosen for the division (1598) is the date that Basil Brooke inherited the Manor of Madeley. These four chapters are framed by the two events which define the study period: the dissolution of Much Wenlock priory and the redistribution of its assets between 1540 and 1544, and the confiscation of the estate from Basil Brooke, his imprisonment and death between 1641 and 1646.

Chapter 8 is a discussion of the role of the Brookes' Catholic, gentry and industrialist identities in their creation, management and use of the landscape, buildings and environment of the Madeley estate. It attempts to answer the questions on page 2, and also discusses some of the broader implications of this study.

2. Frameworks

This chapter provides an overview of various scholarly directions that relevant academic disciplines and sub-disciplines have taken, and assesses their suitability or otherwise for application to this study. Given that this thesis is primarily situated within the sub-discipline of historical archaeology, this chapter begins with an analysis of the development of that sub-discipline, and discusses some of the limitations of its strands of thinking in respect of this study. It then goes on to consider other fields of study which are germane to the lines of enquiry discussed in the previous chapter: landscapes, buildings, industry and history. Some aspects of research in these areas have been found within historical archaeology, but many have not; consequently this chapter explores other traditions of enquiry – such as religious and political history, and histories of technology – which have made a meaningful contribution to the themes and issues that this thesis attempts to grapple with.

2.1 Historical archaeology and its limitations

This is primarily an archaeological study of landscape, buildings and industry in the post-medieval period. Such a study therefore inevitably sits within the sphere of historical archaeology. This term is now widely accepted by scholars on both sides of the Atlantic as an appropriate descriptor for the study of the period after c.1500. However modern ‘global’ historical archaeology is the amalgamation of several regional traditions of archaeology – of which the most significant are ‘post-medieval archaeology’ in the UK, and ‘historical archaeology’ in the United States, Canada and Australasia. In the Anglophone New World, historical archaeology emerged from the disciplines of archaeology and anthropology, adapting methodologies that had been developed for indigenous and prehistoric sites, and applying them to non-indigenous historic sites. Consequently historical archaeology in the New World was able to sustain ‘a philosophical bias toward the study of behavioural patterns in anthropologically-led archaeology’ (Courtney 1999, 2).

In contrast, UK post-medieval archaeology largely developed outside the academic mainstream, and was always closer to the intellectual traditions of history and medieval archaeology than it was to those of anthropology and sociology (Tarlow 2007, 17-23). This was partly a consequence of the history of the development of certain strands

within it, including those most relevant to this study. It was also because the data-gathering aspect of the discipline developed largely in response to the increasing need to deal with post-medieval remains being encountered during the course of development projects: this was threat-led rescue archaeology rather than theoretically-driven research archaeology. The creation of the Society for Post-Medieval Archaeology (SPMA) in 1966 marked a turning point at a critical juncture in archaeology on both sides of the Atlantic; it was paralleled the following year by the foundation of the Society for Historical Archaeology (SHA) in the United States. The SHA defined its scope as the ‘archaeology of the spread of European culture throughout the world since the fifteenth century’ (Deetz 1977, 5). One view of the differences between approaches in the UK and US was that they ‘arrived at the same subject matter, but one looked out from Europe and the other took a global view with a nod toward Europe’ (Schuyler 1999, 12). This may have been the case in the 1970s and 1980s, but various developments – not least the emergence of vigorous historical archaeologies in Australia, Africa and in the non-Anglophone world more widely – has diluted any real or perceived dichotomy between European and north American approaches.

Nevertheless it took some time for historical archaeology to be recognised by the academic mainstream, and still longer for its practitioners to engage with some of the issues with which colleagues working in prehistory were already familiar. In the early 1960s Lewis Binford had argued for a processual ‘archaeology as anthropology’ which moved beyond data collection to look at wide-ranging issues; a call echoed in 1968 by David Clarke’s proposal for an ‘analytical archaeology’ which might enable the ‘intrepid archaeologist’ to do more than simply ‘maintain his status quo against the constant stream of data’ (Binford 1962, 198-200; Clarke 1968, 3; Clarke 1973, 8-10). Clarke’s so-called ‘New Archaeology’ was quickly criticised for its statistically-driven approaches, and by the end of the 1970s a ‘post-processual’ archaeology had emerged which allowed for greater plurality of interpretations. However, exciting developments in post-processual thinking during the 1980s were largely confined to prehistory.

A turning point for UK historical archaeology occurred in 1990. That year saw the publication of David Crossley’s *Post-Medieval Archaeology in Britain* (Crossley 1990). Although firmly in the empirical tradition – and by no means comprehensive in its coverage of themes and subjects – it nevertheless marked a ‘major milestone’ in the academic development of the discipline (Egan 2009, 277). In the same year the UK government introduced Planning Policy Guidance Note 16 (PPG16), which placed

archaeology formally in the planning system, and required that archaeology should be funded by development. Gradually, through the 1990s, this brought about a change in professional attitudes that began to recognise the value of later archaeological deposits (particularly in urban areas) and the archaeological value of buildings. Despite this, post-medieval archaeologists continued to be criticised well into the 1990s for atheoretical and empirical approaches, sometimes unfairly (Johnson 1999; Tarlow and West 1999). In part this was due to the perceived polarisation of the discipline between the middle-class, humanities-based origins of post-medieval archaeology and the working-class, science- and engineering-based approaches of industrial archaeology (Cranstone 2004, 214-28). In fact the discipline of post-medieval archaeology had already begun to develop a sophisticated theoretical framework during that decade as part of the broader global study of historical archaeology (Andren 1998; Hall and Silliman 2006).

The 1990s saw the development of an 'archaeology of capitalism', which was an attempt by historical archaeologists to devise their own model to explain post-1500 history. This looked at the process of industrialisation from the point of view of the consumer rather than the producer. This began in the United States, where analysis of late-nineteenth century assemblages – in other words, large collections of industrially-produced and globally-distributed artefacts – had become a commonplace archaeological activity. Such assemblages, and their archaeological contexts, were identified as a means of exploring undocumented lives, and in particular subaltern groups such as the urban poor, slaves, women, and indigenous groups. Work by Stephen Mrozowski and Mary Beaudry on the Massachusetts industrial town of Lowell (Mrozowski *et al.* 1996); by Adrian and Mary Praetzellis on immigrant communities in California (Praetzellis and Praetzellis 2004); and by Diana Wall and Rebecca Yamin on New York slums and urban poverty were influential (Cantwell and Wall 2003; Yamin 1998). In the UK, Matthew Johnson (1993; 1996) also developed an archaeology of capitalism, drawn as much from his earlier studies of the evidence of standing buildings and how they were adapted and changed over time as from below-ground archaeology. Followers of Johnson, influenced by trends from across the Atlantic, saw a new value in what Sarah Tarlow and Susie West called 'the familiar past' (Tarlow and West 1999).

Perhaps inevitably given the nature of the material and the practitioners in the discipline, much of this work has taken a generally left-leaning viewpoint – either overtly or implicitly – as a means of countering the documentary record which is usually

characterised (by archaeologists) as ‘top-down’ and therefore inherently conservative. Mark Leone developed a firmly Marxist perspective, influenced by the work of Louis Althusser (Althusser 1971; Althusser 1990). He argued that that the ‘Georgian Order’ represented the creation of a dominant ideology which legitimised capitalism and its political interest. Further, Leone suggested that historical archaeology was an essential tool in helping ‘to educate those exploited’ by the capitalist system (Leone 1995, 251). An extreme example was the work of the so-called ‘Ludlow Collective’, a group of archaeologists who investigated a miners’ strike in early twentieth century Colorado as a means of promoting trade unionism (McGuire and Reckner 2003). This was one end of a spectrum of studies which examined the notion of ‘domination and resistance’, a theme influenced by the philosophy of Michel Foucault on disciplines of the self, Henri Lefebvre on space, and Anthony Giddens on structuration (Foucault 1961; Foucault 1969; Giddens 1984; Lefebvre 1993). Such an approach was helpful in bringing to light the experiences of previously overlooked groups. In some cases, such as the work of James Symonds on the Highland clearances, evidence for resistance to a very firmly expressed domination was clearly manifest in the archaeological and historical records (Symonds 1999). In others, such as Eleanor Casella’s exploration of three workers’ cottages in Cheshire, the evidence was less convincing (Casella and Croucher 2010).

Applying an ‘archaeology of capitalism’ to the activities of the Brooke family is problematic. Whilst many of their activities appear to be capitalist ones – the use of paid labour; adding value to primary resources; developing local, regional, national and international markets; influencing political decisions to enhance business trajectories; investing in research and development; and so-on – in fact they are not. Rather, the framework within which these activities were undertaken was a mercantilistic one. In other words the monopolies granted to the Brookes and their partners in their various branches of manufacture were intended to advance the national interest through protectionism (Mokyr 2006, 274-276). This is something that historical archaeologists have not always taken account of (*cf.* King 2010). Moreover, the evidence which does exist suggests that power-relations were more subtle than a simple ‘domination-resistance’ dichotomy would permit. This is true both of relations between the Brookes and their employees and tenants; and in the interactions between Shropshire Catholic gentry of the period and the national Protestant hegemony.

A more subtle, and perhaps more sustainable approach than dialectic archaeologies of capitalism, has been Sarah Tarlow’s outline of an *Archaeology of Improvement* (Tarlow

2007). Rejecting neo-Marxist historical archaeologies as simply 'reducing the complexities of human actions, practices and thoughts to the strategic negotiation of power relationships', Tarlow argued that the notion of improvement was embodied in landscapes, buildings and places both public and private, and was reflected in the material culture of the eighteenth and nineteenth centuries (Tarlow 2007, 9). For Tarlow the 'ethic of improvement' demonstrated 'ownership of rational knowledge and taste, a general orientation towards the future, and a selective rewriting of the historical and classical past' (Tarlow 2007, 67). Many of these ideas accord with what the Brooke family appeared to be attempting at Madeley. However Tarlow's work, unlike that of Johnson (1993; 2007), is situated outside the early-modern period; indeed she specifically rejects late medieval notions of improvement as being motivated by spiritual needs rather than material ones (Tarlow 2007, 11). Whilst 'improvements' were undoubtedly being made to the means of production and modes of consumption – of buildings, landscapes, artefacts and ideas – in the study area during the sixteenth and seventeenth centuries these changes were informed by a very different mind-set from that of eighteenth and nineteenth century 'Improvement'. The intellectual climate of the study period was informed by the humanistic revival of Aristotalean and Platonian philosophies. The eighteenth century notion of 'improvement', however, was an outcome of the post-Newtonian later 'Enlightenment'.

By investigating the material culture of undocumented and under-documented people in the later post-medieval period, historical archaeologists have largely reinforced an older distinction made by historians between 'pre-capitalist' and capitalist societies. They have observed the materiality of changing social relations as a progression from a 'medieval' way of life to a modern one. This is partly a consequence of the structure of the discipline itself: the division between 'medieval' and 'post-medieval' creates a gap at precisely the time of the Henrican reform of the Church. It is related to the disciplinary division between 'prehistoric' and 'historical' archaeology, in that it stems from many of the class and deference issues noted above. In both cases archaeologists have tended to focus on one side of the divide or the other, rather than exploring the more interesting interstices between the two.

Furthermore, archaeologists have been most successful in combining historical and archaeological data into a coherent narrative only when there is sufficient data to work with. In other words, when there is either a substantial quantity of excavated material culture, and/or substantially complete buildings and structures, and/or a sufficiently

well-preserved landscape which is 'readable' – together with a fairly comprehensive set of documentary resources. As noted elsewhere, there is a paucity of such data for Madeley in the sixteenth and seventeenth centuries, and for many aspects of the lives of the Brooke family. If the broader frameworks and models developed by mainstream historical archaeology don't quite fit the subject of this thesis, and the data is insufficient to enable their application in any case, then it is necessary to consider more focused areas of scholarly endeavour which might be better-placed to inform a study of industrialisation and identity in the sixteenth and seventeenth centuries.

2.2 Landscape investigation

The landscape was an essential component of the lives of the Brooke family. It provided the raw materials for wealth creation, it provided an administrative territory which helped define their gentry status, and it provided a canvas for the expression of identity. Analysis of landscape change therefore forms a significant element of this study. Three important strands of historic landscape investigation are relevant: landscape archaeology, garden history and historical geography. Ultimately they all spring from the same source – a source which emerged precisely at the beginning of the study period, and was in different ways profoundly influential among the socio-economic group that is the focus of this study. However the current disciplinary boundaries that separate consideration of thoughts, movements and practice in landscapes – and which are largely the consequence of late-nineteenth and twentieth-century academic and professional demarcation – have tended to emphasise multi-disciplinary separation rather than interdisciplinary co-operation; consequently it is necessary to re-ravel these disparate strands.

The study of landscape as an artefact of human history began in the sixteenth century. The recognition that landscapes 'are culture before they are nature' emerged during the Renaissance, with the understanding that the management of the land and the management of social order were two sides of the same coin (Schama 1995, 61). The word 'landscape' itself came to the English language at the end of the sixteenth century, as an administrative term derived from the Dutch *landschap* and German *Landschaft* – meaning 'a unit of human occupation ... as much as anything that might be a pleasing object of depiction' (Schama 1995, 10). The rediscovery and publication of Ptolemy's *Geographia* in 1475 led to an 'explosion of interest in chorography' (Gillings 2011, 58). Chorography developed as a form of writing which combined a wide range of disparate

sources – historical documents, archaeological remains, genealogies of noble families and descriptions of their country houses, folklore, topography and geography. John Leland (c.1506-1552) was arguably the first to develop chorography as a coherent approach: he devised a project to describe the whole of Britain on a county-by-county basis, and read, travelled and investigated across the country during the 1530s and 1540s before settling down to write. Apparently overwhelmed by the quantity of data he had amassed, he went mad and died, and his unfinished *Itinerary* remained unpublished until the eighteenth century (Mendyk 1986, 465-467). Leland's work was influential, and other writers, such as Lambarde (1576) and Camden (1586), followed the same general approach to sources and layout (Mendyk 1986, 472-473).

The development of chorography is relevant to this thesis for two reasons. Firstly it provides an insight into the ways in which landscape, and the historical and symbolic development of landscape, would have been perceived at the time the Brookes were developing the Madeley estate. In particular, early chorographical studies did not draw a distinction between natural and architectural features, thus reflecting an important aspect of the ways in which memory and meaning were laid onto the landscape during this period (Walsham 2011b, 5). The use of landscape images – whether written or visual – was an important part of Elizabethan and Stuart political control of territory, both by the state, and by landowners such as the Brookes (Cosgrove 2004, 61-62). Secondly chorography influenced the development of various traditions of enquiry into historic landscape change. This influence was intellectual, but it was also partly structural: Historic Environment Records and the *Victoria County History* are two examples of present-day approaches where a miscellany of wide-ranging archaeological, historical and topographical data are gathered together on a county basis.

One tradition of enquiry that owes a debt to chorography is that of landscape archaeology. Leland and Camden were followed by others who were more firmly focused on the antiquities in the landscape, and thus began to unravel the antiquity of the landscape. William Stukeley, and particularly John Aubrey in the seventeenth century were the first to study complex earthworks in a landscape context and correctly deduce their prehistoric origins (Bowden 1999, 5-13). Modern landscape archaeology really has its genesis in two developments: the Ordnance Survey and aerial photography (Bowden 2001, 29-31; Johnson 2007, 85-89; Phillips 1963, 1-3). The modern sub-discipline emerged after the Second World War, and owes much in its approach to W.G. Hoskins (Dyer 2007, xiii). He regarded the Ordnance Survey map as the 'most rewarding single

document we could have for the study of English topography' (Hoskins 1967, 16). Matthew Johnson (2007, 44-52) has noted parallels between Hoskins' outlook and the Romantic sensibilities of the early nineteenth century, and argues that Hoskins virtually single-handedly developed an interdisciplinary approach which laid the basis for an English landscape archaeology tradition, albeit a conservative one (Johnson 2007, 34-35). Hoskins and Crawford were friends, and maintained close professional communication in the 1950s and 1960s; some of Crawford's archaeological mindset clearly influenced Hoskins (Bowden 2001, 31-35). In particular, both used the metaphor of landscape as text: the landscape was 'like a palimpsest, a document that has been written on and erased over and over again', and the pleasure of landscape studies lay in one's ability to 'uncover the layers of the palimpsest' (Crawford 1953, 51; Hoskins 1955, 211).

The palimpsest analogy has been criticised for its tendency to encourage a 'conservative picture of a "deep" England with its stable layers of historical accretion'; the Hoskinian view of the past simply adds another layer to the palimpsest rather than recovering "real" or "authentic" meanings' about particular points in past time (Daniels and Cosgrove 1988, 8). Nevertheless it has remained attractive to many scholars, and provides the underpinning to conventional map regression analysis used by professional archaeologists every day. It has also to a large extent informed the real-world creation and management of Historic Environment Records, and the development of large-scale landscape analysis and management tools such as Historic Landscape Characterisation. The principal difficulty in applying the palimpsest notion to the study area is that the 'manuscript' of the Madeley landscape has such a long history of re-writing – including particularly brutal erasures and re-writings in the eighteenth, nineteenth and twentieth century – that (in terms of the analogy) only a few words, and a handful of disconnected letters and bits of punctuation, survive from the study period.

Although criticised by subsequent generations for its methodological shortcomings and lack of theoretical rigour (Johnson 2007, 70-118), Hoskins' approach reinforced a strong vein of decidedly empirical approaches to landscape history which has remained a consistent feature of English landscape archaeology to the present day. A body of work in this tradition is relevant to this thesis, including work on parks and gardens and industrial landscapes (the latter addressed in 2.4 below). The not inconsiderable body of archaeological literature on medieval and post-medieval parks principally focusses on the periods before c.1500 and after c.1650 respectively (Williamson 2003; Gardiner and Rippon 2007; Barnwell and Palmer 2007; Liddiard 2007b; Finch and Giles 2007). The

form and social function of the medieval park – often, but not always, associated with deer-hunting – is therefore generally well-understood, as is the physical and symbolic development of the post-medieval park from the late-seventeenth century onwards. However comparatively little work has been undertaken on the nature of parks during the period represented by this study. This was a period of transition. Large estates in the medieval period often consisted of several blocks of land – such as the portfolio of Much Wenlock priory, of which the Manor of Madeley was a part – and the emergence of smaller, discrete ‘landed estates’ only took place ‘as feudal concepts of tenure decayed’ during the course of the seventeenth century (Williamson 2011, 26). The relative paucity of case studies for this period is perhaps a reflection of the break between ‘medieval’ and ‘post-medieval’ fields of archaeological scholarship.

The complex multi-disciplinary field of garden history, on the other hand, has consistently engaged with the sixteenth and seventeenth centuries. The manner in which elements of the Renaissance garden had found their way into the gardens of the English aristocratic and royal elite is generally well-understood; however the extent to which these elements were developed further down the social scale remains relatively under-investigated. It has been argued that garden historians’ conventional reliance on art historical and documentary sources has led to the dominance in the literature of ‘a relatively small group of landscape gardens’ largely of eighteenth century date (Harwood *et al.* 2007, 94). Consequently it has been suggested that understanding of the early modern garden ‘is oversimplified, elitist, untypical and selective’ (Francis 2013, 135). In addition, as Tom Williamson (1999, 38-39) has pointed out, both archaeological and art-historical approaches have in many cases either ignored the social contexts within which such gardens were created, or downplayed the complexities of those contexts, or both. Sufficiently nuanced questions of regional and social variation in the form, function and meaning of English gardens of this period do not appear to have been asked – at least not as frequently as might be hoped (Harwood *et al.* 2007, 99-101; Williamson 2011). The development of garden archaeology from the 1990s has been useful in bringing to light more examples of earlier, or smaller, or just different, gardens from those identified from documentary sources by garden historians working in the art historical tradition. Thoughtful work by Paul Everson and colleagues, for example, has highlighted the potential for archaeological work to tease out strands of religious symbolism in sixteenth- and seventeenth-century garden design (Everson 2003, 124-125; Everson 2015, 47-49). Important developments in approach and methodology have been developed and refined by Brian Dix (Dix *et al.* 1995), Tom Williamson (Williamson 1999; Spooner

and Williamson 2013) and Chris Currie (Currie 2005). All three were to some extent archaeologically-trained interlopers in the field, who have given garden history studies fresh momentum.

Turning away from studies of particular landscape elements, it is necessary to consider some of the wider theoretical and methodological approaches to landscape archaeology which emerged as a deliberate counter to those of Hoskins (Bender 1998). Attempts to apply some of the principles of the New Archaeology of the 1960s to understanding landscape ultimately proved unhelpful in an English context, as the models put forward were insufficiently nuanced to deal with the complexities of such densely-inhabited spaces (Binford 1964, 424-426; Fleming 2006, 276; Johnson 2007, 124-127). A reaction against processualist approaches from the late 1970s brought about new ways of looking at landscape from the early 1990s.

The development of a post-processualist landscape archaeology stemmed from two things: a dissatisfaction with the apparent absence of people in processual archaeological narratives of particularly prehistoric landscapes, and a recognition that the past only exists in the present and therefore objectivity is impossible. Christopher Tilley's *A Phenomenology of Landscape* (1994) sought to reconfigure understanding of how people lived in and around prehistoric upland landscapes, linking specific places and locales through narratives of movement and vision. At the heart of Tilley's methodology was the need for physical engagement of the body and senses with places, and the documentation of that movement (Tilley 1994, 11-14, 26-34). Julian Thomas further elaborated on the theme of historically-informed personal subjectivity in interpretation of the past, developing a phenomenology based more around regional and local landscapes, and drawing heavily on the work of Heidegger (Thomas 1996, 11-18, 78-82). The work of Tilley and Thomas influenced a range of studies, all looking at prehistoric landscapes – or, perhaps more accurately – prehistoric features in modern landscapes, and to a greater or lesser extent eschewing conventional forms of archaeological narrative in favour of more creative interpretations (Bender 1998; Edmonds 1999; Ingold 2000; Cummings and Whittle 2004).

A problem with this phenomenological approach has to a large extent been the extremely battered palimpsest which comprises the 'prehistoric landscape', and therefore the incompleteness of the evidence base. Andrew Fleming (2005; 2006) has critiqued phenomenology on these grounds, and also for its lack of rigour in

observation, its tendency to favour performative rhetoric over field evidence, and its selective use of data to support untestable hypotheses. Phenomenology, Fleming (2006, 931) argued, has taken the ‘study of ceremonial monuments ... back to pre-Enlightenment times; for one has to ask, in what sense does this kind of “phenomenology” represent a conceptual advance on the approach of William Stukeley?’. In defence of phenomenology it should be noted that it is not a monolithic school of thought; Tilley, Thomas and Cummings, for example, have all drawn on different philosophies of phenomenology, and consequently developed different approaches to their application in the landscape (Barrett and Ko 2009, 276-282). Phenomenology – and post-processual approaches more generally – have also been criticised for their almost exclusive application to prehistory, whereas analyses of historical landscapes has proceeded in a more Hoskinian vein (Johnson 2007, 137). The large quantity of data potentially available for more recent periods, together with the ‘familiarity’ of the early modern and post-medieval landscape, have tended to inhibit post-processualist approaches to historic landscapes (Finch 2008, 512-513).

Frustrations at the divisions between prehistoric post-processualism and historical empiricism have led to various attempts at finding a way between the two – one that is firmly rooted in cogent landscape analysis but which goes beyond conventional archaeological narrative to provide more interesting stories. Matthew Johnson (2007, 190-191) set out four steps to help achieve this: an acknowledgment of the ‘anthropological otherness’ of the past, a greater understanding of the role of ‘Englishness’ in the design and appreciation of landscape, a recognition of movement and change in the historical past, and a recognition of the plurality of voices in past and present landscapes. Subsequent archaeological work has begun to deal with at least the first and last of those, whereas the second and third remain dominated by historical geographers.

Archaeologists attempting to address the first and last of Johnson’s four steps have adopted a biographical approach, foregrounding people as agents who produced the material record. This potentially enables a more nuanced exploration of the issues around gender, age and family memory (Mytum 2010a, 242-243). In a sense this is a continuation of the trajectory of phenomenology, but it is also influenced by more recent strands of thought on the relationship between people and things (Appaduari 1986, Malafouris 2013, Olsen 2003; Olsen 2010) and on the role of the past in the present (Latour 2005; Lucas 2008; Olivier 2004; Shanks 2012). There are dangers in going beyond

the reasonable limitations imposed by the completeness or otherwise of that material record, and the narrative voice given to ‘characters’ needs to be convincing. This is difficult to achieve (*cf.* Mytum 2010b). An approach which draws on biographical detail, but which eschews the performative elements, is arguably more intellectually valid. For example, Jonathan Finch (2008) used the events of a specific summer’s day in 1802 as a springboard for an investigation of the Harewood estate (Yorkshire), teasing out the social, political and economic significance of the later post-medieval designed landscape and its intersections with, and influences on, the lives of specific individuals.

Another area under-represented in the literature of historical landscape archaeology is that of religious landscapes. Johnson (2007, 131-132) has argued that this neglect stems from the complexity required to understanding religious practices of the early modern period, and consequently those best-equipped to undertake such studies tend to be those who ‘have a prior commitment to Christian belief’ – specifically citing Eamon Duffy and Diarmaid MacCullough. Thus they are unable, or unwilling, to adopt a sufficiently detached ‘anthropological’ approach to their data gathering and analysis (Johnson 2007, 132). However, this is not universally the case. The role of churches in the landscape, for example, has been examined in several studies (Morris 1999; Graves 2000). Roberta Gilchrist looked at medieval nunneries in a landscape context (Gilchrist 1994, 63-91). Additionally Nichola Whyte usefully explored the relationship between prehistoric features and the ‘Christian’ landscape, and also considered the ‘relics of the Catholic past’ in post-Reformation landscapes (Whyte 2009, 127-135). At the other end of the medieval period, Sam Turner (2006) developed a nuanced analysis of the impact of Christianity on the landscapes of south-west England, noting the close inter-relationships between political and religious power.

Particularly germane to this thesis has been Alexandra Walsham’s work on changes to, and perceptions of, landscape during the Reformation (Walsham 2011b; Walsham 2012). An historian, Walsham has also engaged with a variety of archaeological and geographical approaches to landscape. Although focused on the sixteenth and seventeenth centuries, she has firmly embraced the notion of the ‘long Reformation’ (Wallace 2004, 12-15), and so addresses aspects of earlier periods of Christianisation as well as the effects on later seventeenth-century and even eighteenth century landscapes (Walsham 2011b, 10-12). Walsham builds on previous work – such as that by Margaret Aston (1973) – in her analysis of the role of pre-dissolution Catholic landmarks, such as ruined monasteries, chapels and holy wells, in Catholic remembrance and

commemoration; by situating their understanding in the context of humanist thinking about the past she enables an insight into mindset. Her work also examines the significance of natural features in the landscape, such as trees, groves and rock formations (Walsham 2012). Whilst acknowledging the ambiguity of such features – meanings could be ascribed by Catholics and Protestants alike – she nevertheless provides a much broader framework within which to locate a study of post-Reformation Catholic relationships with landscape.

This thesis includes an historical archaeology of the physical development of an estate landscape during the sixteenth and seventeenth centuries. At Madeley a conventional landscape archaeology is made more difficult by the extent of post-seventeenth century landscape change: arguably – with its damaged palimpsest and the lack of documentary sources – the Madeley landscape is closer to many prehistoric landscapes. The outward similarities of phenomenological and chorological approaches – particularly the experiential aspect, and the non-discrimination between natural and human agency – have been noted elsewhere (Gillings 2011, 60-61). However a phenomenological approach will not be adopted here. Whilst the significance of contemporaneous chorologically-informed experience of landscape needs to be acknowledged, at the heart of any landscape study there is the necessity ‘to excavate the sedimentary layers of religious association’ (Walsham 2011b, 1-2, 18-19). There is therefore a middle way for understanding landscape change in Madeley during the sixteenth and seventeenth centuries: one which explores the contemporaneous experience of the palimpsest, whilst seeking to understand the symbolic resonances in both landscape and buildings.

2.3 Analysis of historic buildings

This thesis is framed by approaches in historical archaeology, and therefore it has largely adopted such approaches in its analysis of standing buildings. However in the context of the Brookes’ buildings at Madeley there are three key issues which mean that a purely archaeological analysis would be inadequate to deal with the research questions. Firstly, the historical archaeology of buildings in the Reformation has focussed almost exclusively on liturgical and monumental alterations to the form and function of ecclesiastical buildings and structures (Gaimster and Gilchrist 2003; King and Sayer 2011). Comparatively little work has been undertaken on impacts of the Reformation on secular architecture (Bryce and Roberts 1993; Bryce and Roberts 1996; Donnelly 2005). This is problematic in Madeley because the church was demolished in the eighteenth

century. Thus a significant proportion of the potential evidence base has been eradicated, rendering irrelevant a large part of the archaeological literature on architectural change during the Reformation. Secondly, very few of the secular buildings that were extant during the sixteenth and seventeenth centuries survive, and those that do are considerably modified. This of itself would not necessarily be an issue – it is after all the role of the archaeologist to unpick those modifications and deduce earlier forms, functions and meanings – however these buildings are all relatively high-status ones. This introduces the third issue: that the surviving built archaeological record is biased toward the social elites which designed and created the Madeley estate. It has therefore not been possible through the archaeology of buildings to find a counter-narrative which could answer questions about the impact of the Brookes' architectural expressions on other social groups in Madeley during the sixteenth and seventeenth centuries.

These issues can be addressed through the reconciliation of two distinct traditions in the understanding of historic buildings. Both can ultimately be traced back to the same humanist Renaissance developments from which landscape studies and archaeology also emerged. To simplify: one is rooted in art history and deals with relatively high-status secular and ecclesiastical buildings; the other is archaeological and looks at lower-status secular, ecclesiastical and industrial buildings and structures. Although it would be an over-generalisation to say that the former is 'top-down' and the latter is 'bottom-up', such a characterisation would contain an element of truth: case studies from the former tend to comprise very heavy glossy hardbacks, and those from the latter rather scruffier archaeological monographs.

Interest in historic buildings can be traced back to the very beginnings of the Renaissance, and its engagement with the material remains of classical civilisation. It has been argued that the Italian Renaissance architect Filippo Brunelleschi was the first 'buildings archaeologist', in the sense that his studies of the Parthenon in Rome enabled him to successfully design and construct the dome of the Santa Maria del Fiore in Florence (Morriss 2000, 11-12). Other architects drew on their own study and understanding of the ruins of ancient Rome to develop Renaissance styles: Andrea Palladio's *Four Books on Architecture*, for example, contained accurate illustrations and reconstructions of Roman buildings and decorative elements (Boucher 2000, 298-300). Certainly by the seventeenth century, with the development of architecture as a profession, and the rise of antiquarianism as a pursuit, more accurate surveys and more

considered analyses of buildings were being undertaken. To some extent these studies were 'archaeological', in that details of typology and stratigraphy were recorded to enable understanding the sequence of construction and changes in use and meaning. However the application of archaeological principles and methods was almost accidental: until the late-nineteenth century historic building analysis was not undertaken within an archaeological framework, and concepts such as stratigraphy were implicit rather than explicit.

Such studies tended to focus on certain classes of buildings: churches, substantial houses and public buildings, setting their development in art-historical contexts rather than broader social and economic ones. However this began to change in the later twentieth century, particularly in the somewhat overcrowded field of country house history. Mark Girouard's *Life in the English Country House* (1978) was arguably the first to seriously consider the relationship of country houses to the landscapes and cultural milieu in which they were situated, emphasising their roles as administrative headquarters, showcases and image-makers (Girouard 1978, 3). Girouard's analysis was temporally broad – from the Middle Ages to the mid-twentieth century – and necessarily selective; his influential work was followed by other studies which examined different social groups and different contexts. These included assessment of early-sixteenth century country houses in their political context (Howard 1987); detailed analysis of the logistical and administrative efforts required to build and maintain sixteenth- and seventeenth-century country houses (Airs 1995); and examination of the complex social world of seventeenth century gentry country houses in England (Cliffe 1999). Important work on plan-forms (Gomme and Maguire 2008) and on the relationship between Tudor and Stuart houses and their gardens (Henderson 2005) followed.

In contrast to these studies with their origins in art history, archaeological analysis of buildings very much focussed on the other end of the social scale. To some extent this movement can be traced back to the mid-nineteenth century. John Henry Parker investigated vernacular domestic architecture, looking at a wide range of building types, town plans, and archaeological remains in England, Wales, France, Germany and Italy (Parker 1853). Parker's work may have influenced the socialist William Morris and others in the establishment of the Society for the Protection of Ancient Buildings (SPAB) in 1877; SPAB's members and aspects of its 'manifesto' in turn influenced the creation of the National Trust in 1895, whose first acquisition was a relatively low-status fourteenth-century farmhouse (Morris 1877; Lowenthal 2005, 83-85). Recognition of the value of

vernacular architecture further developed in the 1950s with the publication of Nikolaus Pevsner's *Buildings of England* series of county guides (later extended to Wales and Scotland); work by the archaeologist Sir Cyril Fox in partnership with Lord Raglan on Monmouthshire vernacular houses (Fox and Raglan 1951-54); and W.G. Hoskins' identification of a period of seventeenth century 'Great Rebuilding' using a combination of documentary and physical evidence (Hoskins 1953).

A complex sub-discipline subsequently evolved from what had begun as a quest to test Hoskins' 'Great Rebuilding' theory, using a combination of documentary sources, survey and analysis of fabric and forms, and scientific analysis and dating using techniques such as dendrochronology and paint analysis (Morris 2000, 13-14). Initially focussed on houses, buildings archaeology later developed to include industrial buildings and urban landscapes more generally (Machin 1977, 34-35). Studies in the 1970s, 1980s and 1990s added a great deal of empirical information, but were slow to develop theoretical models and approaches (Alcock 1996; Brunskill 1982; Brunskill 1985; Brunskill 2004; Mercer 1975; Smith 1975). The origins of buildings archaeology are germane to the present study because of a series of developments which led to an understanding of changes in the use of space which accompanied the transition from medieval to modern.

These developments took place in the early 1990s, and were the result of the influence of post-processualism and other developments elsewhere in archaeology. Two significant publications appeared in 1993: an edited volume which brought together a range of perspectives on *Domestic Architecture and the Use of Space*, and a study of housing in Suffolk by Matthew Johnson (Kent 1993; Johnson 1993). The former – dedicated to Lewis Binford – described itself as an 'interdisciplinary and cross-cultural' study, and presented a series of case studies looking at the relationships between intended design and actual use of buildings. The latter re-examined Hoskins' 'Great Rebuilding' hypothesis using models drawn largely from American historical archaeology. Johnson's study set houses in their landscape, and drew in a variety of other material culture sources; it essentially confirmed Hoskins' view that significant social change had occurred in the early modern period and that this was reflected in vernacular architecture. There had been a transition from a medieval 'openness' (hall-houses and three-field agriculture) to post-medieval 'enclosure' (increased subdivision and privacy within houses, and enclosed field systems), and this reflected the transition towards capitalism (Johnson 1993, 165-178). Johnson's work provoked a surge in theoretically-informed archaeological studies of buildings of all sorts, which in very different ways

sought to place the buildings in their changing contemporary social, cultural and landscape contexts (Buchli 1999; Lucas and Roderick 2003, 195-199). Conversely, Paul Everson demonstrated the potential of landscape investigation to reveal symbolic intent embodied in gentry houses that had subsequently been demolished (Everson 2003).

In the analysis of buildings, the two strands – a ‘top-down’ art-historical approach, and a ‘bottom-up’ archaeological approach – have come closer together in the last decade, and effectively stand as two aspects of the same field of study. Historical studies of country houses and other high-status buildings acknowledge the complex social, political and economic contexts within which their construction, alteration and use is situated. They are also concerned very specifically with material culture – the buildings, their furnishings and decorations, and the landscapes surrounding them – in a way that acknowledges the contribution of archaeological research to the understanding of these aspects. Equally the sub-discipline of ‘buildings archaeology’ has developed a range of tools for exploring the social use of space, materials and methods of construction, and overt or covert symbolism in architectural expression; it has increasingly applied those to higher-status buildings. Several large-scale multi-disciplinary projects have combined both historical and archaeological analyses to produce coherent and compelling narratives around country houses and landscapes in the sixteenth and seventeenth centuries: for example at Acton Court (Rodwell and Bell 2004) and more recently at Apethorpe (Morrison 2015).

This thesis will therefore draw on several sources to enable understanding of the extant buildings in the Brooke portfolio, and particularly in examining their role in articulating religious and political identities. Studies exploring the use of space in a variety of gentry structures, together with a buildings archaeology studies on secular architectural expressions of Catholicism, will inform the analysis of the Madeley buildings. The evidence of the buildings themselves can thus be placed in broader social, political and economic contexts – helping to tease out the balance between the Brookes’ gentry and Catholic identities. Finally the application of biographical approaches will enable greater understanding of the role of the Madeley buildings as agents of cultural change.

2.4 Archaeologies of industry

Whilst it may be possible to trace landscape studies and historic building analysis back to Renaissance origins, the same cannot be said of industrial archaeology. Yet it is the

industrial activities of the Brooke family that set them apart from most of their contemporaries, and the archaeological investigation of their industrial landscape and some of the installations on it which formed the genesis of this study. It is also worth noting that – unlike the landscape and buildings – the Brookes’ industrial activities spread well beyond the Madeley estate; their involvement in businesses elsewhere in England and indeed overseas was essential in maintaining and expanding both their gentry status and their identity as Catholics. Analysis of the Brooke’s industrial enterprise during the sixteenth and seventeenth centuries must inevitably take account of developments in the sub-disciplines of industrial archaeology and archaeometallurgy; however it is fair to say that neither has entirely satisfactorily engaged with many of the issues surrounding a study of early modern Catholic industrialisation. The reasons for this include the origins and status of the two sub-disciplines, and their long-held tendencies to focus on the technical aspects of industrialising societies without always considering social ones.

Industrial archaeology remained a largely non-academic pursuit until well into the 1970s, and was sustained largely by retired industrialists rather than by professional or academic historians and archaeologists. Pioneers in the 1950s and 1960s included L.T.C. Rolt (an engineer and narrow-boat enthusiast, who published biographies of engineers), W. K. V. Gale (an ironworks manager, who recorded the vanishing ironmaking heritage of the English West Midlands), and G. R. (‘Reg’) Morton (a metallurgist who made a significant contribution to the preservation of the Ironbridge Gorge). Gale’s involvement with Ironbridge, along with Arthur Raistrick and others, has been noted above. Local industrial archaeology societies proliferated in the 1960s and 1970s, often initially motivated by threats to a specific industrial site or feature, and were more concerned with physical preservation than intellectual enquiry. This was also a period when amateur canal restoration and steam railway preservation was thriving; it was to some extent aligned with other movements in the 1960s counter-culture, ostensibly rejecting modernity but at the same time embracing its romanticisation of past artisanship in contrast to the white heat of technology. There were considerable overlaps between these various endeavours. Nevertheless such groups produced figures who were significant in developing a scholarly basis for industrial archaeology through the latter part of the twentieth century. Active founders of the Bristol Industrial Archaeology Society in the 1960s, for example, included Kenneth Hudson and Angus Buchanan (prolific and influential authors on the subject), Neil Cossons (later the first Director of

the Ironbridge Museums) and Keith Falconer (later the long-serving head of industrial archaeology with English Heritage).

A typical analysis of the scope of industrial archaeology at that time was provided in 1967 by Kenneth Hudson, who stated that 'the very point ... [was] ...to provide facts about the history of industry and technology' (Hudson 1967, 9). As a result it was rightly accused from quite an early stage of having 'neglected almost all theory' to pursue a focus on steam engines and textile mills (Grant 1987, 118). Indeed this early conservation-led stage, retrospectively characterised by Neil Cossons as 'heroic', had withered by the late 1990s (Cossons 2000, 13-14; Palmer and Neaverson 1998, 3-4). The first decade of the twenty-first century saw the emergence of a 'social archaeology' of industrialisation, which sought to explore 'social transformations ... power relations, new systems of control and the creation of a work ethic' (Gould 1999, 153). This change in approach was partly driven by academic archaeologists, but the primary driver was the increase in commercial archaeological work being done as a result of the introduction of PPG16 in 1990. By the late 1990s this included substantial industrial sites, and graduate archaeologists schooled in prehistory and archaeological theory were engaging with industrial archaeology from a different perspective (Symonds 2002; Nevell 2003). Whilst accepted as an essential development by those working in the broader field of historical archaeology, this social archaeology had several critics from an older and more empirically-minded generation, who rightly pointed out that a basic understanding of the technology was essential to understanding the social implications of its adoption (Fitzgerald 2007a; Fitzgerald 2007b). Nevertheless the study of industrial archaeology is now better connected to the mainstream of historical archaeological enquiry than it once was (Hughes 2004; Palmer 2005; Gwyn 2009a; Gwyn 2009b; Nevell 2009).

Certainly there are a number of studies rooted in industrial archaeology which have attempted to situate early industrialisation in context, and are therefore relevant to the study of the Brookes' enterprise. This limited *oeuvre* includes work by Goran Ryden on ironworking in Sweden and Gerhart Ermischer on mining and ironworking landscapes in southern Germany (Evans and Ryden 2005; Ermischer 2010). Two other studies which attempted to look at broader contexts, and for which they received acclaim at the time, were the 'Nuffield Survey' of Coalbrookdale undertaken by Kate Clark and Judith Alfrey in the mid-1980s, and the 'Manchester Methodology' developed by Mike Nevell, John Walker and others in the late 1990s (Alfrey and Clark 1986; Alfrey and Clark 1987; Alfrey

and Clark 1989; Clark and Alfrey 1993; Nevell 2003; Nevell 2005a; Nevell and Walker 1999). The 'Nuffield Survey' used the boundaries of land parcels (plots) shown on the 1901 Ordnance Survey mapping as units for landscape study; a detailed plot-by-plot history was developed for three quarters of the Ironbridge Gorge. This potentially enabled the production of any number of synthetic overviews drawing on particular themes. It was however limited in its time depth, due both to the absence of surviving documentary and cartographic sources, a lack of significant detailed archaeological investigation. This influenced the 'Manchester Methodology', which did extend back to c.1600; it plotted landscape and social change using the appearance of new monument types, as defined in the English Heritage *Thesaurus of Archaeological Monument Types*, in the relevant Historic Environment Records (Nevell 2003; Mike Nevell *pers. comm.*). Perhaps inevitably, the value of this approach was greater for later periods when the pace of innovation and concomitant landscape change was faster. Whilst helpful over a broad area – in this case a large part of Greater Manchester – the 'Manchester Methodology' is arguably of less value when investigating smaller geographical areas for which documentary resources are limited. It is also reliant on the curatorial functions of planning archaeologists, and may therefore inadequately reflect the variety of studies and analyses undertaken outside the formal development control process. Both the 'Nuffield' and 'Manchester' approaches owed little to existing traditions in either industrial archaeology or landscape archaeology, and neither has subsequently been adopted elsewhere.

The issues of time-depth which affected the 'Nuffield' and 'Manchester' surveys reflect a broader issue with industrial archaeology. The applicability of conventional industrial archaeology to the study of the Brookes' enterprises of the sixteenth and seventeenth centuries is constrained by the sub-discipline's self-imposed temporal boundaries. Marilyn Palmer successfully argued two decades ago that it was 'a period archaeology, dealing with social and economic development from the onset of industrialization to the present' (Palmer 1990, 281). This authoritative statement succeeded in enabling a move away from more techno-centric modes of enquiry, but it introduced another problem. Despite subsequently acknowledging the 'long pre-history of industrialisation' which preceded the industrial revolution, Palmer's earlier time-bound definition of the scope of industrial archaeology is now widely accepted – namely that it is a study of the period between c.1700 and c.1900 (Palmer 2004, 1; Palmer and Horning 2009, 401). By this definition earlier periods are left to 'post-medieval' archaeologists, who might be better-equipped to engage with theoretical models and contemporary social and cultural

processes, but are – as noted above – by and large less well-informed about the details of technology. Some lone voices have resisted this period definition. David Cranstone for example has argued for a ‘long industrial revolution’, incorporating an ‘extractive’ phase which preceded and ultimately informed the more conventionally-defined industrial developments of the eighteenth century and later (Cranstone 2009). The argument is attractive, although this author considers it more appropriate to examine early industrialisation not as a ‘proto-industrial’ or ‘prehistoric’ antecedent for the ‘real’ Industrial Revolution, but as a genuine and significant development in its own right. Moreover, these early developments need to be investigated within their own social and cultural contexts – namely the Renaissance and the development of Baconian humanist rationalism – rather than viewed through the prism of the later post-Newtonian Enlightenment.

The sub-discipline of archaeometallurgy is not time-bound in the same way, and has developed a genuinely global approach to understanding early industrial activities. Archaeometallurgy also emerged in the 1960s; its early pioneers included many of the same people who were also involved in industrial archaeology, and its development followed a similar trajectory – originating as something of a hobby for non-archaeologists. The most prominent of these was R. F. (‘Ronnie’) Tylecote, who, after a spell in industry, taught metallurgy at the University of Newcastle from the early 1950s. Tylecote had long been interested in archaeology – he went on his first excavation while still a student at Manchester in the 1930s – and began to combine the two disciplines (Anon 1991). Tylecote subsequently gained further archaeological experience and training, and went on to develop what he called ‘historical metallurgy’ on projects in Africa, the Near East and the Middle East during the 1950s and 1960s. His publications became key textbooks for the emerging discipline (Tylecote 1962; Tylecote 1976; Tylecote 1987). By the 1970s archaeometallurgy was firmly in the mainstream of academic archaeology; its principal and most influential home being the Institute of Archaeology at the University of London. UCL appointed Tylecote and the Israeli archaeologist Beno Rothenberg as honorary professors, and in 1973 Rothenberg founded the Institute for Archaeo-Metallurgical Studies (IAMS). Under Rothenberg’s directorship, IAMS expanded survey and excavation work around the world, and offered taught courses in archaeometallurgy (Rehren 2012; Thilo Rehren, *pers. comm.*). Graduates of UCL subsequently went on to develop archaeometallurgy elsewhere.

Although the deployment of industrial technologies is central to this study – specifically early mining and water-powered ironworking – the sub-disciplines of industrial archaeology and archaeometallurgy have only reluctantly moved substantively beyond empirical understanding of process. Notwithstanding more recent contributions to, and engagement with, more socially-aware strands of thought in prehistoric and historic archaeology, both industrial archaeology and archaeometallurgy remain somewhat isolated. A typical view is that ‘theories of technology are only useful to the archaeology of iron production if ... [they] ... lead to greater understanding of the empirical record’ (Charlton *et al.* 2013, 294). It is still common to consider technological developments outside their social and environmental contexts; however a new generation of scholars have developed useful engagements with ethnographic and anthropological approaches which has enabled them to situate their work in contemporaneous cultural contexts and so make a broader contribution to the understanding of past societies (Iles 2013; Ryzewski 2013; Kostoglou 2013; Jane Humphris, *pers. comm.*).

Nevertheless research in both industrial archaeology and archaeometallurgy is relevant to the study of the Brookes’ industrial activities. One particularly important technical development during the period of this study was the transition from bloomery to blast furnace technology in the smelting of iron, and the concomitant changes to forging technologies involved in the subsequent manipulation of wrought iron to create finished products. Work by Ronnie Tylecote and others on the archaeometallurgy of early metalworking (Tylecote 1959; Tylecote and Cherry 1970); David Crossley on the technology of water power, sixteenth century iron-smelting and later glassworking (Crossley 1967; Crossley and Ashurst 1968; Crossley 1975; Crossley 1987; Crossley 1989); and by the various national heritage bodies on upland mining landscapes (Bowden 2002; Newman 2009) have provided a solid foundation for exploring many of the themes raised in this thesis. Crossley’s work in particular has examined sixteenth- and seventeenth-century ironworking installations that potentially offer close parallels to those at Coalbrookdale; however these were located in the Weald and operated in different economic and social circumstances than those in the midlands. Many details of iron smelting and forging process remain poorly understood (Young 2007).

The separation of both sub-disciplines from the practical industrial experience of their founders is an inevitable consequence of their development within archaeology; this has been compensated for to some extent by the re-engagement of many archaeometallurgists with experimental and experiential technological recreations

(Dungworth and Doonan 2013). Another issue is a lack of connection with potentially relevant studies in some other other fields – notably histories of science and technology, and economic histories of trade and production. Archaeometallurgy has an excellent record of engagement with anthropology and ethnography; this is not the case with industrial archaeology, which has largely ignored potentially useful theoretical developments in these fields – such as Actor-Network Theory and *chaîne opératoire* (Dobres 1999; Martinon-Torres 2002; Latour 2005). *Chaîne opératoire* is the study of the sequence of processes which are applied in the creation, use, discard and recycling of an object. First developed as a concept in the early twentieth century, it initially developed as a way of exploring the social context of technological production. Subsequently influenced by post-processualist reflexive thinking (Shanks and Tilley 1992), *chaîne opératoire* engages with issues around ‘agency and society, cultural strains and innovation, cultural relativism’ and the role of archaeometallurgy itself (Martinon-Torres 2002, 33-34).

There are several aspects of the study of industrial archaeology which this investigation of the Brookes’ activities at Madeley and elsewhere might usefully draw on. A solid empirical understanding of particular physical and chemical processes is essential – particularly the application of water power, the development of iron smelting technology, the development of forging technology and the various steel-making processes. In order to understand these it is necessary to consider the other industrial activities which enabled them, and which sprang from them: mining, ore processing, the supply of fuel, transport and markets. All of these are situated in social, political and economic contexts, and here some of the more socially-engaged approaches of archaeometallurgy are potentially useful. The role of industrial activities in the design and perception of the wider landscape will also be informed by some of the landscape investigation directions noted above.

2.5 Historical narratives

Understanding the ways in which the Brookes expressed their identity is one of the key questions that this thesis intends to address. Whilst the application of some approaches in historical archaeology have the potential to enable this understanding, it is also necessary to engage with several strands of historical scholarship. Consideration of the intellectual, emotional and spiritual dimensions of a family of technologically-minded, economically successful, politically active and intellectually curious Catholics must be

set in the context of prevailing directions of philosophical, scientific and religious thought during the period. These directions have been primarily subjects for study by historians, not archaeologists, and this study has required interrogation of a diverse body of historical literature on these issues. Two particular historical narratives are directly relevant to this thesis: histories of science and technology, and histories of the Reformation. At first glance these might seem to be unrelated areas of research – the former providing context for the Brookes' industrial activities, and the latter setting those activities in religious and political contexts. However they are both essentially dealing with the same theme, namely how Renaissance humanism affected how people saw the world. Curiosity about the physical properties of the world was informed by a desire to extol God's Creation; in the sixteenth century there was no contradiction between 'science' and 'religion' as there increasingly came to be in the later Enlightenment.

The Brooke family – and particularly Basil Brooke – were engaged in endeavours that required scientific knowledge in order to be successful: these included mining, metallurgy and chemistry; other evidence also suggests an enquiring and well-informed mind. The period of this study was precisely the time when European understanding of the physical world was shifting rapidly – although several sometimes contradictory directions were being followed in developing that understanding. A conventional orthodoxy, held since the seventeenth century, was that medieval science had made little or no contribution to subsequent developments, and it had been the Renaissance reconnection with ancient texts that had led to the Enlightenment. This view was not seriously challenged until the later nineteenth century, as historians re-evaluated the role of early humanist thinkers and their relationship to the philosophers and philosophies of the fifteenth, sixteenth and seventeenth centuries (Lindberg 1995, 62-63). By the mid-twentieth century there was a recognition that a 'systematic theory of experimental science' had emerged in the thirteenth and fourteenth centuries, and that this had provided a significant foundation for subsequent developments (Crombie 1952, 273). The role or influence of the Islamic scientific revolution of the early medieval period – and though this connections with early technical and scientific achievements in China and on the Indian subcontinent – also began to be acknowledged. However it has been argued more recently that a much wider range of multicultural influences, including contact with the New World from the late-fifteenth century, played a more significant role in the European scientific revolution than had previously been recognised (Bala 2006).

The revival of Aristotelian thought as part of the rise of humanism during the later Middle Ages had encouraged the development of empirical observation and reasoned deduction. Nature should be observed, and the works of man should imitate nature (Mann 2000, 28). Such an experiential or experimental approach was an important influence on Copernicus, whose *De Revolutionibus* was published in 1544 (Finocchiaro 2010, 22-24). As Allen Debus (1978, 44) notes, an extended period of ‘assimilation and debate’ followed such radical steps forward, which themselves resulted in ‘new discoveries and interpretations essential for further development’. Perhaps therefore more directly influential for the Brookes was Thomas Digges’ English-language discussion of the Copernican universe, published in the 1580s (Gribbin 2002, 12-18). An experiential and experimental approach to scientific enquiry was explicitly set out in 1605 by Francis Bacon, who valued the increase in human knowledge gained ‘when the experience of several mysteries shall fall under the consideration of one man’s mind’ (cited in Kearney 1964, 122). Such an experiential approach was also of course a key element in the chorological understanding of landscape discussed above.

Although the early empiricism of thinkers such as Bacon owed much to the revival of Aristotle, Bacon himself was open to ideas from alchemy and natural magic and largely rejected mathematics, as well as many Aristotelian tenets (Debus 1978, 104-105). Later developments were strongly influenced by Platonic thought, and in particular Plato’s ‘Theory of Forms’ – in which the myriad of observable natural particular forms could be structured into a hierarchy of universal forms (Dancy 2004, 245-269). Rene Descartes argued for universal geometries that could improve and correct the natural order; both through various combinations of technology and landscape change (Larsen 1964, 13-15; Relph 1981, 32-34). In the longer term, thinking moved away from Renaissance humanist concepts of an ordered world towards a more empirical view that ‘proved the almost chaotic variety and disintegration of existence’ (Lottes 1975b, 276). The Brookes’ gentry education and periods of travel abroad would have included discussion of these and other philosophies; the archaeological evidence suggests that contemporary scientific thinking informed practical and ornamental applications on the Madeley estate and beyond.

These points are well-illustrated by a story about the early understanding of geology and metallurgy. This story is set in the Bohemian mining area of Jáchymov (historically Joachimsthal, or St. Joachim’s Valley) in the Erzgebirge Ore Mountains, now in the Karlovy Vary Region of the Czech Republic. The region has a complex geology and

mineralogy, with 117 primary minerals and 270 secondary minerals identified (Ondruš *et al.* 1997; Ondruš *et al.* 2003a). This complexity, and the value that could be derived from it, was recognised in the early-sixteenth century: silver mining began in 1512, and Joachimsthal town was established four years later; both industry and town rapidly expanded, with over 600 mines by the mid-1520s, and a population of around 18,000 by the early 1530s (Veselovský 2003, 207).³ Among those attracted to the booming silver industry at Joachimsthal during the early sixteenth century were two men who were to prove influential both in metallurgy and religious thinking – in both cases on opposite sides of the argument.

Johannes Mathesius (1504-1565) had converted to Protestantism in the early 1520s; in the 1540s he was closely associated with Martin Luther and his circles at Wittenberg, and is probably best known for his compilation of Luther's *Table Talk*. His interest in geology and mineralogy developed when he was headmaster of the school at Joachimsthal in the 1530s (Alfonso-Goldfarb and Ferraz 2013, 24-25). He came to the conclusion that the origin of all metals was a fatty substance called 'Gur', by which, 'like a child in the maternal womb, metals were placed in the interior of the earth by the Creator' (Alfonso-Goldfarb and Ferraz 2013, 25). Georg Bauer – better known as Georgius Agricola (1494-1555) – was a Catholic who had been a precocious student at Leipzig and became part of the 'circle of humanist scholars' around Erasmus; in 1526 he was appointed town physician in Joachimsthal (Weber 2002, 292). Agricola too developed an interest in geology and mineralogy: he developed a new scheme of classification which refuted the classical 'four elements' model, and was also the first to recognise the difference between igneous and sedimentary rock, and – critically – 'comprehended that ore deposits were formed by precipitations from solutions that had seeped into fissures in their surrounding rocks' (Weber 2002, 293). His most famous publication, albeit a posthumous one, was *De Re Metallica* (Hoover and Hoover 1912, ix). Agricola's work on geology, and the very practical aspects of mining and metallurgy – including descriptions of subterranean gases and radiation poisoning – made a significant contribution to the development of these sciences; many of his interpretations and understandings remain valid in the twenty-first century.

³ The ruling Šlik family created a silver coinage which was quickly adopted as common currency throughout Europe; these coins were known as 'Joachimsthalers' or 'Thalers' – the origin of the word 'dollar'.

For both men mining and metallurgy could only be understood in a philosophical framework which also informed their religious outlook. In later life Mathesius gave Lutheran sermons dressed as a miner; Agricola's death was said to have been caused by a stroke resulting from an argument with Lutherans. From a present-day perspective, of course, Agricola's ideas about geology and metallurgy were basically correct whilst Mathesius was fundamentally wrong – but this simply demonstrates the range of possible directions that scientific enquiry could have taken during this period. Both were deploying an experiential approach in a humanist tradition. The story of Agricola and Mathesius also shows how different notions of the origin of metals were not simply a matter of proto-scientific enquiry, but were very deeply rooted in particular world views which themselves sprang from religious and moral philosophy. Their articulations of geological and metallurgical theory were also statements about religious and political identity.

The same sense of experience and enquiry which informed developments in scientific thinking was also one of the most important foundations of the Reformation. On All Saints Day in 1517, Martin Luther nailed his *Ninety-Five Theses* to the door of the castle church in Wittenburg: certainly an important moment, but by no means the beginning of the process – it was a continuation of earlier reforming efforts by John Wycliffe and the Lollards in the fourteenth century, and John Huss in the fifteenth century, all of which were informed by Renaissance humanism (Wallace 2004, 23-49, 138-157). The broader European dimension has sometimes been lost in discussions of the causes and effects of the Reformation in England. Diarmaid MacCulloch (2005, 77-79) has argued convincingly that Reformation studies in the UK and the United States have tended to adopt at least an Anglophone, if not at times an Anglocentric, perspective; consequently there is a lack of connectivity between scholarly traditions in mainland Europe and those in Britain. As a result, the implications of the connections between the various Reformations and counter-Reformations that took place in Europe during the sixteenth and seventeenth centuries have not always been fully considered. This is particularly apposite in the present study: it is clear that the European connections of both John Brooke and Basil Brooke were significant influences on their Catholicism and its expression, just as they were in terms of business and technology.

The study of early modern English Catholicism has deep roots: many aspects of the modern debate originated in Anglo-Catholic and Anglican revisionism as the Oxford Movement developed during the 1830s (MacCulloch 2005, 76). Most proponents in the

field are classic documentary-driven historians, although some have also engaged with the material culture of churches and portable artefacts of faith – albeit from an art-historical perspective (Duffy 2001). English Reformation studies are deeply politicised, perhaps inevitably so in the context of the subject matter itself, and the two dominant schools of thought reflect the religious background of their chief proponents (Duffy 2005, 722-724). Thus MacCulloch – a Protestant scholar – has argued that the Reformation set in train by Henry VIII, although never fully completed in European terms, was nevertheless successful in ‘marginalising significant principled dissent’ to the established Church of England from both Protestant and Catholic non-conformists by c.1600 (MacCulloch 1999, 135). Eamon Duffy – a Catholic – on the other hand, has argued for the continuing strong influence of Catholicism at all levels of society, and particularly within the Church, well into the seventeenth century (Duffy 1992).

It is generally acknowledged that the Reformation of the sixteenth and seventeenth centuries was a long and oscillating process; Protestantism’s eventual dominance was not assured from the beginning, and the process was as much about resistance as it was about domination (Muldoon 1994, 242). However the origins of this resistance is a recurring debate in Reformation studies which is particularly germane to this thesis. The conventional view was that the process of Reformation took place relatively quickly, and was a ‘top-down’ process (Dickens 1964). Recusancy and other forms of overt Catholic resistance to the Protestant hegemony, which developed from the latter part of the sixteenth century, were the result of the arrival of Jesuit missionaries in the 1570s (Bossy 1962; Bossy 1975). The Jesuit mission was ostensibly a spiritual one, but in fact the Jesuits were politically engaged and active in specifically seeking the restoration of the Roman Catholic Church in Britain (O’Malley 1993, 212-225). An alternative view was that there had been a significant body of ‘survivalist’ Catholics in Britain who had themselves engineered a more recusant position towards the end of the sixteenth century (Haigh 1981a; 1981b; 1987). This view has been further developed by Duffy (2005, 726-727), who has argued that the ‘complex infrastructure of a Catholic nation’ remained embedded in English society and politics to such an extent that it only gradually and reluctantly ‘accommodated itself to Protestantism’ over two centuries. A close study of the Brookes’ Catholicism and its role in their social, political and business activities should inform this debate.

Science and religion were two aspects of the Brookes’ actions and identities; these only existed in an economic framework, and so it is necessary to consider the work of

economic historians on the period, and on industrial developments. One of the premises on which this thesis is based is Max Weber's analysis of the economic situation in the sixteenth century. Weber had been the first to suggest that the Lutheran reformation gave greater moral legitimacy to the pursuit of worldly affairs: this 'calling' was 'the highest form which the moral activity of the individual could assume' (Weber 1904-5, 83). Weber argued that this religious approval of worldly labour stood in marked contrast to monastic emphasis of 'the Catholic attitude' and so created the 'Protestant ethic'. Yet Weber himself acknowledged that aspects of the Lutheran 'calling' were present in medieval and earlier societies, and noted that it would be 'foolish' to suggest that 'capitalism as an economic system is a creation of the Reformation' (Weber 1904-5, 80-91). He had also noted that medieval ethical literature was 'much more open-minded' on the pursuit of profit. Marc Bloch felt that the origins of capitalism could be pushed back to the Black Death, or even earlier; more recently Cecilia von Heijne has noted how farmers in Denmark were able to sell their labour for money in the twelfth century (Bloch 1931, 102-118; Von Heijne 2009, 173).

The identification of these strands of proto-capitalism do not, however, mean that the entrepreneurial activities of the Brooke family were taking place in a fully-fledged capitalist system. Rather, as noted above, the economic system across Europe at this time was a mercantilist one (Mokyr 2006, 273-278). Mercantilism aims for a balance of trade surplus through the restriction of trade, the creation of monopolies and the development of colonial or proto-colonial networks (Smith 1776). Its creation and adoption was one of the consequences of the Renaissance, with its emphasis on measurement, quantification and exploration (McCusker 2001; Mokyr 2006).

Economic history does not have the prominence it once did as a sub-discipline. It has been suggested that its decline began with the separation between economists and economic historians in the 1920s; economic historians are mistrusted by both historians and economists (Cairncross 1989, 173-175; Whaples 2010, 17-20). Subsequently 'many areas in economic history' were 'invaded by scholars who are not card-carrying economic historians' (Mokyr 2010, 24).⁴ Nevertheless two developments in economic history have influenced this thesis, in that work in the field of economic history has provided both theory and data. The theory of 'proto-industrialisation' was set out by

⁴ It is worth noting in passing that some 'card-carrying economic historians' have invaded historical archaeology and made important contributions to it (cf. Crossley 1975; Crossley 1994; Trinder 1980).

Franklin Mendels (1972), who identified a pre-Industrial Revolution stage in a linear and progressive model of economic development, characterised by close relationships between agrarian and small-scale industrial activities negotiated by merchant capitalists (Mendels 1972). Although subsequently criticised for its simplicity (Daunton 1995, 169), proto-industrialisation closely related the development of capitalism with the process of industrialisation, placing both in broader social and environmental contexts. In methodological terms, the development of 'cliometrics' – which emphasised the use of large data-sets and the primacy of statistics (Fogel 1966, 645-650) – brought more a more rigorous underpinning to the study of economic history (Mokyr 2010, 24). Critics have noted its assumption that modern economic forces were the primary drivers of past activity, and cliometrics does not take sufficient account of other cultural, social and political factors (Boldozzini 2011). The paucity of data for the study area means that it has not been possible to adopt either approach directly; however the work of economic historians on regional, national and international developments in the history of ferrous metallurgy which has been informed by these approaches is deployed here. This includes work by Chris Evans and others on the role of iron exports in the seventeenth century (Evans 2002; Evans and Rydén 2005; Evans and Rydén 2007; Evans 2010; Evans 2012); and detailed analysis of the British iron trade in this period by Peter King (King 2002; King 2003; King 2004; King 2008; King 2011).

2.6 Discussion

This is a study in historical archaeology which intersects with other areas of scholarly enquiry. Such an intersection is necessary partly because of the lack of secure evidence in particular areas: large parts of the landscape, many of the buildings, and the full suite of industrial installations and activities. However it is primarily because study occupies a number of *lacunae* in both archaeological and historical research, and in the frameworks which both disciplines have consequently developed. The period between the dissolution of the monasteries and the English Civil War falls within the time-frame of historical archaeology, yet most of that sub-discipline's theoretical frameworks and methodological approaches have been developed in the context of questions about society that emerged from the mid-seventeenth century onwards. Equally, some of the themes addressed by medieval archaeologists are relevant to later periods – particularly the ongoing shifts in relationships between houses and landscapes, and the adoption of Renaissance ideas and their reflection in material culture – but these have not always been applied to the period in question. Meanwhile, prehistorians have developed

interesting and theoretically-informed approaches to the analysis of fragmented landscapes and assemblages; however these have not been widely adopted by historical archaeologists.

The scope of this study also falls across several different theoretical and methodological frameworks, none of which are individually fully suited to the suite of themes that run through it. It was suggested above that archaeologists, by developing biographical approaches to landscape and other elements of the material record, have been successful to varying degrees in addressing the first and last of Johnson's four steps. The other two steps were a recognition of the 'spiritual dimensions' of Englishness and English identities, and the 'writing of mobility, conflict and change back into the past' (Johnson 2007, 191). In this study of early modern Catholic industrialisation in Shropshire it may only be possible to address these by deploying less conventional archaeological approaches, and ideas from other areas of academic endeavour. A biographical approach to understanding identity holds many attractions, partly because facts are known about the lives of some of the principal actors. However a biographical approach – to the people, the landscape, and the buildings and other features within it – needs to be conducted carefully. It needs to avoid falling into the trap of simply replacing the Darby narrative with a 'Brooke narrative'.

Questions of identity, spirituality and conflict are key to understanding the Brooke enterprise in context. Although binary oppositions of identity are perhaps more readily identifiable in the archaeological record – or are at least more easily rendered into theoretical models – it is clear, as Sarah Tarlow (2007) has pointed out, that it is possible for individuals to maintain several identities at once. As Norman Jones (2002, 97-133) has suggested, ideological and religious differences were carefully negotiated to ensure positive outcomes: 'pragmatic adaptation' in companies, guilds and other corporate bodies resulted in 'a new political culture'. Such meanings are difficult to read, however. Paul Everson cites the example of Quarrendon in Buckinghamshire: the house has long been demolished, but detailed landscape survey revealed a marked contrast between the form of the gardens and parks on either side of it (Everson 2001). This could reflect 'two contrasting religious outlooks' – a Protestant one associated with the owner Sir Henry Lee, and a Catholic one associated with his wife Mary Paget – alternatively it could embody gender differences reflecting the use of space in the house; or it could be a 'public' front and 'private' rear; or indeed a combination of any or all of these (Everson 2003, 114). It is also the case that symbolic meanings in the landscape, whatever their

original motivation, could be perceived in similar or different ways by Protestants and Catholics alike – both informed by the same strands of humanist thinking (Walsham 2011b, 7-15). Understanding sixteenth- and seventeenth-century identities in the fragmented landscape of the early twenty-first century is not easy.

The fragmentation of the Madeley landscape certainly is a challenge; one which prehistorians have addressed by the development of phenomenological approaches. Whilst validly acknowledging the subjectivity of their practitioners, and importantly the existence of the past in the present – and indeed other pasts – in many cases the value of their results is questionable (Thomas 1994; Cummings and Whittle 2004; Fleming 2006). Phenomenology can also be hindered by the opacity of its theoretical principles (Barrett and Ko 2009, 279). This study will not adopt a phenomenological approach; however it will draw on some elements of previous work in that vein. Julian Thomas (2000, 179) describes landscape as ‘a network of related places’ defined by human activities, and the memories of those activities, providing ‘closeness and affinity’ for particular locations. This notion of landscape as network of memories is helpful in developing ideas around the ways in which people moved through the landscape, and the intervisibility of particular features in the landscape – both essential in understanding how the designed landscape at Madeley was intended and how it worked.

Both phenomenology and chorography draw on an understanding that natural features can be imbued with cultural meanings. These meanings may be pragmatic ones, such as the role of the River Severn as the boundary of the administrative unit of both parish and Manor of Madeley. Meanings may also be symbolic, whether religious or not (Cosgrove 2004; Walsham 2011b). By combining this understanding with more conventional tropes of landscape archaeology such as notions of palimpsest, it is possible to get closer to the mind-sets of the principal actors. Some of the empirical rigour of industrial archaeology, buildings archaeology and landscape archaeology will be augmented by detailed evidence from economic and social histories. Biography gleaned from documentary sources can enhance information found on tombs and in buildings; it can also illuminate motives for political, industrial and economic activity. Details of the technical development of metallurgical and chemical processes which are understood through archaeological excavation can therefore be placed in wider intellectual, philosophical and political contexts.

3. Inheritances: blood, faith and land

The previous chapters set out the origins of this study, the focus of the thesis, and the strands of thinking which will inform it. It is now necessary to introduce the principal actors in the study: the people and the place. This chapter is therefore in two parts. The first three sections consider the Brooke family and its members' multiple overlapping identities: firstly their role as local gentry and their relationship with other families of similar status; secondly their wider national and international networks which developed as part of the legal, business, scientific and diplomatic ambitions of Robert Brooke and Basil Brooke; and thirdly their Catholic identity, which was simultaneously both an aspect of their other identities and also a separate and sometimes subversive thing in its own right.

The second part of the chapter assesses the landscape at the time it was acquired by Robert Brooke after the dissolution of Much Wenlock Priory. It considers the development of the estate in the medieval period, and discusses the extent to which symbolism in medieval designed landscapes may have informed any continuity or revival of Catholic symbolism in the post-dissolution period.

3.1 A gentry family: marriages, memories and monuments

Before the early sixteenth century the Brooke family were unexceptional minor gentry landowners, initially on a small scale but gradually increasing the extent of their properties and their social connections. During this period there was of course no distinction between gentry and Catholic identities. This section will primarily consider the ways in which the Brookes developed and presented their identity as a gentry family after the Reformation using both the documentary evidence and the material culture of their funerary monuments.

Genealogy and biography were central to the development of this identity. The need to continue the lineage through the production of male heirs and the inheritance of property has been described as an 'obsession' for the gentry (Heal and Holmes 1994, 51). Indeed, between 1530 and 1686 genealogy was a formal and legal component in the assessment of gentry status: visitations by the heralds required the presentation of a genealogy as proof of the 'antiquity of family lineage' (Denton 2008, 143). Genealogy had

been influential on medieval historians, both as a means of ordering the narrative, and as a mechanism by which to interpret historical events through inherited lineages – whether aristocratic blood-lines or the spiritual inheritances of the Church (Spiegel 1983, 51-52). From the thirteenth century the use of genealogies in secular family histories became more widespread, with the ‘human process of procreation and filiation’ being used ‘as a metaphor for historical change’ (Spiegel 1983, 50).

Increasingly from the fifteenth century, humanist influences saw a re-evaluation of the traditional model of genealogical presentation. Godliness and morality began to be seen as virtues that were as worthy as blood and land; these virtues did not replace traditional ideas of lineage but instead supplemented them (Heal and Holmes 1994, 24-28). Moral or godly virtues were an essential component of gentry character and upbringing. By the early sixteenth century such virtues could be embodied in acts of military service or public administration; later, the importance of military service began to be de-emphasised in favour of encouraging the widest possible education ‘that was essential to a gentleman’s function as counsellor and local governor’ (Heal and Holmes 1994, 30-31). This introduced an element of biography to the process of commemoration: not only was it important to say where and who you came from, it was also necessary to explain what you had achieved in life. In practice there was considerable flexibility both in the interpretation of what constituted a lineage, and in how that lineage might be best displayed to best advantage for the upwardly-mobile gentry family.

This then is the context in which the Brookes’ understanding and expression of their biographies and genealogies will be considered. The geographical locus of the Brooke family before the sixteenth century was not Madeley, but Claverley – some 15km to the south. The nineteenth-century antiquarian Robert Eyton traced the genealogy of the family back to the thirteenth century: Richard de la Broke who ‘was probably of Claverley’, his son Thomas de la Bruche ‘was definitely so’ (Eyton 1854, 3:103). Another ‘Richard de Broke of Claverley’ was locally active as a juror and witness to legal documents in the first half of the fourteenth century. During this period the family increased their landholdings in and around Claverley; by the fifteenth century another branch of the Brooke family ‘came be seated at Blacklands, in the neighbouring Parish of Bobbington’ (Eyton 1854, 3:103).

The biography of Robert Brooke played an important role in the genealogy subsequently commemorated by his descendants. This was because it was a story which changed the

historical trajectory of the family; it would also have enabled discussion in the family around some of the broader issues around the Reformation and its social, cultural and religious consequences (Dolan 2002, 648-652; McClain 2002, 384-388). Robert Brooke was born in c.1515, the son of Thomas Brooke (born c.1485) and Margaret, daughter of Hugh Grosvenor of Farmot, Shropshire (Treswell 1623, 79-81). Robert studied at Oxford, and was subsequently admitted to the Middle Temple (Foster 1891, 171-200). The Middle Temple tended to attract its members from the midlands, and it may have been that an earlier Treasurer of the Temple, John Brooke, had been a relative. Robert Brooke was elected Common Sergeant on 11th July 1536 (Masters 1984, 105-116), by which time he had already begun what was to become an illustrious and dynastically-advantageous legal career. He had also met and married his first wife Ann, who was a daughter and heir of Nicholas Waring, a Shropshire-based 'merchant of the staple' (wool trader) (Treswell 1623, 234). The Waring family were later prominent in the parish of Boningale some 6km to the north-east. In fact this was Ann's second marriage. Her first – appropriately enough given her family background – had been to Nicholas Hurleton, one of Henry VIII's 'clerks of the green cloth' in the 1520s and 1530s (Hayward 2009, 143). It is not known whether she met Robert Brooke in London or in Shropshire. Their children were: Mary (born 1536), John (born 1537), Virginia (born 1538), Walter (born 1540 and died in infancy), and Adam (born 1541) and Radulfus (born 1542).

After Ann's death in c.1543, Robert Brooke married Dorothy Gatacre, whose father William's estates were located approximately 2km to the south of Claverley. Brooke and Gatacre were both Commissioners of the Peace for Shropshire. The first of Robert and Dorothy's eleven children, Martha, was born in 1545; she was followed by Richard (born 1546), Alan (born 1547), Eve (born 1548), Thomas (born 1549) and Edward (1550). After a brief hiatus Anna was born in 1553, then Emma (born 1554), Mary (born 1555), Kathryn (born 1557) and Eleanor (born 1558). The rapid growth of this family probably explains Brooke's purchase of Ludstone Hall at Claverley in c.1548, which had formerly been part of the estate of the deans of Bridgnorth (Keith Smith, *pers. comm.*). It is not known where they lived before then, and, as noted elsewhere, they moved to Madeley Court in 1553.

Much of this biographical and genealogical information is carved in stone on the Brooke memorial in Claverley Church (**Fig. 3.01**). The tomb itself is typical of gentry tombs of the period, emphasising the central role of the nuclear family in expressing lineage and identity (Heal and Holmes 1994, 53-56). Robert Brooke is depicted lying between his two

recumbent wives, with little to differentiate all three in terms of status; the base of the tomb is carved with images of the children. The depiction of children on the Brooke tomb is in keeping with the ‘increasing tendency’ on early sixteenth century memorials to discriminate between male and female, living and dead, first born and last born children (Heal and Holmes 1994, 56). John Brooke, the son and heir, is given the most prominent position and elaborate treatment (**Fig. 3.02**); a pillar marks the division between the children of the first and second wives; and children who died are shrouded. There is very little in the tomb to suggest anything other than a conventional expression of gentry family identity; although the epitaph which describes Brooke’s legal and parliamentary career ends with the Catholic form of words ‘upon whose sowles God h[ave] mercy’. The same expression is also evident on the various Gatacre memorials, but would not be unusual at this date (Jonathan Finch, *pers. comm.*).

Perhaps more interesting is the location of the tomb – both at Claverley church, and within it. Claverley church had high status in the Middle Ages: it was a Royal chapel from 1102 until the dissolution; the most important of several parishes held by the Royal College of St. Mary Magdalene at Bridgnorth. It also retains a collection of early-thirteenth century wall paintings depicting the Crusades (Barrett 2012, 131-132). All churches at this time would have been richly painted in the Catholic tradition, but the post-Reformation survival of these murals perhaps add weight to the sense of local reluctance to abandon Catholic and Royal traditions later in the post-medieval period (Barrett 2012, 158-160). The fact of the tomb being at Claverley also underlines the significance of that place for Robert Brooke. Despite having spent most of his life in London, and the last five years of his life ostensibly resident at Madeley, Claverley remained the principal social and economic focus of the ancestral family. The tomb is located in the Gatacre chapel, surrounded by an array of Gatacre memorials; the Brooke tomb is therefore a significant commemoration of the two families’ associations.

Interpreting the memorials of the next two generations of Brookes is more problematic, as they only survive in a fragmented form and without any of their original context. John Brooke is of course depicted on his father’s tomb (**Fig. 3.02**), but he himself was buried at Madeley (**Fig. 3.03**).



Fig. 3.01. Robert Brooke's tomb at Claverley. Source: author.



Fig. 3.02. John Brooke and Anne Shirley as depicted on Robert Brooke's tomb at Claverley. Source: author.



Fig. 3.03. The Madeley memorials of John and Anne Brooke. Source: author.

The Madeley tombs were dismantled in the eighteenth century when the new church was built, and the effigies were incorporated into the external walls of the octagonal structure: Basil and Etheldreda Brooke facing due south, and John and Anne Brooke facing south west.⁵ This exposed position has resulted in severe erosion, but helpfully the epitaphs were transcribed and translated in the nineteenth century. John Brooke's reads:

⁵ A photograph taken in 1896 shows the the rear of the church without the present tree cover, emphasising the exposed nature of the relocated monuments; the church is in any case on top of a hill. This photograph is not reproduced here for copyright reasons. It is from the Francis Frith Collection (38122), and is available at http://www.francisfrith.com/madeley.telford-and-wrekin/madeley-st-michael-s-church-1896_38122 .

'Here lieth interred John Brooke, Esquire, the son of Robert Brooke, Knight, Lord Chief Justice of the Common Pleas (which said Robert was a zealous and loyal subject of Queen Mary, and assisted her in securing her rights in opposition to the violent factions of the time. He published an excellent commentary on the English Law in several volumes). After a study of jurisprudence and science, being of an extensively liberal mind and universally beloved, he made a Christian-like end, October the 20th, in the year of our Lord, 1598, in the 60th year of his age' (Randall 1880, 375).

It is interesting that so much of this inscription refers to the father rather than the man himself. This memorial perhaps sheds more light on Basil Brooke's priorities in commemoration than it does on his father's own life; it also emphasises the importance of genealogy in reminding present and future generations of the family of its achievements in managing the ongoing turbulence of the period. The accompanying memorial to his wife Anne (Fig. 3.03) records their five children, and reflects on her 'most exemplary in the discharge of every duty' as a wife and mother and her own very 'ancient and renowned' ancestry (Randall 1880, 375). John Brooke's gentry identity is the only aspect of his life reflected in the archaeological record. Apart from the memorials, the only other evidence is the remodelling of Madeley Court in conformity with contemporary English interpretations of Renaissance ideas. John Brooke's active involvement in the management of the estates was perhaps counterbalanced by his lack of engagement with the legal, diplomatic and political milieu which seemed to have been a more natural environment for both his father and his son.

The biographical and genealogical evidence for the second half of the sixteenth century suggests that maintaining local and regional gentry connections was as important as developing Catholic ties and associations. Given the religious oscillations and ambiguities, it would be unwise to give too much weight to the limited evidence available as to the motivations for any particular family connection during this period. The primary concern would have been to create a stable bond between families of similar status and mindset; when successful this strategy enabled the construction of multi-generational 'kin identities' (Heal and Holmes 1994, 69-70).

John Brooke married Anne Shirley, the daughter of Francis Shirley of Staunton in Leicestershire. The date of the marriage is not known, but given that John was born in c.1538 it is not likely to have been much later than the early 1560s. At this time the Shirleys were 'marked by their Roman Catholicism', and, subsequently and notoriously,

their Royalism (Lacey 1983, 26). However this aspect of the Shirley's identity was probably less of a consideration during this period – whether in the closing years of Mary's reign or the early years of Elizabeth's – and the marriage was probably intended to cement relations closer to home. Anne's mother was Dorothy Giffard, daughter of John Giffard of Chillington, whose admission to the Middle Temple had been sponsored by Robert Brooke in 1551 (Hopwood 1904, 79). The close connection between the Brooke and Giffard families was maintained throughout and indeed beyond the sixteenth and seventeenth centuries; the relationship provides an important strand of evidence in the story of Basil Brooke. Anne's epitaph describes her as 'a rigid adherent to her ancestral faith' (Randall 1880, 375). The marriage produced five children, all of whom married the offspring of Catholic Royalist families. Basil's marriages are discussed below; of the others Dorothy, the eldest, married Hugh Starkey of Knight's Grange (Cheshire), Priscilla married Robert Middlemore of Edgbaston (Warwickshire), and Milbriga married Robert Barnfield from Worcestershire (Stewart-Brown 1938, 82-83; Treswell 1683, 136-137). The youngest, Francis, married Elizabeth the widow of Robert Eyton of Eyton (Baugh 1985, 139-141).

It is possible to read more into the genealogical trajectory of Basil Brooke than that of his father. This is partly because his biography can draw on more sources, and so much more is known about the man. However it is also evident that genealogical relationships were being sought further afield and with families whose Catholicism was markedly less ambiguous – at a time, during the early seventeenth century, when the pendulum was swinging away from toleration and towards the Protestant ascendancy. This may of course simply reflect the paucity of available Catholic families locally, but, given Basil Brooke's ambitions in other areas, it seems reasonable to ascribe these connections to a more strategic mind-set.

Basil Brooke was born in c.1576 at Madeley Court; he entered Exeter College Oxford on 15th October 1590, at the age of 14 (Foster 1891, 171-200). This was a period of considerable enlargement at Exeter College, as the result of an endowment in 1566 by the Catholic statesman and courtier Sir William Petre (d.1572), a legal contemporary of Sir Robert Brooke; the College was favoured by recusant families (Salter and Lobel 1954, 107-118). Following his education at Oxford, Basil, like his father and grandfather before him, entered the Inns of Court. On 23rd January 1595 'Mr. Basil Brooke, son and heir-apparent of John Brooke, of Madeley, Shropshire, esquire, son and heir of Robert Brooke, knight, late Chief Justice of the Common Bench' was admitted to the Middle

Temple (Hopwood 1904, 348). This entry in the *Minutes of Parliament of the Middle Temple* beautifully articulates the usefulness of genealogy in opening doors for gentry families.

Early in the 1600s, Brooke married Frances, the daughter of Henry, fourth Lord Mordaunt. The Mordaunts, whose principal estates were in Bedfordshire, were another prominent Catholic family with Middle Temple connections: Henry himself had been admitted on 29th October 1602 (Page 1912, 109-117). Henry was later suspected of involvement in the Gunpowder Plot and imprisoned in the Tower; although subsequently released (after payment of a 'heavy fine') he died in 1608 continuing to maintain his innocence (Page 1912, 109-117). Frances' marriage to Brooke was also her second marriage; her first had been to Sir Thomas Neville, son of Henry Neville, 7th Lord Abergavenny, who had died in 1628 (CPSD/CharlesI/382/244-245). Basil and Frances had two children, John and Frances. Sir Basil Brooke was later cited in a petition by Sir Thomas' son, the 8th Lord Abergavenny as a protector of his rights against an unwished-for marriage (CPSD/CharlesI/382/244-245).

Brooke's second marriage took place in the 1630s, and this too had connections with the events of 1605. This was to Etheldreda Brudenell, the daughter of Sir Edmund Brudenell, of Deene in Northamptonshire. The Brudenells were connected a very well-known Catholic family, the Treshams; moreover Sir William Gatesby 'a neighbour and intimate friend' was one of the leading Gunpowder Plot conspirators (Morey 1978, 137-138). Brooke's engineering of the marriages of his children also provides evidence of a desire to maintain Catholic credentials: his daughter Mary married Thomas More's namesake great-great grandson at some point before 1623 (Blake 1906, 230; Browning 1907, 123)

The memorials of Basil Brooke and his wife Etheldreda emphasise both their gentry genealogy and Catholic connections (**Fig. 3.04**). Robert Brooke again features on Basil Brooke's epitaph, which describes his marital history, but unlike the memorials to his father and grandfather, makes no mention either of his career, his accomplishments in learning, or indeed his Catholicism. His wife's epitaph is more interesting. She was 'a woman not only well-skilled in the knowledge of the Latin, Italian, French and Spanish languages, and in the science of music, but also exemplary for piety, faith, prudence, courage, chastity and gentle manners' by its account; the memorial also makes much of the Catholic connections by marriage of two of her daughters, although has rather less to say about the other three:

‘She [was] left to lament her loss [of] a husband, with an only son named Thomas, and five daughters – namely Anne, the wife of William Fitzherbert, Esquire, the grandson of Henry, Lord Chief Justice of the Common Pleas, eminent for his commentary on our laws; Mary, the wife of Thomas More, a descendant of that renowned character, Thomas More, formerly Lord High Chancellor of England, a man in his life and death universally esteemed; Dorothy, Agatha and Catherine, all of whom were of amiable dispositions.’ (Randall 1880, 12).



Fig.3.04. The Madeley memorials of Basil and Etheldreda Brooke. Source: author.

It is regrettable that it has not been possible in this thesis to explore the role of the Brooke women in the development of the estate, and their role in the maintenance of Catholic and other identities. Their epitaphs emphasise family and faith, and there is no doubt that this was an important aspect of female gentry identity, but to ‘ghettoise’ women’s contribution in this way ignores two key facts about this period. Firstly both family and faith were very public manifestations of identity, and secondly there are many well-documented instances of the astute management of often large and complex

estates land and businesses by women (Weisner 1987, 314-317). The only moments during the study period when it is certain that the Brooke women were running the estate were during periods of widowhood.

Research elsewhere in Europe into the role of aristocratic and gentry widows in the sixteenth- and seventeenth-centuries has demonstrated that they were able to maintain considerable economic, social and political power even when they were situated in profoundly patriarchal societies. During the late medieval and early modern periods widowhood was the only time when a woman was able to directly control the financial affairs of the estate and other business activities. There are numerous sixteenth century examples from across Europe which show that widows were willing and able to go to considerable lengths to protect their estates through litigation (Blom 1991, 194-195). Widows' authority lay in their possession of land and title, and their authority was strong because disinheritance potentially ran the risk of throwing 'the entire legal, social, and economic system into imbalance' (Wyntjes 1982, 399).

For many, widowhood was the first opportunity to take control of property, and indeed some women preferred not to remarry in order to continue to enjoy their independence, particularly in situations – such as in France and southern Europe – where patriarchal social forms were strong (Diefendorf 1982, 384-387). Such was the case for Jeanne de Gontault, for example, who managed extensive agricultural and industrial estates in the 1560s and 1570s, and played an essential role rapidly progressing the family's socio-economic status. Not only was she familiar with her husband's businesses whilst he was still alive, she was also able to exert a dominant influence on the family after her son came of age (Kalas 1993, 529-531). An alternative strategy was remarriage, which in the right circumstances could enable even greater social progress and prosperity for the widow. A well-known contemporary English example is that of Elizabeth Hardwick, who was born into a relatively minor gentry family in c.1527 and died in 1608 as Countess of Shrewsbury. In addition to enabling the accumulation of enormous wealth, her four marriages propelled her rapidly up the social ladder, providing connections which facilitated a Royal marriage for her daughter (Lovell 2006). Women in Shropshire were also able to manipulate the ambiguities of English and Welsh law to enable them to maximise their status, income and independence on both sides of the border (Cavell 2007).

In this context it is necessary to consider the Brooke widows, although the fragmented archaeological record and the absence of historical documentary sources mean that the details of their contributions have been silenced. Dorothy Brooke spent the best part of twenty years in charge of the Madeley estate and other properties. Alterations at Madeley Court under Dorothy's management were relatively unambitious compared to those of later generations. This could be read as evidence for a conservative style of estate management; alternatively it may have been that Dorothy's attention was on more energetic development elsewhere in the estate, leaving little resource for remodelling a medieval house.

Similarly Etheldreda Brooke, who outlived her husband, must have played a role in the restitution of the estate from the Commonwealth, and in the transition to its management by her son Thomas. Again there is no archaeological or historical evidence for her contribution, although better-documented cases suggest that she would have had significant influence in this process. For example Mary, Lady Verney, was almost single-handedly responsible for the restitution of her Catholic husband's estate: Sir Ralph Verney remained in exile in France whilst she successfully dealt with the Committees for Compounding. It was the view of Sir Ralph's male family and friends that the fact of Mary's being a woman (and, at the time, pregnant) was an important aspect of her presentations to Committees; he was also convinced that his attempts at remote micro-management were helpful. However her success appears to have been more the result of her own ingenuity, ignoring her husband's instructions, and her deployment of 'the usual procedures' (bribery and other informal pressure) rather than any special compassion on the part of the Committees (Slater 1976, 33-39). Despite the lack of evidence for the detailed actions of the Brooke widows, the fact that in both transitions the estate remained intact and economically viable suggests that their management was at least competent and very probably more than that.

The Brookes' gentry identity was clearly an important aspect of their projection of status and aspirations. Despite increasing limitations on Catholic involvement in civic structures, Basil Brooke – and indeed other Catholic gentry such as John Benthall and Henry Mytton – continued to provide 'horses and arms' for the county and fulfil other public obligations (SA: 1037/19/11). On 21st April 1623, he was admitted as a burgess of Shrewsbury, 'without paying any fine or fee, on account of [his] love and goodwill to this corporation' (HMC 1899, 9-25). This was a time when there was increasing involvement in commerce, business and politics from a much wider range of social groups than the

traditional aristocratic circles. Lawrence Stone's analysis (1956) postulated a 'crisis' of the aristocracy in the late sixteenth and early seventeenth centuries. Whilst there may have been a crisis in the minds of the aristocracy, for the gentry this period was one of increasing prosperity and recognition: they were engaged in useful enterprises that benefitted the country, and they expected their ambition to be rewarded.

3.2 Performances: courts and other theatres

The ambition expressed by the Brookes' monumental genealogies was played out in their actions. The diverse and rigorous schooling in languages, literature, science and law which was an essential part of progressive gentry upbringing provided a springboard which enabled the Brookes to develop extensive connections at the highest levels of European society. The establishment and maintenance of these connections required a commitment to public performance: in courts of law, in parliament, at the Royal court, and in literary and dramatic arenas. All three generations of the Brooke family were trained to some extent in the law: it made sense after all for the son and heir to gain training in the wide range of areas on the curriculum at the Inns of Court, which were all about negotiating legal, political and commercial frameworks. To get there needed good knowledge of classical and modern languages, thorough understanding of theological doctrine and the latest developments in humanist thinking and doing. More importantly, the Inns of Court were places to develop social networks and create an identity within the social hierarchy; only a small proportion of the Inns' alumni went on to pursue a legal career. Instead, as Sir Edward Coke noted, the Inns were a third university after Oxford and Cambridge, 'the most famous university for the profession of law, or of any human science, that is in the world' (cited in Baker 1986, 7).

Robert Brooke (Fig. 3.05) was the only one of the three generations in this study who turned his legal education into a legal career. Indeed Brooke's progress in this career was exceptional, seemingly due to a combination of ability and connections. He was only 21 when he was made Common Serjeant in 1536; appointments to this sought-after senior role – the second-highest judicial appointment – were made on the personal recommendation of the King (Miller 1982). The Common Serjeant was an employee of the Corporation of the City of London and had a variety of administrative and ceremonial duties in addition to its legal ones; this would have given Brooke both security and regular income, and close engagement with politics.



Fig. 3.05. Robert Brooke. A nineteenth-century copy of a sixteenth-century painting; the original is now lost, together with any information about its context and provenance.

Source: attributed to Thomas Athow, *Called Robert Brooke (Sir Robert Broke)*, watercolour. National Portrait Gallery, London. NPG D23251.

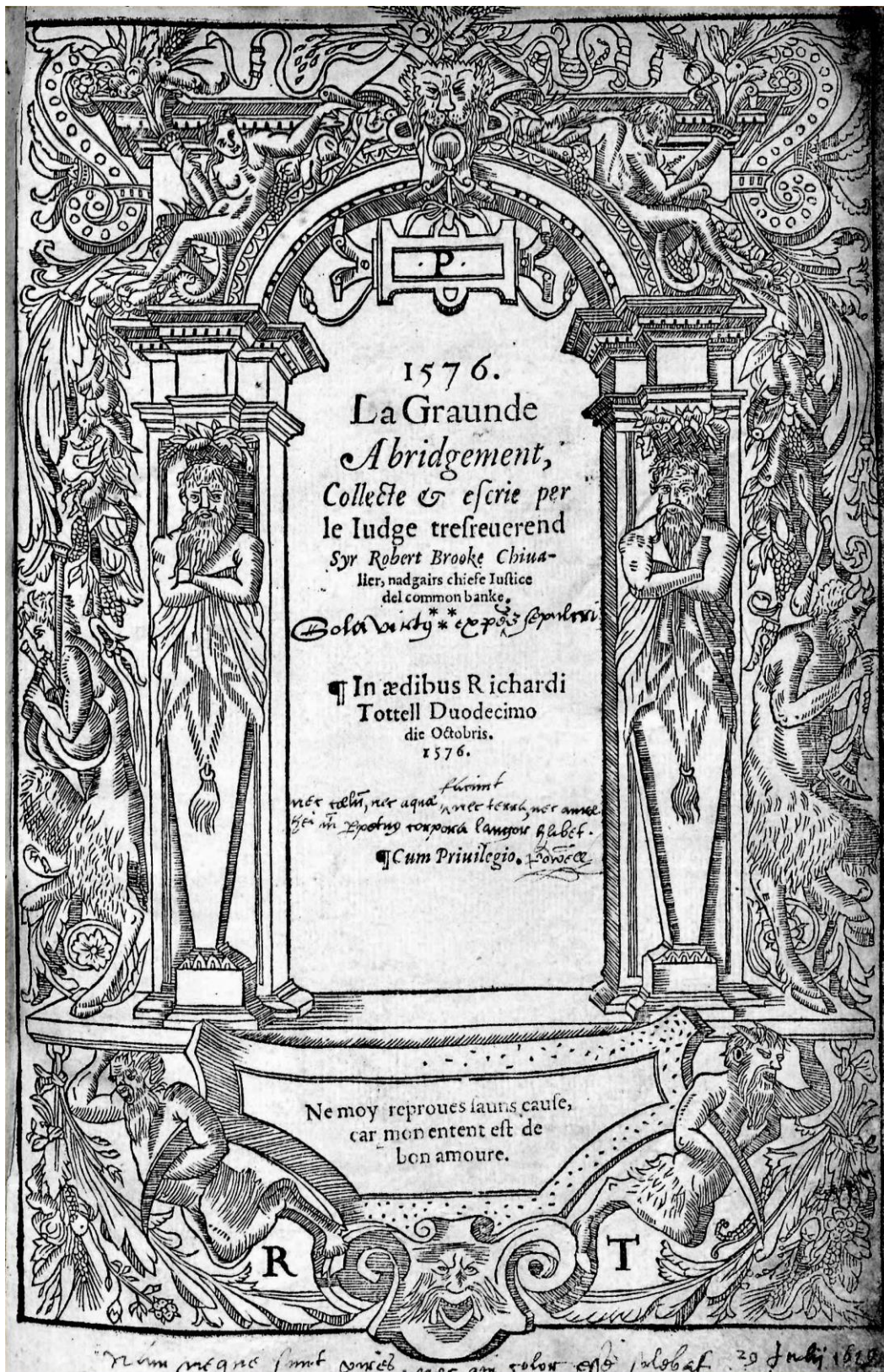


Fig. 3.06. La Graunde Abridgement. The title page of Robert Brooke's influential compendium of legal cases. Source: Brooke 1576.

Although his appointment as Common Serjeant had been promoted by the King, in September the following year Robert Brooke hosted a dinner at which remarks were made by one guest about the King, involving a story about ‘a fair gelding and a pretty wench’ (LPFD XII(2), f.764/28). A potentially treasonous situation appears to have been quickly defused, and by 1538 he was one of several young lawyers involved in the trial of Sir Geoffrey Pole, Sir Edward Nevill and others – a significant first step in Thomas Cromwell’s campaign against the Pole family (LPFD XIII(2), f.986/17-30). Brooke’s involvement in the trial is an interesting reflection on the ambiguities of political and religious identity during this period, given that this was precisely the moment when the dismantling of the Catholic establishment was uppermost in the minds of the King and his advisors. His choice of dinner guests clearly had not impacted on his career – his legal abilities enabled him to overcome any questions of loyalty and faith in Cromwell’s mind. In the same year Brooke was appointed as one of the Commissioners of the Peace for Shropshire – along with his Claverley neighbour William Gatacre – a post which he subsequently retained (LPFD XIII(1), f.1115/30; LPFD XIV(1), f. 1354/19). In practice the demands of Brooke’s career must have meant that he spent most of his time in London. The role of Common Serjeant was as much political as legal, and increasingly Brooke spent time on the preparation and introduction of legislation to parliament – including, interestingly in view of his grandson’s activities, work on a 1544 bill ‘against merchants for buying of steel and other merchandises’ (Miller 1982, 175-176). The following year he was promoted to the office of Recorder of the City of London.

The Recorder was (and is) the most senior judge; holders of the office actually or effectively had the status of Aldermen of the City of London, and several also served in parliament. The attributes required for the post were described in the *Liber Albus*, a book of the history and practice of Common Law published by John Carpenter in 1419 (Carrel 2006, 177-179). The Recorder should be ‘one of the most skilful and virtuous apprentices at law in the whole kingdom ... a man more especially imbued with knowledge and conspicuous for the brilliancy of his eloquence’ (Verney 2000, 50-51). Brooke again had the support of Henry VIII in his appointment to this post, which led rapidly to a parliamentary career – within days he was elected to the House of Commons and by the end of the year he was also granted the freedom of the City as a member of the Mercers’ Company (Miller 1982, 176). Brooke was subsequently re-elected to the first parliament of Edward VI’s reign. In 1549 he sponsored a bill ‘for preaching divers opinions’, but otherwise performed an entirely collaborative role in the Protestant agenda of his King. Between 1552 and 1554 Brooke was involved in the post-dissolution

consequences of the previous Chantries Act: he sat on a commission to reform the canon law, enabled the passing of a bill to safeguard the interests of holders of former monastic estates, and was among a group commissioned to draw up new legislation which made it treason to state that the King was 'an heretic, schismatic, infidel or usurper of the crown' (5 and 6 Edw. VI, c. 11; Miller 1982, 176).

Although Robert Brooke was known as a Catholic to his contemporaries, his abilities and loyalty to the crown clearly mattered more in the context of his parliamentary and legal career. However both aspects of his identity were rewarded on the accession of Queen Mary. Within the space of nine months, between April 1554 and January 1555, Brooke had become Speaker of the House of Commons, Lord Chief Justice of the Common Pleas, and a Knight; this latter courtesy of Queen Mary's husband Philip, King of Spain from 1556. This rapid acceleration may have been partly due to his natural sympathy for the idea of a Catholic Queen on the throne. The reality of the House of Commons was that it met for little over a month in 1554, from 2nd April until 5th May. The perfect example of Brooke's equivocation came in the 1554 repeal of the punishment of treasons legislation which he had worked on under Edward VI; as Recorder he was responsible for confirming the legitimacy of the repeal of the legislation which he had helped to draft as Common Serjeant (5 and 6 Edw. VI, c. 11; Miller 1982, 176).

Parliamentary and legal careers were complementary, and Robert Brooke retained a high profile in both: thus he was made double Lent Reader at the Middle Temple in 1551, and Sergeant-at-Law at Michaelmas 1552 (Hopwood 1904, 80; Foster 1891, 171-200). In this period Brooke may also have spent some time in chambers at Gray's Inn (Chalmers 1812, 7:50). He continued to be involved in prominent legal cases, and published several well-regarded accounts of his cases and commentaries on the law – which were informed as much by his experience of framing legislation as of interpreting it (Brooke 1573; Brooke 1576; Brooke 1641) (**Fig. 3.06**). Chalmers' biography notes that these works were 'a general epitome of all that could be had' of their type; they were republished in full or in part throughout the sixteenth and seventeenth centuries, and are regarded as one of the 'books of authority' on early English law (Chalmers 1812, 7:50).

Brooke was able to use his position in the legal and parliamentary system to assist and support his Shropshire neighbours, and thus reinforce his gentry position. For example he sponsored the admission of several sons of Shropshire gentry families into the Middle Temple. This included that of John Giffard on 14th February 1551 who paid 'a hogshead

of wine' for the privilege (Hopwood 1904, 79). Later, again at Brooke's 'special instance' William Wolriche, 'son and heir of the John Wolriche, late of Quatt', was admitted on 18th October 1555 to the lower chamber with one 'Gatacre' (surely another relative, although there are no other references to him) and Wollascott (Hopwood 1904, 102). There may have been a family connection between Gatacre and Wolriche; certainly later generations of these families intermarried, a 1611 settlement ensuring that the Gatacres kept their eponymous estates, whilst the Wolriches retained the Manor of Hughley (NA: C 3/389/9). Robert Brooke's connection with Wollascot may also suggest an association with another Shropshire Catholic gentry family, the Plowdens. Humphrey Plowden (1490-1557) had married Elizabeth Wollascot; their son Edmund Plowden (1517-1584) entered the Middle Temple in 1538 and was regarded by Camden as so 'singularly well learned in the common laws of England ... [that] ... he was second to no man of his profession'; he was Reader at the Middle Temple by 1560 and Treasurer from 1564 until 1571 (Camden 1635, 270). Basil Brooke was an associate of Edmund Plowden's grandson.

Robert Brooke was also able to develop his London contacts in a way which enabled both his own success and that of subsequent generations. His early appointments show that he was known to Henry VIII, and the fact that he was also able to maintain high office under both Edward VI and Mary suggests a degree of political adroitness as well as the eloquence that was a requirement of the role of Recorder. He would also have encountered influential people outside his Middle Temple circles, including Thomas, 1st Baron Audley of Walden (c.1488-1544), on whose Commission for Peace Brooke had been appointed in 1538 (LPFD XIII(1), f.115/30). Audley had succeeded Francis Bacon as Lord Chancellor; Brooke is also likely to have been involved in the legal training of future Lord Chancellors Sir Thomas Bromley (1530-1587) and Sir Christopher Hatton (1540-1591). Contemporaries at Grays Inn would have included Thomas Cromwell, 1st Earl of Essex, (c.1485-1540) and another Lord Chancellor: Thomas Wriothesley, 1st Earl of Southampton (1505-1550) (Douthwaite 1886, 196-199). Brooke was a contemporary of Sir William Petre (d.1572), another ambitious Catholic lawyer who became a member of the Privy Council; unique among mid-Tudor Privy Councillors for his unbroken service throughout the reigns of Henry, Edward, Mary and Elizabeth (Knighton 2007).

Robert Brooke positioned himself perfectly to acquire useful slices of property emerging from the dissolution, and was evidently sufficiently tactically aware to ensure that his career trajectory was not interrupted by the significant fluctuations in religion, politics and allegiance that characterised English history during the 1530s, 1540s and 1550s. His

identity was very much framed by his career in London – he was, after all, MP there for the best part of a decade (November 1545 until March 1555), and he seems to have had little direct involvement with the Madeley estate.

John Brooke appears to have been the least performative of the three generations. Hints at his identity are only fleetingly visible through documentary sources: his industrial role as a collier, and some transactions in London. John followed his father's path to the Middle Temple, where he was first admitted on 25th November 1557, aged 19, paying 40s. and so gaining 'exemption from all offices except those of Marshal, Steward at Christmas and Reader' (Hopwood 1904, 114). However John appears only intermittently in the Temple records during the 1560s, with the final reference to 'Mr. Broke's chamber' in 1571 (Hopwood 1904, 184). It seems reasonable to conclude from John's absence in the records of the legal profession that he instead invested his energies in other activities. The foundations built by Robert Brooke helpfully included land with a great deal of coal, and the evidence suggests that John Brooke directed most of his energies towards the development of the Madeley estate. This be a reflection of the paucity of evidence; it might also reflect a less flamboyant personality from that of his father and son.

Basil Brooke (**Fig. 3.07**) made good use of the social networks developed during his gentry upbringing. His legal education at Exeter College and in the Middle Temple in the 1590s provided the skills necessary to negotiate political and social advancement, as well as to undertake day-to-day business and property dealings. Like his father, and unlike his grandfather, Basil Brooke chose not to follow a legal career, instead spending time abroad and developing contacts at the French and Italian courts, as well as increasing his learning in literature, the classics, and technology (Roberts 1910, 450-460; Höltgen 1999, 602-603). Ironically, most of the primary documentary record for Basil Brooke's thoughts, actions and mind-set, is the result of his engagement with the legal system on various levels. Through marriage and civic roles Basil Brooke maintained the solidity of his regional gentry connections, such as with the Giffard family; he also maintained a wide range of social networks around his industrial activities. At the same time Brooke also developed aristocratic and Royal connections. Some of these resulted from, and resulted in, the development of high-level national and international business networks. These included his links with the Earl of Shrewsbury and early steelmaking; his friendship with Sir John Winter and the Earl of Pembroke through an ironworking partnership; and his involvement in the chemical industries with Thomas Bushell, and through him connections with Sir Francis Bacon.



Fig. 3.07. Basil Brooke. An eighteenth- or nineteenth-century copy of an early-seventeenth century image. The original is now lost, together with any information about its context or provenance. Source: Unknown artist, *Sr. Bazill Brooke*, etching. National Portrait Gallery, London. NPG D39627.

The most significant of these high-level relationships was with Queen Henrietta Maria, the French Catholic wife of Charles I. Basil Brooke had become her 'friend and confidant' at some point during the 1620s (Höltgen 1999, 602-603). This had probably come about as a result of his increasing prominence in pan-European Catholic politics, and his expression of views with which she was sympathetic. These aspects are addressed more fully in the following section; it is sufficient to note here that Brooke's correspondence with the French court in 1623 and 1624 was supportive of the marriage of the Catholic princess to the then Prince Charles (BL Kings MSS 134/448-450; Höltgen 1999, 602-603). This was during the period of intense Anglo-French diplomacy which resulted in Charles I's marriage to Henrietta Maria in 1625, and it is possible that Brooke came to her attention then. Their friendship continued until the political disruptions of the 1640s.

Performance at a variety of social events was a necessary part of maintaining and cultivating these political and business connections. Whereas his grandfather had chosen law courts and parliament as theatres for performance and network-building, Basil Brooke is known to have attended and hosted a variety of social events which involved more explicitly theatrical, dramatic and literary performances. These ranged from elaborate Royal masques to friendly hunting dinners. Direct documentary evidence for this is slight, but there are enough pinpricks to enable some conclusions to be inferred about Basil Brooke's role in the broader social scene of which he was a part. Equally, Brooke's relationships in these areas provide a nuanced understanding of the continually-shifting ethical and philosophical sands upon which he had to stand.

One popular form of entertainment and political expression was the masque. This had emerged in Renaissance Italy, but was rapidly and widely adopted in north-western Europe during the sixteenth century. The art form in England reached its apogee during the reigns of King James VI/I and King Charles I – consisting of elaborately-choreographed dances, music and songs, all designed to extol the virtues of the monarch and to show him at the centre of the world (Barroll 1998, 123-124). The early-seventeenth century saw the development of the literary and visual aspects of the masque, under the influence of Ben Jonson and Inigo Jones. Jonson initially sought to raise the status of the masque text to that of other dramatic works, and subsequently developed the concept into a unified art form (Orgel 1981, 63, 116-118); Jones deployed perspective in the creation of the scenery in a way that placed the King at the visual centre (West 2003, 26-29).

Despite the fact that the intention of the masque was to emphasise the patriarchal role of the monarch, both Queen Anne and Queen Henrietta Maria exerted a direct influence on the development of the form. Anne performed in several masques – albeit silently – and she also began to deploy masques in more overtly political and diplomatic functions than the traditional celebrations of courtship and marriage (Barroll 1998, 122-123). Henrietta Maria promoted some of the most lavish masques ever seen, and also acted and sang in them; she continued the development of their role as subversive performances (Sanders 2000, 449-450). Her earliest appearance had been in a ballet at the French court in 1624 in the role of Venus, probably performed as part of the political seduction of Prince Charles (Gough 2002, 444-445). Henrietta Maria used the masque to send sophisticated messages about Catholicism and Platonic love; it has been argued that in the longer term she facilitated the acceptance of women actors in the English theatre (Saunders 2000, 463-464). Literature and drama were also important mechanisms for the representation of Catholic ritual that was denied in the established church. Whether these representations were the result of Catholic wistfulness for the old faith, or a Protestant caricature of papism, is the subject of debate (Greenblatt 2001; Rist 2008). Nevertheless dramatic performances were certainly capable of expressing a wide range of political sentiments.

Basil Brooke is known to have attended at least one masque. On 1st May 1604, Sir William Cornwallis hosted a masque for King James VI/I and Queen Anne, in the gardens at Arundel House in London. Catholic associations were strong – the location was the property of the Dukes of Norfolk, and Cornwallis' father was a well-known recusant (Hasler 1982; Walford 1878, 389-405). The event was notable for two things: the performance of an 'entertainment' entitled *The Penates*, especially composed by Ben Jonson; and Basil Brooke being knighted that evening by the King (Foster 1891, 171-200). Johnson's piece was bawdy and 'pushed ... the limits of familiarity' with direct references to the King's eye for women and the Queen's appetite for drink (Miles 1990, 90-92). Brooke's extensive courtly, aristocratic and business connections suggest that this was not the only masque he would have attended. There are two other likely candidates, on the basis of his interests and the circles he moved in. One was a masque at Christmas 1613, which celebrated the marriage of the Earl of Somerset and Lady Francis Howard, daughter of Thomas Howard, and included works by Ben Jonson, Thomas Campion and Francis Bacon (Adams 2008, 36). The other took place in August 1636 which unveiled 'Mr. Bushell's Rocke' to Charles I and Henrietta Maria – Bushell and Brooke had recently become business partners.



Fig. 3.08. Genealogy, mythology and masque. A multi-generational genealogical collage of selected Bourbons, in costume as characters at a masque. Henrietta Maria is seated with trident on the left. Source: Jean Nocret, 1670, *Portrait mythologique de la famille de Louis XIV*, oil on canvas. Château de Versailles, Paris. MV 2157.

Other performances (or at least appearances) were literary as well as dramatic. In the 1640s Brooke published a translation of a French Jesuit text, which he dedicated to Henrietta Maria; this is discussed below in the context of Brooke's Catholicism. It is also worth noting Brooke's mention in the work of the Herefordshire-born poet, satirist and calligrapher John Davies. Davies moved to London in 1603 and in the following two decades produced 12 volumes of poetry containing 24,000 lines. This ranged from theological commentary to 'bawdy epigrams' – however the quality was variable: the critic Brian Vickers has remarked that 'every thorough reader will wish that Davies had written far less verse, and taken more care over it' (Vickers 2005). The reference to Brooke comes in a bizarre work called *The Scourge of Folly* 'consisting of Satyricall Epigramms, and others in honor of many noble and worthy Persons of our Land' (Davies 1611). This includes nearly 300 observations on a wide range of subjects, people and

events. For most scholars of English literature its primary interest lies in Epigram 159, which features William Shakespeare, and adjacent Epigrams to Ben Jonson and 'no-one' (fuelling the persistent speculation about Shakespeare's authorship of his works). However Epigram 284 concerns 'my much honored & intirely beloved friend, Sir Basill Brooke, Knight'.

'Cleere Brooke wherein the Muses bathe themselves,
And Nectar's Streames of Helicon do fleete;
Whose Posey-Banks delight the fairy-Elves:
Sith all the verdure smells (as Basill) sweete.
To thee (sweet Muse-delighting Basil'd-Brooke)
These Cast all Droppes descend from Loves high Speare:
But, falling through my Clowdy Braine; they tooke
Some soile unworthie Thee; which thou wilt cleare:
For, (like a Diamond) though that black thou bee,
Yet being Cleare (as deere) thei'l cleare in Thee.'

Apart from being a series of puns on his name, there is little here about the man and his works. By placing Brooke at Helicon, Davies is making associations with a variety of classical themes which were popular in the Renaissance. Temples to Eros and the Muses, and the spring in which Narcissus gazed at his own reflection, were all located on Mount Helicon; this is perhaps a reference to Brooke's enjoyment of social occasions. The last three lines may refer to some aspect of metal refining, or the production of metal from ore. However in the light of the rest of Davies' work, the lines could equally be a relatively meaningless piece of wordplay. Nevertheless, Brooke's inclusion in Davies' list of 'noble and worthy persons' demonstrates that by the end of the first decade of the seventeenth century he had a high social profile and was well-connected.

Finally, there were dinners and hunting parties: a staple of gentry lifestyle, cementing bonds between neighbours, friends and families – and to an extent alleviating the boredom of rural life (Heal and Holmes 1984, 289-292). Basil Brooke's attendance at one such event was well documented. This was a house-warming hunt and feast at John Giffard's newly-built hunting lodge on his estate at Chillington; the house-warming, which took place in c.1630, is described in retrospect in an account of Charles II's escape after the Battle of Worcester (Blount 1660). According to this account, Giffard 'invited Sir Basil Brooke with other friends and neighbours to a house-warming feast; at which

time Sir Basil was desired by Mr. Giffard to give the house a name. He aptly called it Boscobel (from the Italian *bosco bello*, which in that language signifies fair wood) because seated in the midst of many fair woods' (Blount 1660, 7). Giffard was also a Catholic, and such an occasion may have also been an opportunity for discussion of political strategy – as was famously the case with the Dunchurch meeting of the Gunpowder Plot, disguised as a hunting party (Nicholls 2007, 790-792). However such events would also have been part of normal social activity; the fact that they were attended by Catholics is probably as much a reflection of Brooke's own circles – the result of several generations of carefully-designed genealogical moves – as it is evidence of any particular religious gathering.

3.3 Religion and the politics of religion

Notwithstanding the fact that many of the Brookes' activities and social circles were typical of all contemporaneous gentry families, the extent to which they consciously expressed and reflected a Catholic identity requires serious consideration. Indeed, one of the most visible elements of the Brookes' historical identity is their Catholicism. This is most evident from a simple genealogical study: the marriages they made and arranged were partly to secure their gentry identity, but all of these matches were made with Catholic families. It is also the case that many business connections were also Catholics.

The Brookes' Catholicism spans two periods. The first, in the late sixteenth century, saw several violent fluctuations in the official status of religion (in the opposing forces of Edward VI and Mary) with more or less tolerant periods under Henry VIII and Elizabeth I (although the latter not without its difficulties). The seventeenth century, however, began in a relatively benign manner for Catholics with the accession of James VI/I – who was himself equivocal: making much of his Protestant faith in England whilst lining up for the succession, and at the same time promoting his Catholic credentials to the Pope in Rome (Schneider 2015, 128-129). Thereafter the situation deteriorated. The arrival of Queen Henrietta Maria in 1625 was seen at the time as a beacon for Catholic gentry; in retrospect her role ended up as an unwitting Protestant flame which lured the Catholic moths to their demise – her character and behaviour helped to fuel the fierce Protestant backlash of the late 1630s and 1640s.

The identity of gentry families is central to the debate around the extent to which English Catholicism during this period represented a continuation of pre-Reformation

traditions (a 'survivalist' school of thought), or a revival as a result of Jesuit missions and other influences from elsewhere in Europe (a 'seminarist' point of view). It is notable that both 'seminarist' and 'survivalist' viewpoints accept that a Catholic identity was the primary identity of both gentry and non-gentry families (Bossy 1975, 281-283; Haigh 1981b, 143-145). Moreover, expressions of that identity are seen as being essentially framed by religious practice, either in the observance or the breach of it. In the case of the latter, several scholars have focused on anti-Catholic feeling and the tensions between Catholic and non-Catholic religious identities (Milton 1999; Lualdi 2004). It has been suggested that this was almost a national phenomenon, resulting from contemporary fears that the emerging English nation was 'facing great danger from an enemy which [would] surely attempt its destruction at some time' (Weiner 1971, 61-62). More recent scholarship suggests a more complex picture, highlighting the various ways in which Catholics were able to accommodate their Catholicism with the conformity to the social and political demands of the Protestant hegemony (Walsham 2011b, 155-156). Overt recusancy was not the only strategy: many families negotiated 'private treaties of internal toleration', and these family experiences led individuals within government to moderate anti-recusancy legislation and action (Jones 2002, 33-39; Jenkins 2005, 313). Particularly complex strategies were required by those – such as the Brookes – who were both Royalist and Catholic and so caught between two increasingly contesting sovereignties.

Robert Brooke's Catholicism was in a way unremarkable – all Englishmen of his generation would have been brought up as Catholics. Deeply imbued notions of faith did not simply disappear overnight, although their expression in actions and documents might have become suddenly more muted (Heal and Holmes 1994, 350-351; Duffy 1992, 508-509). The equivocation that ensured Robert Brooke's survival in parliament and the courts of law would also have been applied in family and personal life; these equivocations to an extent also created the turbulence of the period. As late as 1580 as much as one-third of the peerage was firmly Catholic, with about a sixth 'Anglican' and most of the rest 'indifferent to religion'; only ten peers could be described as 'Puritan' (Morey 1978, 134). The proportions among the gentry are more difficult to quantify, but were probably similar (Heal and Holmes 1994, 352-355). The lack of meaningful primary documentary sources for the Brooke family prevent close scrutiny of the politics of their Catholicism – certainly for Robert and John. However the fact that they survived and the dynasty prospered suggests that a pragmatic course was steered.

The Brookes' pragmatism is highlighted by the actions of contemporary Catholic gentry industrialists in the English midlands, and the consequences of those actions. The trajectory of the Paget family provides one example. William Paget had been able to keep his faith 'moderate, conservative and private', and so retired in dignity and with the forgiveness of Queen Mary (Hawkyard 1982, 486). His son Thomas, on the other hand, appears to have become 'tinged with the Catholicism' of John Caius whilst at Cambridge (Anderson 1975, 226-227). His radicalism rapidly escalated from disrupting church services in Staffordshire to involvement in the Throckmorton Plot; with his brother Charles he may also have been involved in the Babington Plot (Anderson 1975, 229-230; Clifford 1809, 14-16). Thomas Paget was attainted in 1589 for plotting against the Queen, and spent the last two years of his life in exile in Spain (Anderson 1975, 239-240). The Brookes' absence from the records of the well-honed anti-conspiracy apparatus of the Elizabethan state suggests that they kept their distance from such plots. The only evidence to suggest that John Brooke may have been at least open to some of the influences of exiled recusants is the appearance of a 'Mr. Brooke' on a list of English papists in France that compiled in April 1580 (CPSD Elizabeth I, 14/279). For the sixteenth century, then, the Brooke family's Catholicism was visible but not radical; any revolutionary sympathies that they may have had were held in check by their loyalty to the crown.

Basil Brooke, on the other hand, became increasingly politically active from the early 1620s. This appears to have stemmed from distinct but overlapping spheres of influence: his business connections, and his personal engagement with the Jesuit missions. Certainly his business connections were mainly Catholics, and some had radical associations. An example is provided by his partners in the nascent chemical industry: Sir Richard Weston, Sir Edward Stradling and others. Stradling's grandfather was connected by marriage to the Earls of Arundel; he was also recruited under Queen Mary as a persecutor of heretics (Griffiths 1963, 39-47). Sir Edward's father, Sir John Stradling, had been a learned and widely-read man, who wrote numerous histories, travel guides and Catholic tracts, including *A Politike Discourse* which advocated a moderate Catholicism (NLW: 5666c). Stradling had also visited Spain in the 1570s with the Glamorgan recusant William Griffith, and the two were involved in facilitating the resulting Jesuit mission from Italy in the 1580s (Pugh 1986; Carrafielo 1994). Sir Richard Weston would have been an important ally for Basil Brooke at court: he was Chancellor of the Exchequer under James VI/I and Charles II (Alexander 1975).

Basil Brooke was not himself a Jesuit, but maintained very close contact with Jesuits in England, and would have had opportunities – and perhaps motives – to visit Jesuit seminaries in Europe. He was for example a close friend and executor of the 9th Earl of Shrewsbury, who was a patron of the Jesuits in England (Questier 2005, 42). The Society of Jesus had been formed in 1540, by Ignatius of Loyola and nine followers. By the 1620s there were over 14,000 Jesuits throughout Europe, with missions in the Americas and China (Smith 2002, 14-16). The Jesuits were activists. Their mission was to combat the Protestant Reformation; their weapons were education and diplomacy; and they were committed to another reformation – of Roman Catholic institutions and structures. They considered that individuals were expected to take responsibility for realising and developing their own personal relationship with God (O'Malley 1993, 18-25).

Brooke's Jesuit associations may have encouraged him in his increasing agitations on the role of Catholics in public office. In 1620, for example, he wrote a memorandum to members of the Royal Council concerning the oaths of supremacy and allegiance, and their implications for Anglo-Spanish relations (BL: Add. MSS 21203). In 1622 Brooke wrote a paper urging that the 'disabilities and incapacities of Catholickes to serve in offices be taken away, leaving the disposition of offices wholly in His Majesties pleasure' (Questier 2009, 10). This was followed by lobbying to the French court, as noted above, including an appeal to Louis XIII for mediation in the matter, in a letter to the French ambassador Henry Auguste de Loménie, Sieur de la Ville aux Clercs in 1624 (BL: Add. MSS 21203).


The Jesuits were the co-ordinators of the efforts of the Roman Catholic Church to re-establish itself in England during the first half of the seventeenth century (O'Malley 1993, 212-225). Basil Brooke was closely involved in these efforts. During this period the Roman Catholic Church used the title 'Bishop of Chalcedon' as an honorary bishopric for vicars apostolic in England during the seventeenth century (the 'bishopric' in fact covered England, Wales and Scotland). The first appointment, in 1623, was the aptly-named William Bishop – by then aged 70, but with a long history of Jesuit training and action in England and abroad. He arrived in England at the end of that year, but fell ill, and died in Basil Brooke's St Sepulchre house in April 1624 (Cooper 1863, 82). Brooke was immediately involved in negotiations with his successor, Richard Smith, about the authority of Catholic bishops over lay Catholics. A warrant was issued for Smith's arrest in 1628; he resigned and escaped to Paris in 1631 (Bossy 1975, 56-57, 60). In 1634 the process was revived. Gregory Panzani was a papal envoy sent to gauge the appetite for

an English return to the Roman church, and to attempt to smooth the rivalries between Catholic factions in England. Panzani and Brooke met in January 1635. Brooke indicated that he would support the restoration of local Catholic bishops, but only if the King approved; however the King's approval was not important to Panzani (Berington 1793, 177-178). In this moment of equivocation, perhaps Brooke's pragmatic loyalty to the crown resurfaced. From this point Brooke became more active in supporting the cause of the regular clergy against episcopal government in England. He later became treasurer of the contributions made by English Catholics towards defraying the costs of the King's war against Scotland (Cooper 1863, 81).

Jesuit education strategy involved a variety of activities: building schools and churches, teaching classes, putting on plays and performances, and the use of art (Smith 2002, 7). Art was consciously developed as an essential component of the Jesuit mission and pedagogic philosophy: it existed to 'engage the senses, the intellect and the spirit of the individual' (Smith 2002, 8-9). The publication of treatises, catechisms and allegories was an important way of disseminating Jesuit education through art.

In this vein, Basil Brooke published his own translation of the work of a French Jesuit author, Nicolas Caussin, which he dedicated to Henrietta Maria (Caussin 1661). *Entertainments for Lent* (Fig. 3.10) comprised a gospel reading for each day of lent, each followed by a commentary on the 'Moralties' and 'Aspirations' which could be drawn from it. The date of the original publication is not known – only later editions, published after the Restoration, survive – but clues in Brooke's dedicatory epistle suggest it was probably written in the early 1640s. Brooke referred to 'all your Majesties extreme afflictions, dangers and pressures at Sea and Land': this was time when the Queen was becoming increasingly unpopular, and was regularly travelling back to France to raise support for the Royalist cause (White 206, 20). He also noted that his translation was made 'in the solitude of a Prison, which was made more easie by some relation it had to your Majesties service' (Caussin 1661, np). Brooke had been briefly imprisoned in York early 1642 for his part in co-ordinating Royalist fundraising among Catholics. The final sentence of the dedication suggests an awareness of impending death – both his own and that of the Queen. Describing how the Queen had 'patiently endured so many unjust and rigorous Crosses in the Mount Calvary of this world' he hoped for her glory in the next, and described himself as her 'most humby devoted Beadsman'. A beadsman was an almsman whose duty was to pray for the souls of their benefactor.

ENTERTAINMENTS
 For
L E N T.
 First
 Written in *French*, and Translated by *Sir B. B.*
 The delight of sinne is momentary, the torment Eternal.



L O N D O N. 1661
 Printed for *I. W.* and are to be sold
 by *Thilemon Stephens* the younger at the
 Kings Arms over against the
 middle Temple gate in
 Fleet-streete. 1661.

To the most Excellent
 Majesty of *Henriette Maria*,
 Queen of Great Britain.

Madame,

Amongst all the publick joyes for
 your Majesties happy return, I
 know not better how to expresse
 my own particular, then by most
 humbly presenting to your Maje-
 sty my Translation of this excellent French
 Book, in the solitude of a Prison, which was
 made more easie by some relation it had to your
 Majesties service.

And I presume the rather upon this Dedi-
 cation, because all that good which is derived
 to us from France, (whereof I conceive this
 may be a part) should receive honour and in-
 crease of value from your Majesty, that it may
 diffuse it self with more authority and profit
 amongst those who may be capable to receive
 it. Your Majestie, (having read the Originall)
 hath well know, that the principall scope of it is
 to teach the love of God, and contempt of this
 world, with many other principall vertue.

And for the practise of them all, this age
 could not have hoped for so rare an example to
 instruct all the great Ladies of Christendome
 as it hath found in your Majesty, as well by
 your admirable fortitude, and perfect resigna-

A 2 tion

Fig. 3.10. The delight of sinne is momentary, the torment Eternal. Title page and first page of the dedication to Henrietta Maria in a 1661 edition of *Entertainments for Lent*, translated by Basil Brooke, probably in c.1642. Source: Caussin 1661.

This is the only book known to have been published by Brooke, and it suggests that by the 1640s he had more or less abandoned a pragmatic middle political course: here he was quite clearly expressing both his loyalty to the Queen and his Catholicism – as well as a sense of doom. This is understandable in the context of the events of 1641 and 1642, both nationally and in his own life: Brooke died in 1646. Henrietta Maria survived until 1669, eventually succumbing to an opium overdose (White 2006, 193).

In earlier happier times, Basil Brooke had maintained a friendship with the Jesuit Henry Hawkins. Hawkins was an author of recusant literature whose best-known work was his *Partheneia Sacra* of 1633, dedicated to the Marian Sodalites. The Marian Sodalites had

emerged from another strand of the Jesuit mission: an evangelical revival and expansion of the medieval tradition of philanthropic confraternities (Black 2000, 65-67; O'Malley 1993, 192-195). The Marian Congregation, also known as the 'Sodality of Our Lady', was established in the 1580s and became one of the most important of these. It was 'especially effective in propagating the worship of the Immaculate Conception' (Lottes 1975b, 272); and indeed it has been argued that the Marian Sodalites were 'strikingly important in forming patterns of lay piety in many areas of Europe' (O'Malley 1993, 198). Hawkins was a long-standing and influential member of the English Jesuit mission, and Brooke and Hawkins had probably known each other since the late 1620s; Brooke appears to have hosted Hawkins at Madeley on at least one occasion (Höltgen 1999, 602-603). In 1632 Hawkins published his translation of Giovanni Pietro Maffei's *Fuga saeculi*, a study of the lives of 17 saints (**Fig. 3.10**). This work was dedicated to Basil Brooke: the dedication describes Hawkins as 'secure and confident', under the cover of Brooke's 'noble patronage'; however he conspicuously avoids stating the motives 'which I had for this dedication' instead (as with Davies, cited above) using the name Brooke as a pun for a torrent of knowledge and invoking Narcissus (Hawkins 1632, np).

The *Partheneia Sacra* was a more significant work. It was an allegorical stroll through a garden, made as an emblem book, a formulaic format with medieval origins. Scholarship is divided as to whether this was another translation, or an original work – it is probably a combination of the two (Lottes 1975a; Lottes 1975b). The allegory is that of a garden, the *hortus conclusus*, which contains 21 symbols of Mary: the rose, the lily, the violet, the heliotropion (sunflower), the dew, the bee, the heavens, the iris (rainbow), the moon, the star, the olive, the nightingale, the palm, the house, the hen, the pearl, the dove, the fountain, the mount, the sea, and the ship; two additional symbols – the phoenix and the swan – are added at the end, outside the garden. Each symbol is described in nine sections: Devise and Embleme (both pictures), Poesie (a poem), Character, Morals, Essay, Discourse, Theories, Apostrophe (all prose); the work draws the reader in from the physical characteristics of each symbol to their theological importance (**Fig. 3.11**). It is very likely that Brooke and Hawkins would have discussed the themes of this work, and it is possible that they did so whilst admiring the landscape at Madeley and remarking on its symbolic qualities.

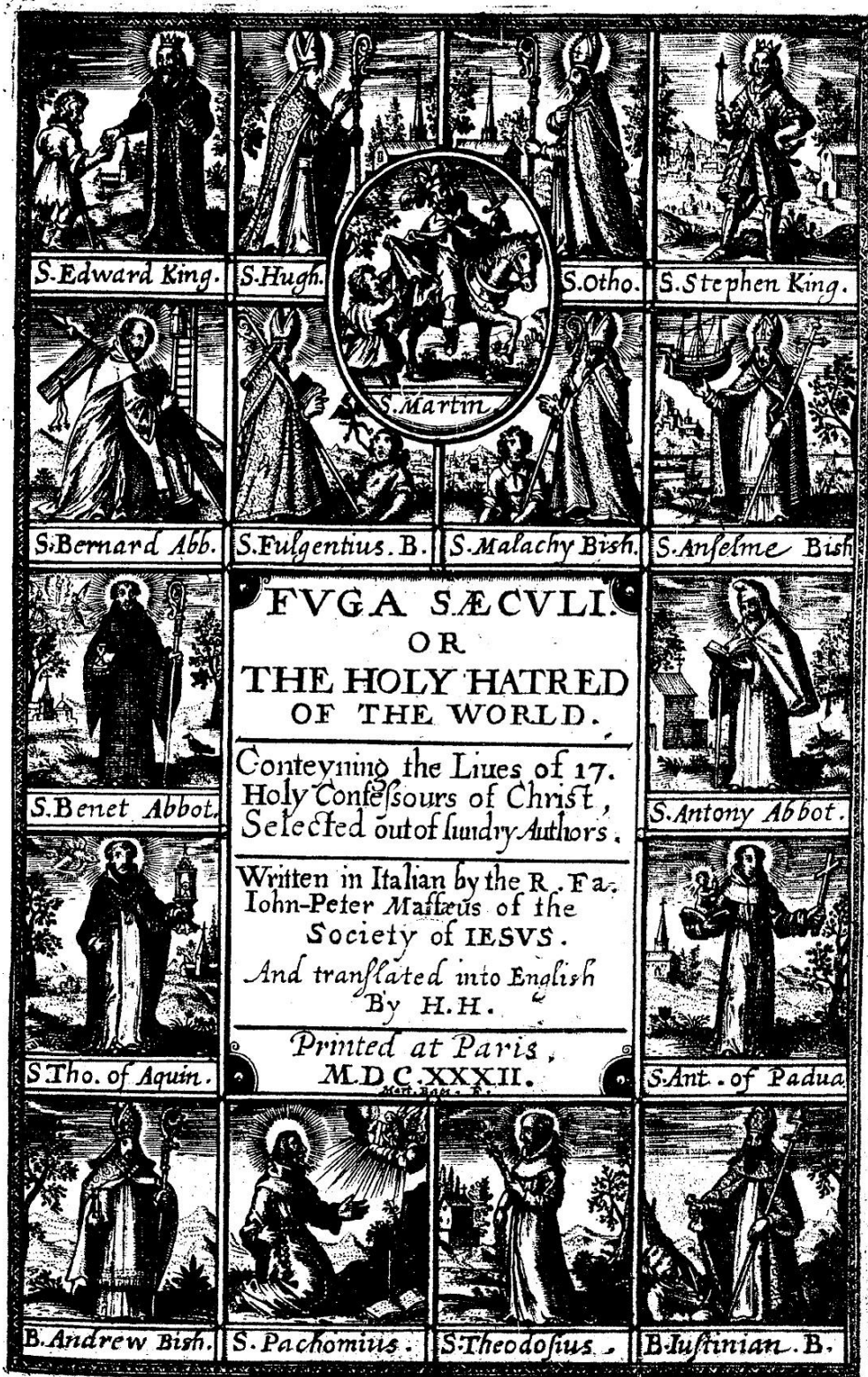


Fig. 3.11. The holy hatred of the world. Title page of the first edition of Henry Hawkins' translation of Giovanni Pietro Maffei's *Fuga saeculi*, dedicated to Basil Brooke. Source: Maffei 1632.

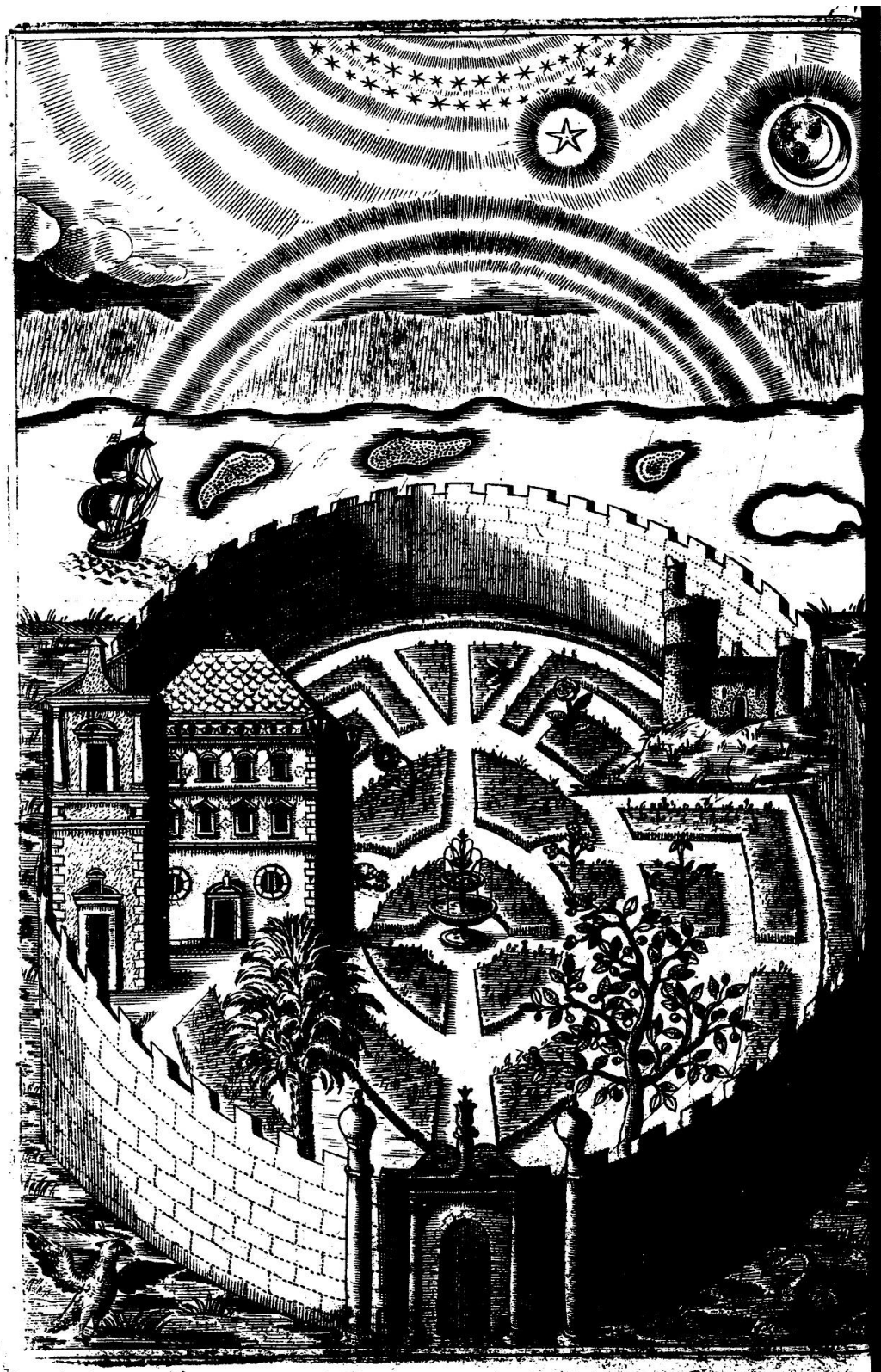


Fig. 3.12. An allegorical landscape. Frontispiece of the first edition of Henry Hawkins' *Partheneia Sacra* (1633), showing a circular garden containing symbols of the Immaculate Conception. Source: Hawkins 1633.

3.4 The pre-dissolution estate: structure and meaning

An appreciation of allegorical landscape was informed by the very solid reality of authority over the physical landscape. Regardless of social and political ambitions, the cornerstone of gentry status remained the long-term ownership of land. The Manor of Madeley was the centre of the world which John Brooke and Basil Brooke occupied, and its purchase had been one of the legacies of their celebrated ancestor Robert Brooke. This acquisition can therefore be seen both as a display of upward mobility, and as an element in the construction of lineage and genealogy – the antiquity of which was part of the Brookes' identity as gentry, and may also have reinforced claims of Catholic continuity. As Alexandra Walsham (2011b, 18) has noted, medieval and earlier landscape developments are 'integral to the story' of how the landscape was altered and perceived during the sixteenth and seventeenth centuries. It is therefore necessary to consider the administrative, physical and symbolic development of the pre-dissolution estate in order to understand the subsequent effects of the agency of the Brooke family upon it.

Madeley was acquired by the monastery of Much Wenlock in c.720 (Finberg 1961, 148, 203-206). Much Wenlock monastery (later priory) owned the Manor of Madeley for over 800 years, and was the most important non-geological influence on its development before the sixteenth century. It is therefore worth briefly describing its foundation and early history. Much Wenlock was founded by King Merewald of Magonsaete in the late-seventh century, on the model of a double monastery headed by an abbess; Merewald's daughter Milburga subsequently became the abbess at Wenlock (Bateson 1899, 145-148; Dunbar 1904, 234-235; Edwards 1964, 149-52; Graham 1939, 120; Woods 1987, 59). By the eleventh century the women's community appears to have gone out of existence, and the men's community may have transformed into a group of secular canons serving a minster (Stevenson and Duignan 1911, 5; Gaydon and Pugh 1973, 38-39). The institution was re-founded between 1079 and 1083 by Earl Roger of Shrewsbury, who had been William the Conqueror's regent in France (Page 1908, 312; Mason 1963, 3-12). Roger had been a benefactor of Cluny, and so Wenlock became a Cluniac Priory (Knowles and Hadcock 1971, 96-98). The Priory embarked on a programme of restoration and enlargement, during which the tomb of St Milburga was 'discovered' (probably in c.1101), and the subsequent disinterment and display of her relics lent the alien priory a respectable link with the earlier foundation as well as providing income from pilgrims (Woods 1978, 38).

The Manor of Madeley was the fourth-largest of Much Wenlock's landholdings in Shropshire. It was described at Domesday thus:

'The church [of St. Milburga] itself holds Madeley, and held it in the time of King Edward. There is 1 hide not paying geld and 3 other hides paying geld. In demesne are 2 ploughs; and 6 villans and 4 bordars with 4 ploughs. There are 4 slaves, and 6 ploughs more might be there. [There is] woodland for fattening 400 pigs. In the time of King Edward it was worth £4; now 50s.' (NA: Domesday f.252v).

With woodland for 400 pigs, Madeley contained slightly over 35% of all of the priory's Shropshire woodland, more than any other estate including Much Wenlock itself (Saunders 1971, 136-140). Woodland also supported hunting of wild or semi-wild game, including deer, rabbits and woodland birds; this long-established and widespread role was formalised, and in some cases made a more exclusive one, by the post-Conquest creation of Forests (Darby 1977, 172-174; Sykes 2006, 162-164). Madeley, together with Dawley, Malinslee and Ketley, may have formed part of the Royal Forest of Mount Gilbert until 1301 (Eyton 1854, 1:319). Otherwise the Domesday valuation of Madeley is unexceptional in the context of the Wenlock Priory estates. Madeley had slightly more than 10% of the plough-land available to the Priory. It had 6 ploughs, but '6 ploughs more might be there', suggesting that as much as half the land was uncultivated; this is consistent with the Domesday picture across Shropshire generally of the under-cultivation of plough-lands (Saunders 1971, 123-124). This suggests that, with the exception of the extensive woodland, Madeley had no substantial pre-Conquest assets – such as mining or other industrial activities – at this stage. No church was recorded in Madeley at Domesday; the place was little more than a rural farmstead.

The evidence suggests that the creation of a settlement at Madeley, and concomitantly the development of the resources of the wider parish, was undertaken as a deliberate plantation by the Priory (Gaydon and Pugh 1973, 41). This policy was probably a direct result of the Cluniac administration, and appears to have been particularly ambitious under the energetic leadership of Prior Humbert between 1221 and 1260. The three key developments were a church and a grange, with a settlement strung between them (**Fig. 3.13**).⁶

⁶ The pre-dissolution landscape of the wider estate, and the extent of pre-dissolution industrialisation, are addressed in Chapters 4 and 6.

The church stood on a prominent knoll overlooking both the Severn Gorge to the south and the settlement, as it later developed, to the north. The church was dedicated to St Michael (Arnold-Forster 1899, 1:38). The medieval building may have contained twelfth century fabric; according to earlier sources ‘the lower part of the tower may have been Norman’ (Cranage 1897, 205). A retrospective engraving of c.1790 shows a building with a central tower, a nave, a chancel and a chapel or aisle on the north side of the chancel and a small porch on the south side (IGMT: SS/MT73). The window details suggest a thirteenth or fourteenth century date. The establishment of the church pre-dated Prior Humbert: it was certainly in existence by c.1218, when the living was a rectory (Cranage 1897, 3:205; BL: Add.MS.21181, f.10). Master Philip, a physician, was rector in c.1220, but for the next hundred years the rectors (appointed by the alien priory) were foreigners (SA: 327/9; Eyton 1854, 8:61; Gaydon and Pugh 1973, 40-46). James Giffard was briefly the rector in the 1320s, the first evidence of the long standing connections between Madeley and the Giffard family (LJRO: B/A/1/2, f.202; LJRO: B/A/1/3, f.4). The dedication to St Michael is worth brief consideration. There are many instances of hill-top churches being dedicated to St Michael – there are particularly well-known examples in Normandy and Cornwall – but the Much Wenlock decision to dedicate the new church at Madeley to St Michael may also have been intended to project his role a defender of the faith. One aspect of post-Conquest Catholicism was its superimposition of a more internationally-recognised cohort of saints over local – and perhaps dangerously unorthodox – saints from earlier periods of Christian colonialism (Walsham 2011b, 40-46). Just as with the appropriation and display of St Milburga, an earlier local saint, in the creation and dedication of Madeley church the priory was arguably articulating its power over the landscape, and emphasising the importance of orthodox theology and the centrality of the Roman Catholic Church.

The priory established a grange at Madeley Court, at about the same time as the creation of the church. The evidence of the built fabric suggests twelfth-century origins, and expansion during the thirteenth century with the addition of a hall, chambers and chapel (Moffett and Meeson 2009, 77). In 1262 the prior was permitted to enclose eight acres at Madeley for cultivation (Gaydon and Pugh 1973, 41; Baugh 1985, 22). A small deer park followed: a dyke and hedge were permitted in 1283, and the King made a gift of deer to restock the park in 1290 (Lyte 1949, 488). This park was subsequently recorded in the fourteenth century, when the park and demesne included horse pasture, a rabbit warren, a dovecot, fishponds, and a swannery (SA: 2280/2/45; SA: 2280/2/48). A fish weir recorded on the Severn in 1575 was probably of medieval origin and may have

belonged to the grange (NMR: 1177140). The location of the fishponds is thought to have been on the south side of the grange (Moffett and Meeson 2009, 4), but this is not certain. Despite post-1700 modifications, it is evident that Madeley Court lies close to the spring source of the Mad Brooke. It is possible therefore that its location there was motivated both by practical considerations and symbolic ones. Medieval Christianisation of the landscape included the removal or appropriation of pagan sites of worship. As well as obvious human creations such as stone circles and barrows, a variety of natural places – including springs, hills, trees, rocks and groves – were also Christianised by their rededication. There are several examples where churches were erected close to springs, or where existing holy wells were rededicated to Christian saints and so brought ‘into the ambit of Christian orthodoxy’ (Walsham 2011b, 35).

The placement of the monastic grange at or near the spring at Madeley may have represented such an act; the establishment of the settlement itself could have been motivated – or at least informed – by similar considerations. Nearly 20% of all English new towns during this period were founded by monastic institutions (Beresford 1967), and in many cases the opportunity was taken to entirely reshape the landscape. Thus in the twelfth century, Durham Cathedral Priory embarked on an ambitious and centrally-co-ordinated programme of augmenting existing settlements and establishing new plantations (Campney 1989). Such programmes were sometimes motivated by the need to tame the wastes, as in the twelfth century case of Temple Bruer (Lincolnshire), founded ‘on a wild tract of heathland’ and apparently successful in attracting an immigrant population (Bond 2004, 245). This colonisation of ‘wild’ spaces has its echoes elsewhere in Europe. In Germany, for example, there was a deliberate monastic policy of establishing plantations in forested areas. These *Waldhufendörfer* were intended to exploit mineral resources (for example for glassmaking) as well as establishing agricultural landscapes (Nitz 1983, 106-110; Schreg 2009, 321-323).

The development of the settlement probably began in 1250, when the priory cleared assarts in the Royal Forest; it gained retrospective permission for houses built at Madeley the following year (Eyton 1854, 3:320; Rowley 1972, 179). A subsidiary settlement at Coalbrookdale was mentioned in 1274 and 1327 (Eyton 1854:3, 320-321). A charter for a market and fair at Madeley was granted to Much Wenlock on 6 July 1269; market day was on Tuesdays, and the fair was to be on the vigil, feast and morrow of St Matthew

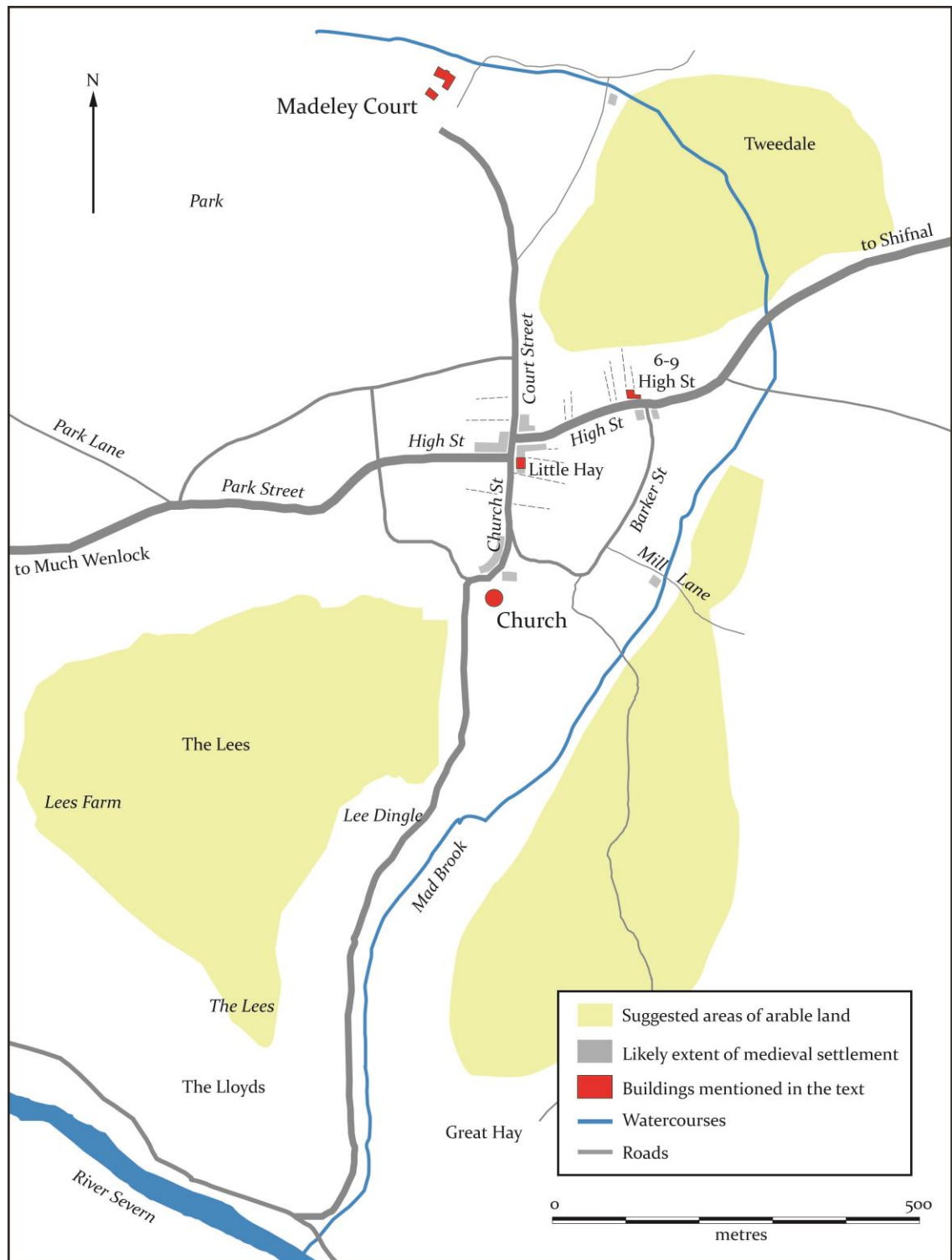


Fig. 3.13. A designed landscape: medieval Madeley. The suggested extent of arable land is derived from field names and boundaries on the 1847 Tithe Map; medieval plot boundaries are from field evidence and nineteenth-century mapping. Source: author.

(21st September) (Letters 2003, 123). The location of the post-medieval market was on the later 'High Street', although its original location may have been further south, where a triangular green survives near the church. The market was arguably the most important element in most new settlements of the middle ages, regardless of their formal legal status (Randolph 1995, 291-292; Slater 1982, 174-178). Madeley was located roughly halfway between the Saxon burhs of Shrewsbury and Bridgnorth; it was also exactly halfway between Wenlock and Shifnal, both in existence by the eighth century (Pretty 1989, 176). Madeley therefore had the potential to develop as a trading hub at the junction of established routes – this was probably the most important consideration in its establishment regardless of any statement being made about the power and authority of the Church.

The main road between Much Wenlock and Shifnal, running broadly east-west, is conventionally interpreted as the 'spine' of the medieval plantation settlement, probably due to its later role as the High Street (Baugh 1985, 27; Phillpotts 2009, 54). The roads to the south are described in the VCH as 'southward loops' giving access to the 'open fields of the original settlement' (Baugh 1985, 27). However the Wenlock-Shifnal road appears also to have formed at least part of the southern boundary of the Park (the western part of the road is known as Park Street and Park Lane), so it is arguably more likely that the original intention of the design had been to contain the settlement to the south of this road. The 'two loops' could instead be interpreted as three parallel roads; the central one (now Court Street and part of Church Street) leading directly from the Church to Madeley Court. In this model the outer two roads – Church Street to the west and Barker Street (now Station Road) to the east – represent the back lanes of a settlement oriented north-south, with plots oriented east-west. This is interpretation borne out by the survival of 'The Little Hay', a timber-framed house with a central cruck frame (perhaps a former open hall) and a cross wing with jettied gables (**Fig. 3.13**), oriented east-west with the narrow street frontage opening onto the central north-south spine of Church Street. Although the originally intended design of the plantation may have been north-south, this was subverted during the later middle ages. A late medieval timber-framed house on the north side of the High Street (Nos. 6-9) incorporates an open hall with a two-storey cross wing at the eastern end (**Fig. 3.14**).

Understanding Madeley as a thirteenth-century monastic plantation oriented north-south – to all intents and purposes created as a planned space in *terra nullis* – invites further consideration of any symbolic intent on the part of the priory in its creation.



Fig. 3.14. 'Little Hay', Church Street, Madeley. Source: author



Fig. 3.15. 6-9 High Street, Madeley. Source: author.

Bringing order to the landscape represented a physical enactment of the deeply-held Catholic philosophy of man's dominance over nature; by the thirteenth century this was being articulated with reference to Aristotelian thought, as expressed by Thomas Aquinas (Binde 2001, 18). Furthermore the medieval urban form reflected mystical meaning, the terrestrial city was an 'image and anticipation' of the city of God (Eco 1988, 183-184), the form of which might enable – as with sculpture and other forms of artistic expression – 'the divine mysteries to be conveyed to an uncultured people' (Aquinas, cited in Eco 1988, 156).

Aquinas did not prescribe a specific plan form, although the early twelfth century neoplatonist William of Conches described how the city 'imitated the divine arrangement' of the human body, with 'wisdom' at the head and labour at the feet (Dutton 1983, 91). This and subsequent town plan metaphors were deployed to equate urban planning with divine order, referencing Biblical descriptions of Jerusalem (*Ezekiel* 48; *Revelations* 21; Kostof 1991, 173; Park 1994, 226-227). Some simply described existing plans that happened to form the shape of a cross, particularly those with gates at the cardinal points of the compass – such as Chester and Padua (Lilley 2001, 15; Lilley 2004, 300). In other cases the plan-form was deliberately designed or modified to make it so – during the fourteenth century replanning of Mells (Somerset), Abbot Selwood added an extra street to create a cruciform plan (Bond 2004, 245). In plan, Madeley is in the shape of a cross, with the grange at its head and the church at its heart (Fig. 3.13).

Although a cruciform plan could be read as an embodiment of Christian symbolism, it is just as likely to represent a pragmatic development. In any event the settlement was slow to develop. By the 1320s, 25 tenants held 52 burgages in the 'town of the new market of Madeley' (Phillpotts 2009, 54). Madeley became a Borough in 1426 (Beresford and Finberg 1973, 152), although this does not seem to have encouraged an immediate and significant growth in the settlement. There were 'not many more than 60 burgage plots' built on before the seventeenth century (Baugh 1985, 29; SA: 2280/2/45). Certainly the town does not appear to have expanded much beyond its late fourteenth-century peak before the dissolution, and the ambitious three-street plan was never entirely built on until the second half of the nineteenth century. Frequent fines were imposed in the Manorial Court for neglect of property. For example in the early fifteenth century Richard de Lightfield was reprimanded for failing to repair his 'burgage tenement in the new town'; John Bokenhale and his son between them held three 'burgages in the new town' which they had not repaired (SA: 1224/2/6/143). Despite its small size, the daily life

reflected in the Manorial Court records suggests an established community by this period, with occupational surnames including 'le mercer', 'le Flesshever', 'le Tailleur' and 'le dauber' (SA 1224/2/1). There were the usual petty thefts, nuisances and random acts of violence which still characterise Madeley today (Mumford 1977, 170-171).

3.5 Discussion

This chapter has introduced several manifestations of the Brookes' expression of identity. At the heart of all of them was their role as gentry. Already solid by the early sixteenth century, this identity was enhanced by careful genealogical selection and by successful legal, parliamentary and industrial careers. In many ways then the Brookes were both established gentry and *nouveaux riches*. Certainly they could point to a long and well-connected Shropshire pedigree, as long-standing landowners who had made suitable contributions to the civic life of the county over several generations. However this pedigree was located at Claverley. The acquisition of the Manor of Madeley was a significant change in the family trajectory. Not only did it relocate the primary geographical focus of the Brookes, but it also enabled the relocation of the primary economic focus: effectively in two generations the family went from minor rural gentry to wealthy industrialists involved in international politics. It is not surprising therefore to find this reflected in the Brookes' monumental expressions of their gentry genealogy: the memorials faced both backwards and forwards in time, and acknowledged both the family's history and its aspirations. They partly displayed a conventional 'blood and land' legitimisation of their lineage and class inheritance. The location of Robert Brooke's tomb at Claverley emphasised particularly the family's local landholdings and close relationships with other local families. The tombs of John Brooke and Basil Brooke at Madeley – although now fragmented – also show similar priorities: the inscriptions emphasise good gentry and Catholic lineage. However, by incorporating extensive information about their education, intellectual achievements and civil service, the Brookes also foregrounded the humanist virtues favoured by other aspiring groups, and so simultaneously presented themselves as upwardly mobile and ambitious.

Their upwardly-mobile ambition was remarkably successful, and increasingly it was enabled by their Catholic associations. Basil Brooke's political manoeuvrings were entirely the result of his Catholicism, and their intensity and radicalism increased during the 1620s and 1630s. This was precisely the time when his social world was shrinking, in the sense that his access to non-Catholics – and particularly the

institutions of state – was becoming more and more difficult. It was therefore perhaps inevitable that the dynamics of a group that saw itself as beleaguered and under threat led to Brooke's close involvement with the Jesuits, with the Roman Catholic Church's attempts at an English revival, and with the increasingly unpopular Queen Henrietta Maria. A prominent Catholic identity was not unusual in the sixteenth century – even though it may have been periodically more or less advantageous – but it became a positive liability as the seventeenth century went on. Yet that identity was at times vigorously expressed, in writing and in actions, and was inscribed in stone on the tombs at Madeley. Nevertheless it was expressed cautiously: it is worth noting that the Madeley inscriptions are in Latin, so making their meaning accessible to a very small and elite audience – whereas the earlier epitaph of Robert Brooke, made in a more equivocal age, is in English. To an extent the later Brookes were hiding their Catholicism in plain sight.

The Catholicism supplemented the genealogical references and the location of the tombs in reinforcing continuity as a key element of gentry identity. These statements about continuity were augmented by their appropriation of the former landscape – and thus the authority – of Much Wenlock priory. The extent to which any intended thirteenth-century landscape symbolism existed is itself questionable. It is indeed quite possible that Prior Humbert's motivation for the creation of Madeley Court, and subsequently the settlement, was entirely pragmatic: good woodland and hunting ground and a population to manage it, together with revenue from the market and passing trade. Even if the display of Christian symbolism did inform the creation of Madeley – whether as a simple statement of authority or a more sophisticated reflection of the hierarchy of God's creation and the martyrdom of Christ – it is extremely doubtful that this symbolism would have been a factor in Robert Brooke's decision to acquire the estate. He was probably generally aware of the work of Thomas Aquinas and other early humanists; although perhaps less so their philosophies of town planning. His busy London-centred career, and the fact of his local links being elsewhere in Shropshire, mean that he would not necessarily have been particularly familiar with the Madeley landscape in any case. Rather it seems that Brooke's acquisition was motivated by its proximity to Claverley, and its potential for future development. It is however more likely that some elements of the pre-dissolution landscape held spiritual meaning both for the local population, and for subsequent generations of the Brooke family.

Dissolution, acquisition and opportunity

On 26th January 1540 the monastery of Much Wenlock ‘and all its possessions in the counties of Salop, London, Sussex, Chester, and Staffordshire, and elsewhere in England, Wales, and the marches thereof’ was surrendered to the Crown by John Cressege (NA: SC 6/Hen. VIII/3021). Contemporaries would have been in no doubt that this was a permanent change, rather than another temporary fluctuation in the fortunes of an institution which had existed in one form or another for the best part of 900 years. The permanence of this change was dramatically underlined when the sacred bones of St. Milburga were removed from their reliquary and publicly burned at the Priory gates (Gifford Brown 1990, 3-4).

Pensions were assigned to the former monks in the usual manner. John Baylie, the Prior, was given £80 and was also allowed to stay at Madeley Court until his death in 1553 (Moffet *et al.* 2009, 30). Some of the monks went on to undertake pastoral duties in the neighbourhood, and the sub-prior became a chantry priest (Gaydon and Pugh 1973, 46). The disposal of the former priory estates began in June 1543, with land at Jackfield and a large part of the Manor of Broseley; the Manor of Oxenbold followed in January 1544, and farms in Dutton, Eyton and Sutton and ‘two tenements at Bishops Gate in London’ and in May and June of that year (LPFD: XVIII(1) f.802/29, 40; LPFD: XVIII(1) f.981/53; LPFD: XIV(1) f.80/29, 64; LPFD: XIV(1) f.610/116; LPFD: XIV(1) f.812/114; LPFD: XIV(1) f.1035/55, 128, 131). The sale of former monastic land by the Crown accelerated in the summer of 1544. In July alone over 200 grants of former monastic land were made, including more of the Wenlock portfolio: the Manor of Eyton with its various tithes; land in Dutton and the former ‘house, &c., of the late Friars Minors of Bridgenorthe’, and land, rents and properties in Much Wenlock, Walton, Atterley and Marsh (LPFD XIV(1) f.1035/128, 131, 157).

On 23rd July 1544 Robert Brooke paid £946 3s. 8d. for ‘the manor of Madeley, Salop, which belonged to Wenlock priory, the advowson of Madeley vicarage ... Calbroke Smethe in Madeley, and tithes in Madeley, in tenure of Richard Chorleton, pensions of 3s. out of Madeley vicarage, and 3s. 4d. out of Badgyer rectory, and rent of assize of 20s. in the town of Badgyer, Salop, all which belonged to Wenlock’ (NA C66/744 m.29; LPFD XIV(1) f.1035/144; SA: 245/1; SA: 5735/2/13).



Fig. 4.01. A Renaissance vision of an industrial landscape. An early-sixteenth century Dutch painting using perspective to generate a 'world view'. Mining is depicted in the foreground, with a blast furnace in the centre and a forge to the left.

Source: Herri Met de Blès, c.1540, *Landscape with ironworks and mines*, oil on board (detail). Galleria degli Uffizi, Florence. 00289202.

4. Landscape visions

However violent and totemic, the dissolution was only one of several events in a long period of Reformation, which played out well into the seventeenth century (Wallace 2004). Nevertheless the physical removal of monastic buildings, and the fragmentation of their landscapes, was a key marker in the transition from ‘medieval’ to ‘modern’ in England. The destruction of monasteries, chantries and other religious buildings was accompanied by the dismantling of holy wells and other sacred places in the landscape. Motives may have been mixed, but the underlying message of the Protestant ascendancy was that God was everywhere, and the sanctification of particular spaces was idolatrous (Walsham 2012b, 122-124). Perhaps inevitably, Protestants and Catholics alike responded to the loss of old sanctified spaces by creating new ones. The same humanist threads that had informed the Reformation were also looking at landscape in new ways; developing new perceptions of the natural world and how to observe it, modify it and exploit it.

This chapter examines the role that the landscape may have played in expressing the Brookes’ identities as gentry, as Catholics, and as learned innovators. Continuity is an important theme in this chapter and the following one. Certainly it is possible to trace the continuity of some landscape elements, and to a large extent it is also possible to see that there is a continuity in the evolution of mind-set and philosophy which informed the development of the landscape. The development of the ‘Renaissance landscape’ in Protestant north-western Europe followed the same sort of aesthetic trajectory as it had done in the Catholic south; therefore it is harder to tease out self-consciously Catholic expressions of identity in English landscapes of this period. For Catholic Royalists such as the Brookes, survival was often a matter of pragmatic equivocation, and therefore ambiguity in landscape design would be expected.

4.1 Philosophies and perceptions of landscape

The gradual transformation of the garden, park and wider estate around Madeley Court after the dissolution needs to be considered in the context of broader developments in landscape philosophy during the sixteenth and seventeenth centuries. Two particular strands of scholarly enquiry are relevant to investigating how the design of a post-dissolution gentry landscape by a dynasty of Catholics might be placed. These involve

the development of Renaissance garden ideals and their application in landscapes created by the English gentry, and the role of Catholic worship, memory and commemoration in the Reformation landscape. The developments at Madeley also need to be considered in the broader social and cultural history of the period.

Renaissance gardens have their origins in contemporary Neoplatonist philosophy concerning the relationships between art and artifice on the one hand, and nature and God on the other. Thus humans were empowered to create visions of nature, and to develop ways of imitating and improving on nature, 'since nature herself was only imitating a higher, natural sphere' (Werrett 2001, 133). To some extent the creation of the Renaissance garden was undertaken in order to 'reveal man's dominance' over nature (Coffin 1960, 38); some contemporary references suggest that this may indeed have been part of the philosophical *raison d'être* for such gardens – so Baccio Bandinelli's response to a 1551 commission for a fountain in the Baboli garden was to say that 'the things one builds must be superior to those one plants' (cited in Lazzaro 1990, 27). It has been argued that some twentieth-century scholarship has over-emphasised this narrative of domination; such a narrative may have had its roots in mid-century appropriation of landscape design by Fascist agendas: for example a Mussolini-era exhibition catalogue on 'The Italian Garden' defined the Renaissance garden as the expression of the 'dominion of man over nature' (Lazarro 2005, 157-169; Morgan 2011, 172).

More recent work suggests instead that contemporary perceptions may have been more about exploring, challenging and enjoying the relationships between 'art', 'artifice', 'nature', 'monstrosity' and 'invention'. In other words the relationship between art and nature was 'collaborative rather than oppositional' (Morgan 2011, 173). Designers of gardens and other landscapes spoke in terms of a 'third nature which represented the blending of nature and art' (Werrett 2001, 133). It is worth noting that there was virtually no knowledge at this time of what the gardens of Classical antiquity were actually like, so the designers of the Renaissance garden had a free hand that enabled them to reflect contemporary world views, and contemporary views of the Classical past (Morgan 2011, 178). The garden represented a space that was between art and nature. The Renaissance garden was essentially a microcosm of the universe, ordered according to the latest trajectories of post-humanist thought, and thus changeable. The sixteenth century Renaissance universe was of course composed of 'nature' (the natural environment as we might see it today), the 'grotesque' (wild and wonderful places of the imagination –

no less God's work as they had been brought into being by the human mind), and the 'scientific' (that marvellous world of rainbows, stars, planets, and measurement). All of these things co-existed in the Renaissance garden, which was contrived to ensure that the 'boundaries between art and nature were dissolved over and over again' (Werrett 2001, 134).

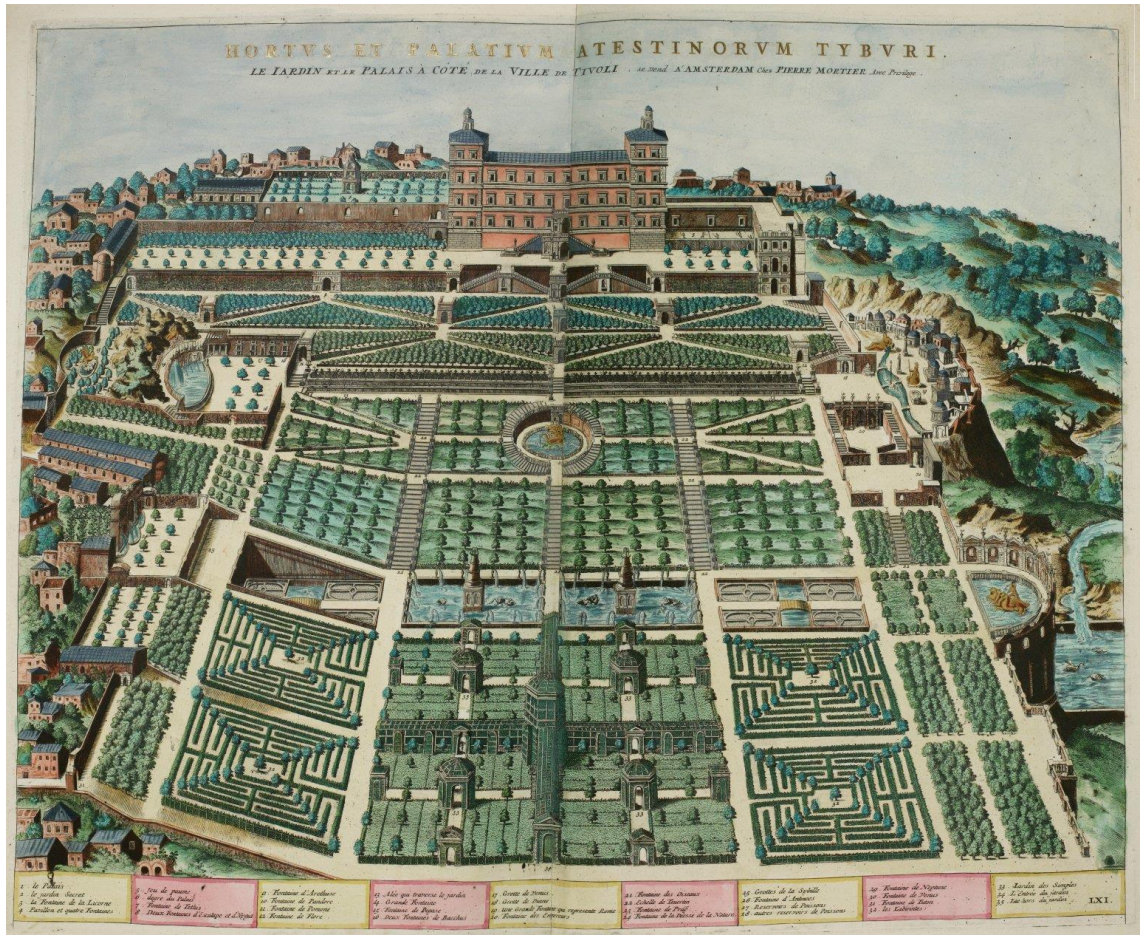
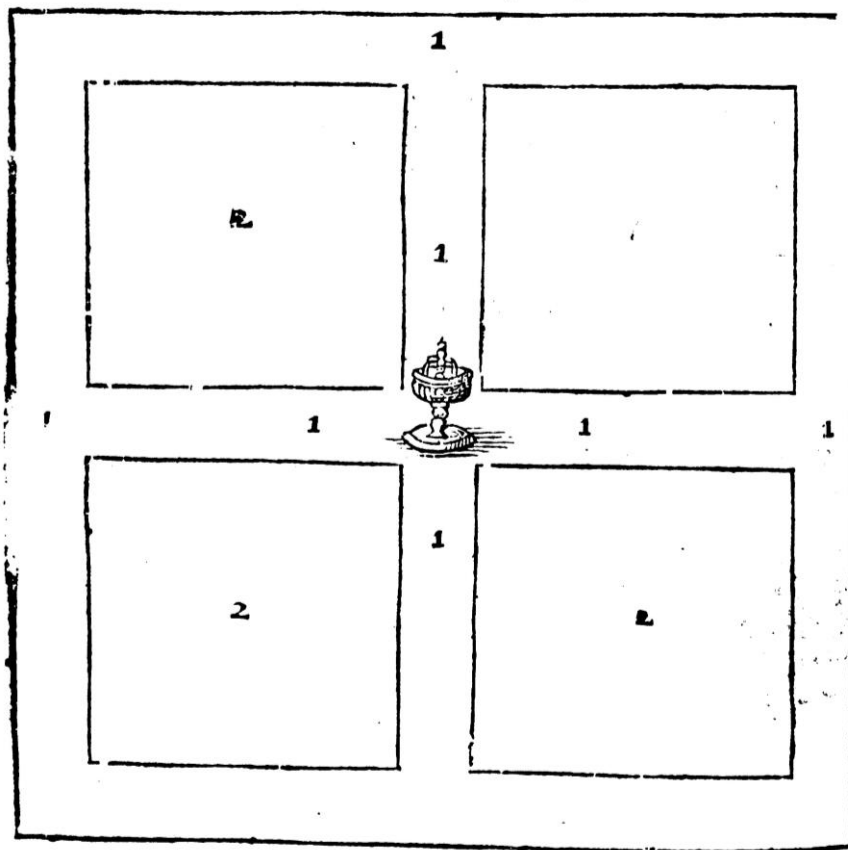


Fig. 4.02. A Renaissance vision of a classical compartmented garden landscape – the Villa d’Este in the second half of the sixteenth century. Source: Étienne Dupérac c.1570, *Villa d’Este, Tivoli*, hand-coloured engraving. Galleria Borghese, Rome.

In order for boundaries to be dissoluble, they needed to exist in the first place, and an important feature of the overall arrangement of the Renaissance garden was its subdivision into a series of ‘compartments’. One of the earliest and most famous expressions of this was at the Villa d’Este, the gardens of which were laid out in the 1560s and 1570s (Coffin 1960, 110–115) (Fig. 4.02). This concept found its way to England by way of the Netherlands, and was recommended practice by the early-seventeenth

century. An English gardening handbook of 1613 advised that, once the ‘perfect ground plot’ had been found for an orchard, ‘you shall then cast it into a great large square ... you will then cast four large alleyes ... which will divide the great square into four lesser squares’; if there was enough room it was further suggested that a second plot be similarly arranged at a higher level ‘with convenient staires of state ascending to the same’ (Markham 1613, 120-121) (Fig. 4.03). The ‘compartment system’ could be seen as a ‘new concern for order and harmony’, but elements of it had their origins in medieval gardens (Jacques 1999, 34-36). Thus elements such as arbours, fountains, mounts and raised beds were retained and developed. Latticed rails, which had emerged in the mid-fifteenth century as a means of subdividing parts of the garden, were also retained, featuring in Royal gardens well into the second half of the sixteenth century, although from that point onwards replaced in form – if not in function – by increasingly elaborate topiary hedging (Jacques 1999, 36-37).



Now when you have found out a perfect ground plot,

Fig. 4.03. Creating order: ‘compartiments’ in an English orchard; early-seventeenth century instructions for arranging garden spaces. Source: Markham 1613, 210.

Two important and related elements of the Renaissance garden were grottoes and fountains (Fig. 4.04). These features both served to emphasise the breaking down of boundaries between ‘art’ and ‘nature’, and both also appealed to the Neoplatonist perception of nature as playful. Sixteenth century naturalists – inspired by Ovid and Aristotle – imbued nature with imagination that enabled her to ‘escape from the weariness of her more mundane tasks, turning the process of creation into an aesthetic expression’ (Findlen 1990, 298). The idea of the grotto emerged following the late-fifteenth century discovery of the frescoes at Nero’s pleasure palace of *Domus Aurea*, buried under later developments and therefore interpreted in the sixteenth century as having originally been underground chambers (Kayser 1963, 20). From the Italian word *grottesca* (*grotta* = cave) emerged the term ‘grotesque’ which encompassed the full repertoire of playful and boundary-crossing devices that were deployed in the Renaissance garden. One important element of the grotto was the notion of the ‘gaping mouth’ or ‘hell mouth’. On the one hand this was part of the Renaissance genre of *colossi*, a symbolic representation of the material body. On the other hand – unlike other *colossi* – the ‘hell mouth’ had a ‘participatory dimension’: it was intended to be penetrated (Morgan 2011, 168). That such sculptures appear unfinished was also part of their design: the unfinished grotesque body was open, enabling a constantly changing relationship and interface with the natural world (Kayser 1963, 18-19).

There was an important relationship between the grotesque in garden design and the traditions of carnival associated with festivals and celebrations – in which the established order was turned upside-down (Morgan 2011, 172-173). The Renaissance garden was the location for plays, masques and other entertainments which made use of the embodied symbolism of both temporary and permanent grotesque structures. These were occasions for social networking. Fountains were important instruments by which the inherent playfulness represented by the ‘grotesque’ could be expressed. As well as well-known playful ‘water jokes’ – in which unsuspecting visitors were suddenly drenched by hidden mechanisms – the garden would also contain both real creatures and mythical or grotesque automata, thus further blurring the distinction between ‘art’ and ‘nature’ (Lazarro 1990, 138-143). By locating fountains within grottoes the effect was multiplied (Werrett 2001, 134). The total immersion of the senses was an important part of the Renaissance garden – one mid-sixteenth century observer noted how fountains were as much about ‘hearing, bathing and tasting’ as they were about visual appearance (Claudio Tolomei, cited in Morgan 2011, 171).

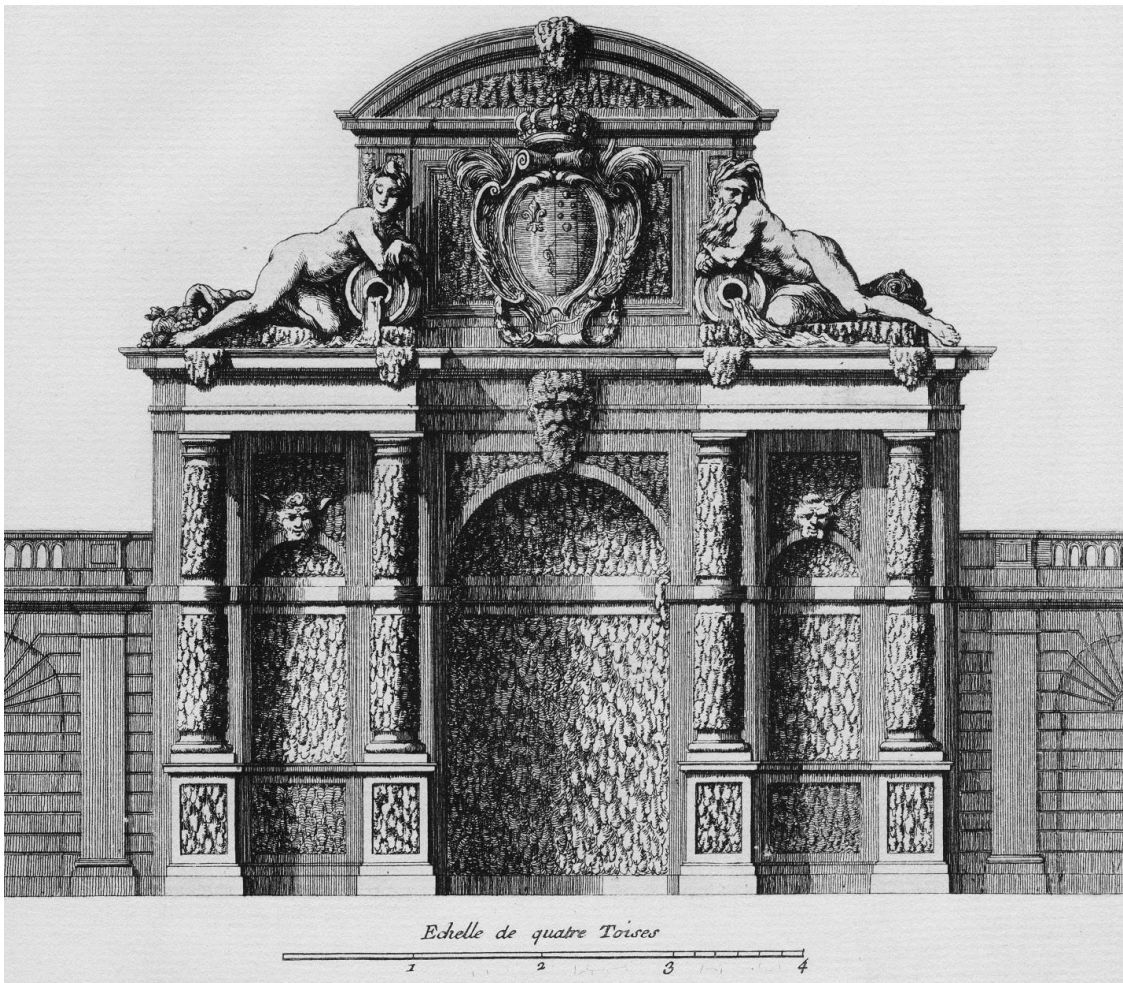


Fig. 4.04. A seventeenth-century northern European interpretation of an Italian Renaissance grotto and fountain. *La fontaine Médicis* was built in the Jardin du Luxembourg (Paris) in c.1630 by Marie de Medici, the regent of Louis XIII (father of Henrietta Maria), in homage to the Renaissance ideals of her ancestors. Source: Blondel 1752–1756, Vol. 3, No. 8, Pl. 9.

The visual element of the fountain was developed during the sixteenth century in the form of the ‘rainbow fountain’ – a fountain deliberately contrived to create rainbows. One early elaborate example had been installed at the Villa d’Este by 1577 (Coffin 1960, 101–117), and such fountains subsequently became a ‘commonplace spectacle in the palatial gardens of sixteenth and early seventeenth century Europe’ (Werrett 2001, 132). Rainbow fountains were important not just as a spectacle of human artifice imitating – and even surpassing – nature, but also as a springboard for scientific enquiry. The early seventeenth century Jesuit philosopher Henri van Etten, for example, argued strongly

that such devices should encourage a higher level of intellectual and spiritual enquiry to increase knowledge (Eamon 1994, 303-316). This call was taken up by Descartes, who used the engineering and aesthetic qualities of the rainbow fountain to arrive at a mathematical understanding of the rainbow (Werrett 2001, 141-146). The work of Descartes and others in the first part of the seventeenth century, whilst indebted to the marvels of the Renaissance garden as inspiration for research, ultimately called into question the philosophy which underpinned it – so that Cartesian thought suggested that the whole of the universe was a giant machine or automaton. However this was not inconsistent with Michelangelo's earlier equation of the concept of the 'monstrous' with that of 'invention' (Morgan 2011, 176).

A second strand of landscape philosophy is one which has attracted a much smaller field of scholarly endeavour: the investigation of a specifically Catholic understanding of landscape. Again this work has taken place almost entirely outside the archaeological canon. Christian understanding of landscape in the study period was deeply rooted in the Greek philosophical division between mind and matter. In contrast to Aristotle's harmony of body and soul, Plato proposed that the body was the origin of irrationality and the soul was closer to the divine and rational. Thus man was a divine being, in contrast to animals and matter which did not possess souls. This was articulated in the early Christian theology such as that of St. Gregory of Nyssa and St. Augustine during the fourth and fifth centuries; it was supported by the Biblical notion of original sin, and evinced in that theology by subsequent events such as God's curse on Cain and the Flood (*Genesis* 4:10-14; *Genesis* 6:5-12; Binde 2001, 16). Early Christian thinkers saw the evolution of mountains, valleys and coastlines as a later modification of the earth's original perfectly spherical form – modifications which were the consequence of human sin (Nicholson 1959). As a result of his rationality and divinity, Man was appointed by God to 'replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth' (*Genesis* 1:28). The basic concept that mankind should dominate nature has formed the basis for a 'multiplicity of models for social organisation' (Binde 2001, 22-24). These models were not static, and different theological elements could be harnessed to support a number of positions. Binde (2001, 19-21) notes a spectrum between a formal hierarchical system of 'domination' and a more relaxed approach which saw man as a custodian and even guardian of the natural world, deploying saints and mythological figures to mediate between rationality and irrationality. The early modern Catholic mindset saw a close relationship, or 'likeness', between the world, the city and the

human body, which ‘pointed to the same hand in their creation’. (Eliade 1959, 165, 172-179). Man could engineer the landscape to provide a ‘map of Christian belief and meaning’ (Lilley 2004, 296).

However, as part of the post-Humanist philosophical spectrum, Catholic philosophy in the early modern period could simultaneously accept the role of nature as divine, and as a ‘realm of supernatural forces’ (Binde 2001, 19-21). Indeed divine and supernatural element of the landscape may well have increased in significance for Catholics in post-Reformation northern Europe, as other expressions of faith were denied or destroyed. Pre-Reformation landscape elements ‘continued to provide a frame of reference for local societies’; in some cases their survival into the post-medieval period – and that of more intangible cultural heritage such as feast days – was a result of their connection to the agricultural rhythms of the rural landscape (Whyte 2009, 132-133). In other cases the landscape was more bitterly contested. It was clear that Protestant iconoclasts were well aware of the potential power of sacred places in the landscape: the Glastonbury thorn, cut down in the sixteenth century, was one of the earliest victims (Walsham 2012b, 122). Lay Catholic sentiment certainly continued to venerate former chapels, springs and wells – although to what extent these practices extended up the social ladder is not clear (Walsham 2012a, 39-41).

It is worth noting here that the sixteenth century French Calvinist architect Bernard Palissy attempted – whilst using the same springboard of neo-Platonist philosophy – to ‘subvert Catholic order’ in garden design. In designing gardens for his clients, Palissy used secular structures such as the fortress as inspiration for display of a reformed ideology and ‘to protect Protestants, physically’ (Randall 1994, 350). If Palissy could operate as a subversive Protestant in a Catholic hegemony, then the reverse is also likely to have been true for wealthy Catholics in newly-Protestant England. A series of gardens created by Catholics in England at this time is considered below; their subversiveness varied. Although a distinctively Catholic view of landscape, within the traditions of post-humanist Renaissance thought, may have been emerging at this time, it is not clear that it yet formed a coherent language or school of landscape design – as it arguably did in the nineteenth century.

4.2 Landscape design in Britain

The adoption of Renaissance landscape philosophies in Britain took place at different rates depending on the relevance of particular design elements to the local climate, existing social and cultural preferences and hierarchies, and geographical location. Renaissance philosophy was always tempered by prevailing local customs, as well as indigenous developments and interpretations. In the case of the 'compartment' system, later sixteenth century developments, such as 'wilderness' areas and labyrinths, also owed as much to medieval antecedent as to the English interpretation of the Renaissance (Jacques 1999, 43-44). Indeed at Hampton Court, an earlier form of monumental garden – an arena of heraldic beasts and other devices mounted on poles – co-existed with, and was to some extent incorporated into, the more fashionable Renaissance-inspired 'compartments' that had been installed by Henry VII in the 1520s. These newer elements included 'plesaunt galerys' (ambulatories or loggias) and 'housis of pleasure' (banqueting houses of various shapes and sizes) (Henderson 1999, 58-59).

The banqueting house was an important element in the Tudor and Stuart versions of the Renaissance garden, although there was already a 'strong tradition of substantial architectural forms in medieval gardens' (Henderson 1999, 57). Many of these had been Royal or elite creations; the second half of the sixteenth century saw something of an explosion in the creation of a variety of banqueting houses at different social levels across the country. Mostly these were relatively simple structures within sight of the main house – and often incorporated into garden walls; occasionally they were more distant and elaborate, as at Holdenby (Northamptonshire) built by Sir Christopher Hatton in the 1580s, or the early seventeenth-century example at Weston Hall (Yorkshire) built by Sir Mauger Vavasour (Henderson 1999, 64-66; Henderson 2005, 160-161).

Fountains and grottoes (the latter also sometimes incorporating the function of banqueting houses) had also been adopted in England during the sixteenth century. More complex waterworks, including rainbow fountains, became popular in England during the early seventeenth century, partly due to the influence of Salomon and Isaac de Caus – French brothers and water engineers, both Huguenot Protestant refugees (Strong 1979, 73-112). Salomon de Caus arrived at the English court in c.1610, as mathematics tutor to Henry Prince of Wales, and drawing tutor to his sister Elizabeth

Stuart (Strong 1979, 138-165). Isaac de Caus designed a complex series of fantasies and 'water games' at Wilton House (Wiltshire) for the Earl of Pembroke. A Dutch engineer, Cornelius Drebbel, installed devices to create artificial meteorological effects at St. James' Palace in the 1630s (Colie 1955, 246-249). Both de Caus and Drebbel may have been important influences on Francis Bacon's Arcadian vision which manifested itself at Salomon House, which boasted an array of meteorological and celestial apparatus including snow, rain, hail and even meteors (Colie 1955, 250-260; Werrett 2001, 137).

Bacon had a long history of innovative garden design, beginning with tree-planting and the creation of a maze at Twickenham Park in the 1590s. This was followed by the remodelling of the grounds at Gray's Inn (including 'compartments', walks and a banqueting house on a mount) between 1597 and 1612; and extensive and 'celebrated' water gardens at Gorhambury (Hertfordshire), laid out from 1608 (Adams 2008, 47; Hill 1996, 38-42). Bacon's water gardens were about a mile away from the house. This was partly because they were a remodelling of medieval ponds, but relatively distant water gardens were also created at Kenilworth (Warwickshire) and Woodstock (Oxfordshire); the ornamental walk to the gardens was part of the experience (Henderson 2005, 132-133). Bacon, in turn, was an influence on his secretary, Thomas Bushell. Between 1628 and 1635 Bushell created an 'elaborate grotto' at his estate in Enstone (Oxfordshire): a four metre high grotesque rocky edifice, which also formed the basement of a small house for Bushell to use as a hermitage, and containing 'various fountains, automata and water-streams' including a rainbow fountain (Werrett 2001, 137). The unveiling of Bushell's 'Enstone Marvels' was accompanied by a Royal masque, as noted in Chapter 3; whether Bushell's business partner Basil Brooke attended or not, he had at least heard of it and had probably read the pamphlet which described it (**Fig. 4.05**).

A later development in the Renaissance garden, but one which was also adopted in both the Netherlands and England, was the use of the garden as a space for the display of antiquities, in addition to natural and mechanical marvels. The rise of antiquarianism was itself an outcome of this post-humanist rational observation of the world; the equation of the newly 'discovered' peoples of north America with ancient 'Britons' was being made as early as the 1590s, whilst the association between Roman and British imperialism was made more explicit as the seventeenth century progressed (Sloan 2007, 152-163; Sweet 2004, 162-187). The early seventeenth century writer Henry Peacham observed that the ownership and display of antiquities articulated good humanist credentials, and enabled the collector to demonstrate 'his rightful status as a cultural

leader within cosmopolitan Europe' (Swann 2001, 21). Collecting enabled a 'display of wonder', and visiting collections – as Francis Bacon observed – was an essential aspect of a gentleman's education through travel (Bacon 1597). One of the largest and most-visited collections was that made by John Tradescant and his son (also John) from the early seventeenth century; their house in South Lambeth was known to contemporaries as 'Tradescant's Ark' (Swann 2001, 29). As well as a bewildering array of 'natural' and 'artificial' ancient and modern wonders in the house, the Tradescant garden included an impressive type collection of unusual plants.

In a sense the emerging field of antiquarian enquiry was an evolution of the Renaissance spirit of linkages between worlds – in this case between Classical and mythological written pasts, and the material culture of the archaeological past in the present. The debates which revolved around the origins of Stonehenge, for example, echoed contemporaneous divisions in political thought, which were in turn informed by spiritual considerations. The move in the late-sixteenth century away from Stonehenge's association with Arthur and Merlin (and therefore sorcery), towards consideration of its origins as either Danish or Roman, reflected different prevailing attitudes to orthodoxies of spiritual places (Walsham 2011b, 298-301). The very real existence of the past in the present was also a strong element of the chorological approach to understanding landscape. The time-depth of landscape was accompanied by the recognition of its geological and topographical richness; the ability to transcend both elements through the visual arts was mirrored in the literary arena (Mendyk 1989, 224-238). One spectacular – and influential – chorographical journey was published in 1622 by the poet Michael Drayton: this voyage through past and present landscapes of England and Wales took the form of a 15,000-line poem, supplemented with prose by John Selden and illustrated with thirty remarkable county maps by William Hole. This work was framed by an eclectic geography and treated history erratically, as a cautionary note in the title made clear: the book included a twelve-page table to more easily direct the reader 'to those occurrences of story and antiquitie, whereunto the course of the volume easily leades not' (Drayton 1622, title page). Even the frontispiece required an eighteen-line explanatory poem with extensive footnotes. The landscape was anthropomorphised: rivers, forests and cities were female; hills, pasture and caves were male; Drayton told stories of ancient kings, curious local customs and traditions, and associations with Roman emperors.

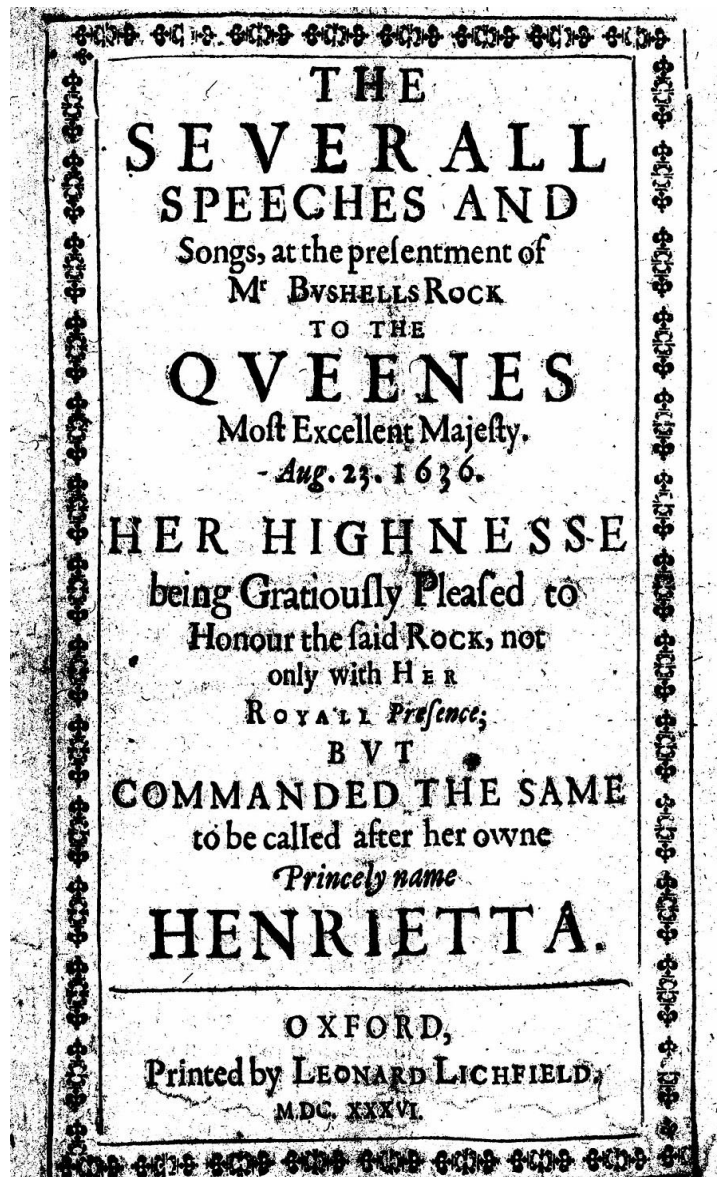


Fig. 4.05. Title page of the Enstone masque souvenir publication. Source: Bushell 1636,

Interest in Roman antiquities had developed both as an echo of the Renaissance with its conscious (but ill-informed) emulation of ancient Rome, and as part of the need to demonstrate some sort of continuity with the past as a means of asserting 'ancestry, wealth and status' (McDonagh 2007, 200). Ironically, it also owed a lot in its development to the dissolution of the monasteries; literary references (Shakespeare's 'bare ruin'd choirs', for example) appear in the later sixteenth century. The ruined monasteries fostered an emerging curiosity in all aspects of the past (Aston 1973, 232-238). In England the antiquarian garden first manifested itself at gentry, rather than elite, levels. The Tradescants, for example, were people of the 'middling sort'; employees

of various aristocratic families including the Cecils of Hatfield House and the Duke of Buckingham (Swann 2001, 30-33). Another significant influence was the publication of Camden's *Britannia* in 1586. The English antiquarian garden was very much a home-grown development of the late sixteenth and early seventeenth centuries, and was particularly favoured by Catholics.

There were four notable garden displays of Roman antiquities (altars and other inscribed stones) in England by the middle of the first decade of the seventeenth century. It is perhaps not surprising that three of these were to be found in the north of England, within reach of easy pickings from Hadrian's Wall. John Senhouse had ten antiquities displayed in the grounds of his Netherhall (Cumberland) estate by 1587.⁷ Some of his acquisitions were arranged by the well-known collector Sir Robert Cotton, who himself acquired twenty antiquities which he housed in a specially-built 'octagonal summerhouse' on his estate at Conington (Cambridgeshire) (Haworth 1992, 1-2; Hepple 2001, 111-112). From 1603 the recusant Lord William Howard – another friend of Cotton and a similarly enthusiastic antiquarian – began to display a collection in his garden at Naworth (Cumberland) that eventually amounted to twenty antiquities (Hepple 2001, 113-114). This included the re-use of a Roman altar as a sundial. At around the same time, Reginald Bainbrigg acquired around a dozen pieces which he displayed in the grounds of the school in Appleby (Westmoreland) where he was headmaster (Hepple 2001, 114-115). Further up the social scale, collections were sourced from the heart of the former Roman Empire. Thomas, Earl of Arundel, visited Italy in 1614; within 15 years the garden of his London house (earlier the scene of Sir Basil Brooke's knighthood) contained 250 inscriptions and altars, 128 busts and 32 statues (Hepple 2001, 110). The two branches of the Howard family were, of course, Catholic, and perhaps their antiquarism was to an extent inspired by a sense of the loss of monuments and landscape features during the iconoclastic episodes of the Reformation (Walsham 2011a, 44).

Although Basil Brooke would have known of – and quite possibly visited – many of the exemplar Italian and Dutch gardens and estate landscapes, he would also have been aware of the developments of Bacon, de Caus, Drebbel and others through his connections at court. Another influence – and perhaps a more significant one – would have been his more immediate circles of neighbours and business partners, both

⁷ This collection forms the basis of the Senhouse Roman Museum at Maryport (Cumbria), the website of which (<http://www.senhousemuseum.co.uk/>) suggests that the collection began as early as the 1570s

Catholic and Protestant. A neighbour who influenced some of Brooke's architectural procurement was Richard Corbet; the details of his Moreton Corbet gardens were recorded in 1588, at which time they comprised over two acres (0.8 hectares), including a formal garden containing a sundial at the centre, with adjoining orchard and water supply (SA 322/2; Stamper 1996, 10). The nearby Lilleshall Abbey estate was acquired at the dissolution by Sir Richard Leveson; his ambitious industrialist son Walter, had married Anne Corbet, daughter of the creator of the Moreton Corbet gardens (Harwood 2006, 40-43). As well as Lilleshall, the Levesons had also acquired the Trentham estate in Staffordshire, and it was here that Sir Walter's son – another Sir Richard Leveson – laid out an elaborate garden in the early 1630s. This appears to have been based on 'compartments', although the gardens created in 1631-35 were to some extent a remodelling of an earlier garden whose plan-form may have been adapted rather than completely obliterated (Francis 2013, 143-144; Jacques 1999, 36). The garden included a viewing mound, a fountain, seats, and various walks and steps; Sir Richard's Royalist credentials and ambitions were literally carved into the garden as a frieze along the top of the most prominent garden wall: an intertwining of the names 'RICARDVS LEVESON' and 'CAROLO BRITANIAE REGE' (**Fig. 4.06**). Trentham was a garden which sent overt messages about its owner, and Sir Richard was also 'stamping his identity on the property, declaring his wealth, and defining his standing in the community' (Francis 2013, 147).

As well as the Moreton Corbet connection with, Leveson's Trentham garden may have been influenced by another interpretation of the Renaissance garden that had been created at Ingestre Hall (Staffordshire), some 23km to the south-east, by Brooke's Catholic neighbour and sometime business associate Sir Walter Chetwynd. By the early-seventeenth century Ingestre Hall had a garden with 'a number of more advanced Renaissance features', including a loggia and bowling green, all designed to be seen from the house (Francis 2013, 149; Stamper 1996b, 10). This garden, probably dating to c.1615, included several 'compartments' featuring obelisks, walkways, vistas and banqueting houses (**Fig. 4.07**) Finally it is worth noting the overtly Catholic gardens installed from the 1590s at Shifnal Manor (8km east of Madeley) by the Earl of Shrewsbury – another well-known recusant and associate of Basil Brooke. Again this was designed to be seen from the upper stories of the house, and the formal gardens incorporated a heart-shaped pond at their centre, an emblem of the Catholic sympathies of either the Earl of Shrewsbury or his successor Anne Dacre, the Dowager Countess of Arundel (Stamper 1996a, 18-22).

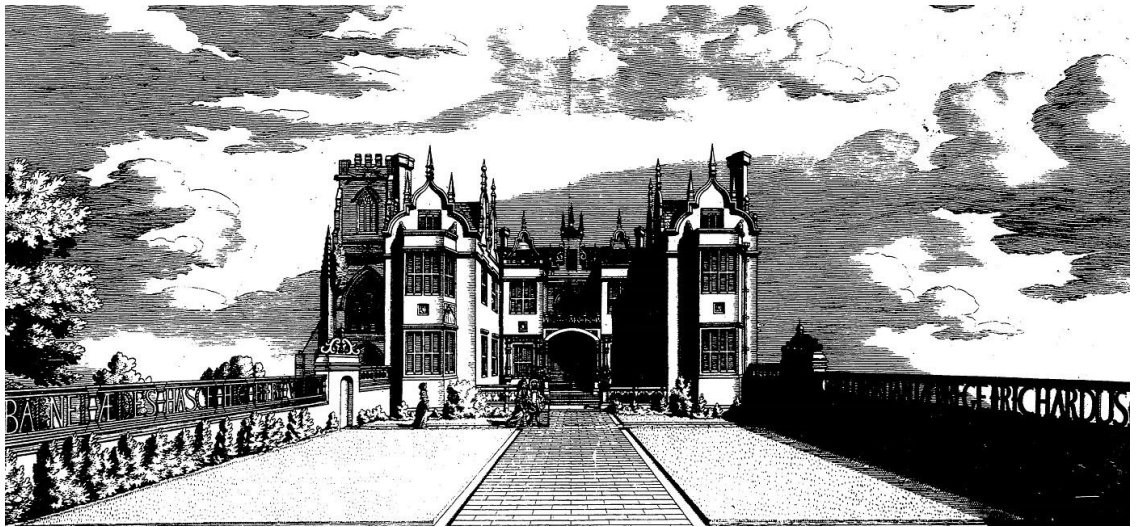


Fig. 4.06. Compartiments with overt messages. Sir Richard Leveson's garden of 1631-35 at Trentham (Staffordshire). Source: Plot 1677, 321 (detail).

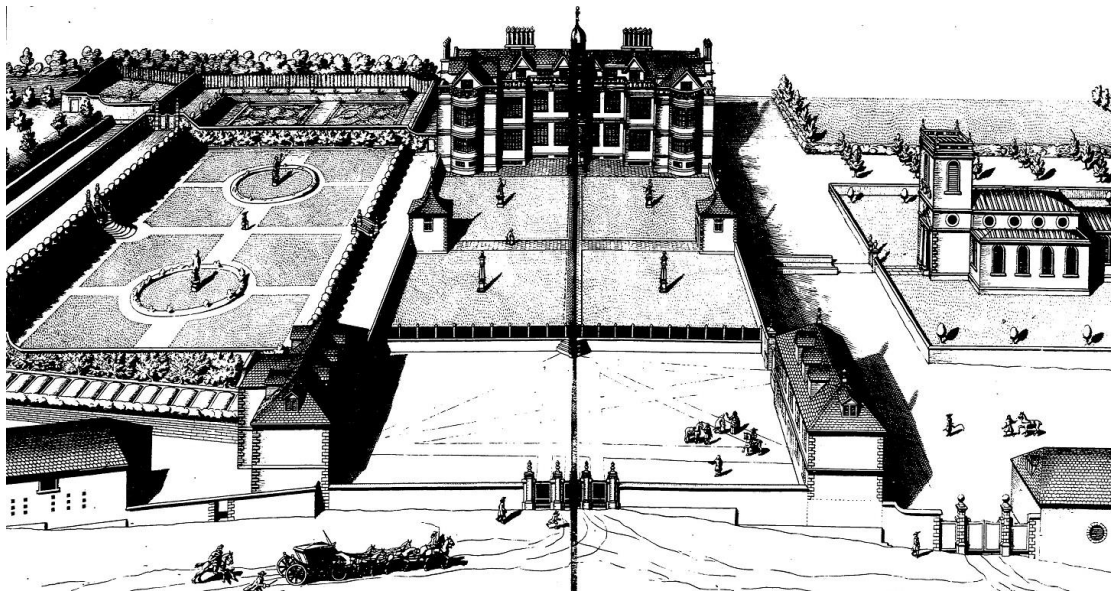


Fig. 4.07. Compartiments with covert messages. Sir Walter Chetwynd's garden of c.1615 at Ingestre (Staffordshire). Source: Plot 1677, 323 (detail).

4.3 The gardens at Madeley Court

Little can usefully be said about the arrangement of the gardens at Madeley Court before the first half of the seventeenth century. This is partly because of the substantial alterations made by Basil Brooke, both to the orientation of the house and in the creation of the walled garden; but it is largely due to the extensive eighteenth, nineteenth and twentieth century landscape changes – not least the creation of the massive pit-mounds that resulted from the sale of all mineral rights within a 500-yard radius of the house in 1705, and their subsequent vigorous exploitation from the 1840s (Lewis 2009, 66). Consequently very little of the probable extent of the sixteenth and seventeenth century gardens at Madeley survives in a form that is readable archaeologically. Even for the seventeenth century it is impossible to say what lay beyond the immediate environs of the house, and to a large extent what was even in the enclosed spaces that do survive.

The medieval garden layout is entirely unknown, but it may have had a bearing on subsequent developments. As in later periods, the medieval garden was part of the suite of pleasures which were deployed to delight visitors (Taylor 2000, 41-43). Medieval designed landscapes of similar status are generally considered to have contained three principal elements in addition to the main park: a small enclosed garden (herber), a larger 'orchard-type garden' and a 'little park or pleasure park' (Liddiard 2007, 201). High-status ecclesiastical residences, such as the Bishops' Palaces at Somersham (Cambridgeshire), Nettleham (Lincolnshire) and Cawood (Yorkshire) have been shown to have had a sophisticated sequence of gardens which provided a visual and symbolic connection between the house and park (Blood and Taylor 1992; Everson *et al.* 1991; Taylor 1989). Whilst the Madeley grange was not on an episcopal scale, it was nevertheless the principal residence outside Much Wenlock itself, and it seems unlikely that the comprehensive improvement of the buildings Madeley Court by Prior Humbert would not have been paralleled by equivalent work to the surroundings. Fishponds and a garden – along with a ruined dovecote – were noted in 1370 and 1379 (Philpotts 2009, 54). Paul Everson (2015, 48-49) has noted the continuity of pre-dissolution features in post-dissolution gardens fashioned from former monastic sites or their holdings; particularly when the subsequent owners or occupiers were Catholic.

In this context it is worth considering the role of the ponds. Since the mid-nineteenth century there have been ponds to the north and north-east of the house: one is shown on the 1847 Tithe Map, it is slightly reduced on the 1883 Ordnance Survey map, and from the mid-twentieth century there have been two pools in this location with substantial earthwork dams, which today act as balancing pools. In addition, two smaller pools are shown on the 1847 Tithe Map to the south and west of the house, but not on subsequent mapping as they had been filled in by coal-mining spoil. These have always been assumed to have been the ‘medieval fish ponds’ described in the fourteenth century (Randall 1880, 331-332; Moffett and Meeson 2009, 3-4), although there is no evidence to confirm or refute this suggestion. However in the absence of any other plausible location for the ponds, this assumption has been carried forward into this thesis. It is also possible that the pond to the north-east of the house (**Fig. 4.08**) was extant in the seventeenth century – and perhaps even created deliberately in the post-dissolution period.



Fig. 4.08. A pond, or not. The lower of the two balancing pools at Madeley Court today, looking south with the house on the right-hand side of the photograph. The existence of this pool before the mid-nineteenth century cannot be confirmed; the hills beyond the pond on the left, and behind the house on the right, certainly didn't exist before the 1840s – they are spoil heaps created by coal mining. This view of the iced-over pond enables solid ground to be more easily imagined. Source: author.

Two rather insubstantial strands of evidence suggest that this may have been the case. Excavations in the 1970s found partial remains of the foundations of an L-shaped range inside the walled garden, built along the inside face of the garden wall in ashlar masonry (Moffett and Meeson 2009, 45). A putative further extension on ashlar bases to the east was also identified, and numerous fragments of stone balustrade were recovered. The excavators put forward one possible interpretation of this building as a viewing platform, with views out across the lake as well as into the garden (Moffett and Meeson 2009, 45). This interpretation is given further weight if the symbolic role of the walled garden as a *hortus conclusus* is considered. This tradition, which began in the later Middle Ages, conflated stories of the Garden of Eden with the cult of the Virgin Mary; from the fifteenth century, depictions of Mary as the ‘new Eve’ frequently place her in the setting of a walled or enclosed garden (Strong 2000, 85-87). The symbol of the *hortus conclusus* was also used in the sixteenth century to represent the state: specifically the Tudor dynasty situated in a ‘crenellated walled island set within a sea’ (Strong 2000, 99). Henry Hawkins’ *Partheneia Sacra* has the *hortus conclusus* as its central motif (Fig. 3.11), a work which was of course composed when Hawkins and Basil Brooke were close friends and supporting the work of the Jesuits (Hawkins 1633). Having water on two sides of the walled garden would perhaps emphasise the connection between Brooke’s physical garden and Hawkins’ symbolic one. Alternatively it should be noted that this pond is very much at the back of the house – there were few windows that directly looked out over it in the 1630s – and many other features that might have found their way into a seventeenth-century designed landscape remain unaccounted for. It is possible that there was some sort of water feature here, perhaps a canal overlooked by a terrace, or a wilderness featuring small streams and ponds (Henderson 2005, 133-138).

Speculation aside, what can be reasonably deduced from map regression about the seventeenth-century layout of the gardens at Madeley Court suggests that it was arranged on the ‘compartment’ system (Fig. 4.09). The most significant feature was a walled garden, laid out to the north-west of the house; in its current form it measures approximately 85m east-west by 70m north-south. There are two ornate doorways leading from the north and south walls at the western end of the garden; although only the inner doorway surrounds survive, there is evidence to suggest that they both had counterparts on the outside. The use of classical gateways in walled gardens was introduced to England in the second decade of the seventeenth century (Strong 1979, 171). On ‘stylistic and comparative grounds’ Stamper (2009, 58) suggests that the

Madeley Court gateways (and so the garden) belong to the period c.1620-1640. This is supported by the evidence of the bricks in the walls; they are laid in an irregular pattern approximating to English Garden Wall Bond and are very similar to those used in the service range added to Madeley Court in c.1630, and the Maltings which was dendrochronologically dated to c.1606-c.1636 (Aldsworth and Worthington 2009, 118). The existence of the gateways implies the presence of other garden areas beyond the present walled garden that were suitable for polite enjoyment. To the north there is now a pond (Fig. 4.08) but there could have been any number of garden features in that location in the seventeenth century; to the south and west there may have been further gardens, or perhaps that door led directly into the park.

The eastern end of the walled garden interfaced with the house. In addition to the possible viewing platform noted above, two other buildings were identified during the 1978-79 excavations. One was effectively an extension of the earlier western extension to the house; its construction entailed the demolition of an earlier stair turret (Meeson 1979, 12). It comprised a brick-vaulted cellar with a stone-flagged floor above. However the full height of this building is not known, nor are the nature of access arrangements (Moffett and Meeson 2009, 44-45). The other structure, built of stone on relatively shallow foundations, was constructed along the western wall of the garden (Meeson 1979, 6). It had a stone-flagged floor, and was connected to the extension described above by a doorway in its north end; an oriel window (and perhaps a doorway) were inserted into the western elevation of the west range of the main house. The nature of the foundations, together with desirability of retaining of westward views from the main house, suggest that this was almost certainly a single-storey building with a flat roof (Moffett and Meeson 2009, 45). Although its function is 'impossible to identify definitely', Stamper (2009, 58) has argued persuasively that it could have been an orangery. Orange trees were introduced to England in the 1560s, and the first recorded orangery was built for the Catholic Anne of Denmark in 1611-1612 at Somerset House; James VI/I himself built an orangery at Theobalds ten years later (Henderson 2005, 146; Woodfield 1991, 131-132). In Shropshire, the earliest reference to any sort of 'glasshouse' is not until the 1680s, so an orangery at Madeley Court would have been an unusual innovation at this early date (Stamper 1996, 39; Stamper 2009, 58). Another explanation is that it could have been an ambulatory or loggia (Henderson 1999, 58-59).

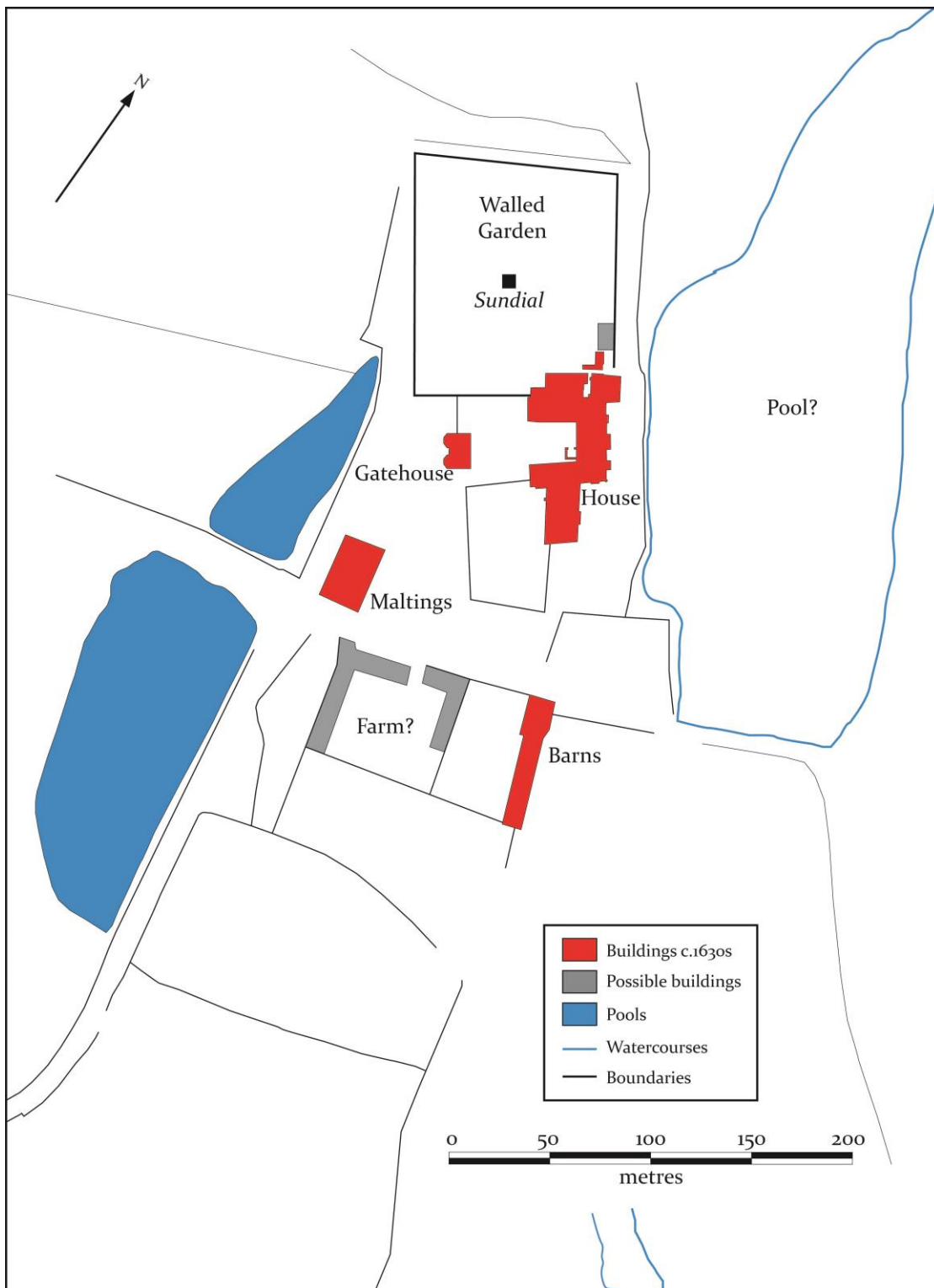


Fig. 4.09. Madeley Court gardens in the early-seventeenth century. Source: author.

A kitchen garden was added at this time to the east of the house (Meeson 1979, 4-5); it lay to the south of the service wing of c.1630 so was presumably constructed at the same time. The creation of the kitchen garden enclosure, together with the construction of the gatehouse, then brought a third 'compartment' into existence: a courtyard framing the entrance to the house (with its new porch) and separating the formal walled garden from the more utilitarian kitchen garden. Outside these enclosed spaces was a Malthouse, parts of which were in existence by the 1630s, and, further east, a complex of farm buildings.⁸ As with other features, this complex is shown on nineteenth-century mapping, but the extent of any earlier incarnation is not known; the farm was demolished by TDC in 1965 (Moffett and Meeson 2009, 7). However photographs of c.1900 show the northern range to have been a timber-framed structure built on a stone plinth and so it has been suggested that this may have been in existence in the seventeenth century (Moffett and Meeson 2009, 45). Certainly it is similar in appearance to the barns at Upper House (Chapter 5); its alignment with the service wing of c.1630 suggests it may have been built at the same time, and it is possible therefore that these and perhaps other elements of the farmyard were part of another planned 'compartment'.

Leaving aside the orangery, it nevertheless appears that Basil Brooke's early-seventeenth century garden contained most – if not all – of the required elements of contemporary gardens, derived both from pre-existing features, structures and functions, and influenced by Italian and London fashion. It was divided into 'compartments' that were spatially arranged in a hierarchy that flowed from the house, and provided a link between it and the surrounding landscape. It is possible to conjecture that there was perhaps an orchard and a kitchen garden, possibly a bowling green or some other area for similar pastimes, and perhaps even a 'wilderness' or water garden. There is no doubt that Basil Brooke was well aware of the science and art of hydraulics. He was familiar, in some cases at first hand, with the sorts of water gardens and associated tricks, devices and toys that were a 'commonplace spectacle' (Werrett 2001, 132), including the elaborate installations of Francis Bacon and Thomas Bushell. More importantly perhaps, he had first-hand experience of the creation of complex and sophisticated water management systems for a variety of industrial installations, both in Coalbrookdale and elsewhere. It therefore seems out of character for there not to have been some sort of water feature at Madeley Court, even if it was not a rainbow fountain or elaborate

⁸ These buildings are discussed more fully in Chapter 6.

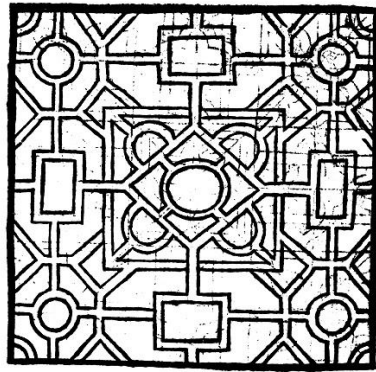
grotto. On the other hand, as Jill Francis (2013, 134) has pointed out: ‘the place of individual taste in the creation of a garden must never be forgotten’. Perhaps Brooke had seen enough complex hydraulic situations not to wish to be reminded of them in his garden; or perhaps this garden element was expressed in other parts of the estate.

Certainly the ‘compartment’ of the walled garden does contain many of the elements that might be expected in it. There was a viewing platform, some sort of structure that may have been an ambulatory, or a loggia, or perhaps even an orangery. The internal layout of the walled garden is not known – other than that the sundial stood at the centre of it. This left a variety of options for ‘knots’, as suggested by contemporary handbooks (Fig. 4.10). The garden would also have been a striking feature of the views from the first floor of the west wing; contemporaneous local parallels include the arrangement at Moreton Corbet Castle (some 13km to the north) and at Condover Hall (Stamper 2009, 60). The archaeological evidence – or at least the published interpretations of its excavators – seems to suggest that one essential feature was, perhaps uniquely, absent: the banqueting house. Indeed it was not unusual to have several banqueting houses dotted about, as at Hardwick Hall (Derbyshire) or Montacute (Somerset) (Henderson 1999, 64-67), so the complete absence of one at Madeley is surprising. It is possible that the structure identified as a viewing platform could have had a banqueting house on top of it; equally the enigmatic building tentatively identified as an orangery could have also performed this role, if a little unusual in its direct connection to the house. Alternatively, the banqueting house may have been a less substantial structure which has left no trace in the damaged landscape palimpsest. Another possibility is that there was no banqueting house in the immediate vicinity of Madeley Court, and that this function was assumed by other buildings elsewhere on the estate.

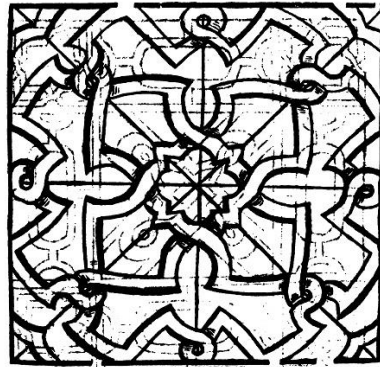
4.4 The Madeley Court sundial

The apparent absence of such a basic feature as a banqueting house, let alone a more elaborate fountain, grotto or water-garden, is to some extent compensated for by the survival of a unique and remarkably complex sundial. This stands in the centre of the walled garden and comprises a massive single block of sandstone in the form of a cube measuring 1.19m x 1.19m x 1.19m (exactly four feet in each dimension), surmounted by a hemisphere 0.90m in diameter and 0.42m high (Fig. 4.11). The block is oriented square to the compass, and the east, south and west faces are inscribed with a series of

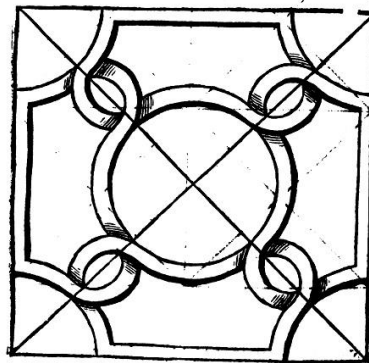
Another more straight.



The plaine mixed Knot.

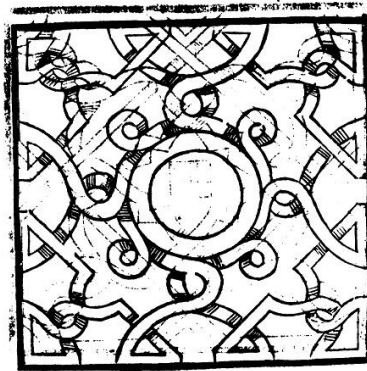


The Modell of the Quarter
single Knot.

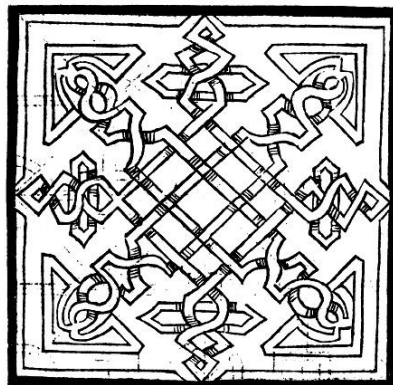


appeare an exact Knot, though but a single Knot; and in this
wise, and by the helpe of these single lines you may draw
any single Knot whatsoever: as for example, this Knot
following being single, yet more curious.

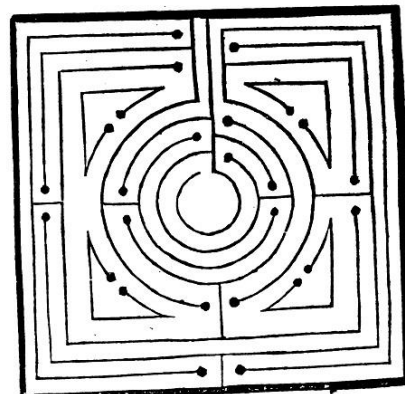
The single impleate Knot.



The double Diamond Knot.



The Maze.



Now, as soone as you have drawne forth and figured
your face upon the face of your quarter, you shall then set

Fig. 4.10. Garden knots, early-seventeenth century. Source: Markham 1613, 198-219.



Fig. 4.11. Madeley Court sundial, general views showing its relationship to the house and garden. Top: the western face, looking south-east (note that in the seventeenth century the west wing of the house would have lined the eastern edge of the garden, and the building on the left did not exist before 1985). Bottom: the southern and eastern faces, looking north, with the brick walls of the garden visible behind. Source: author.

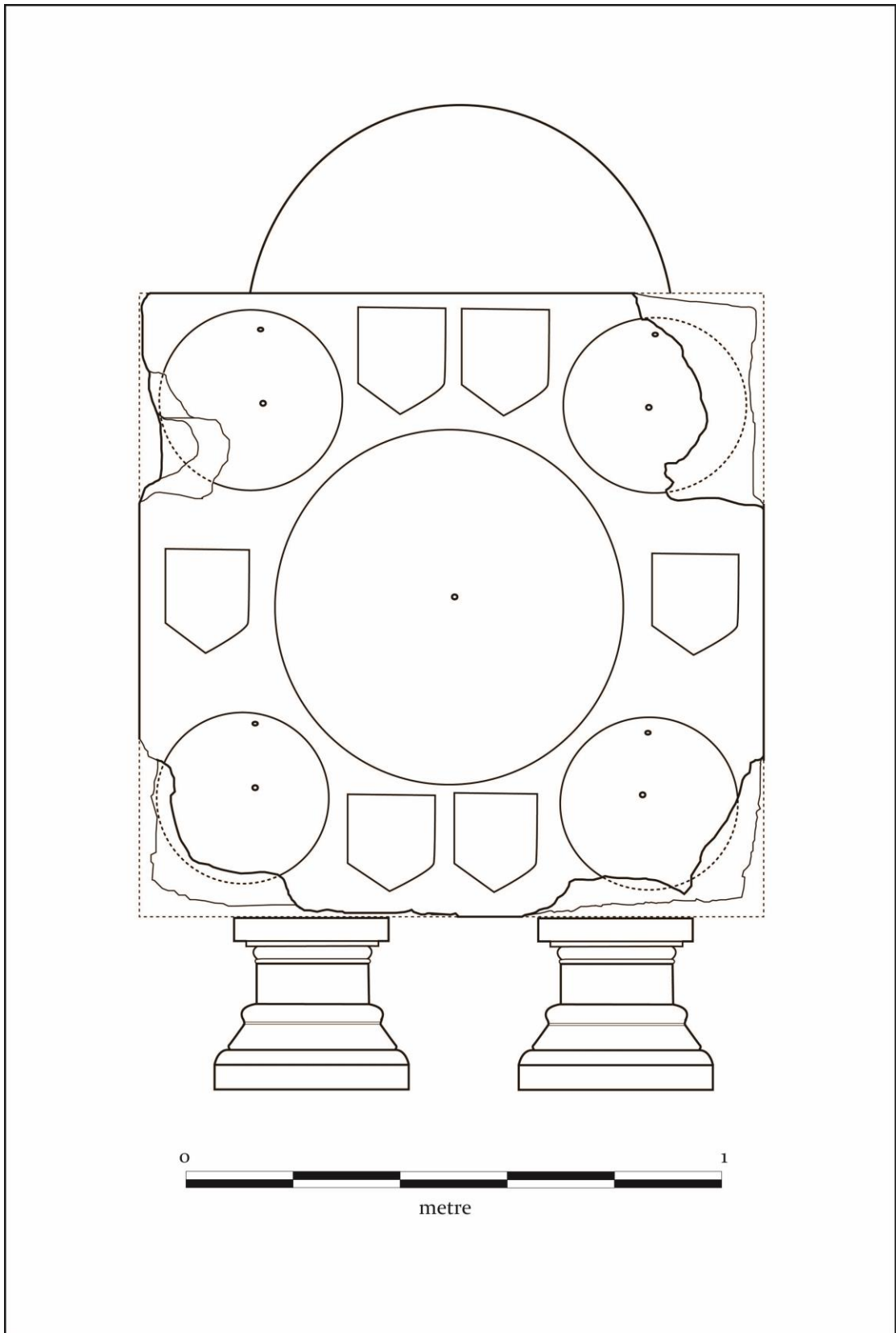


Fig. 4.12. Madeley Court sundial. South-facing elevation. Source: author.

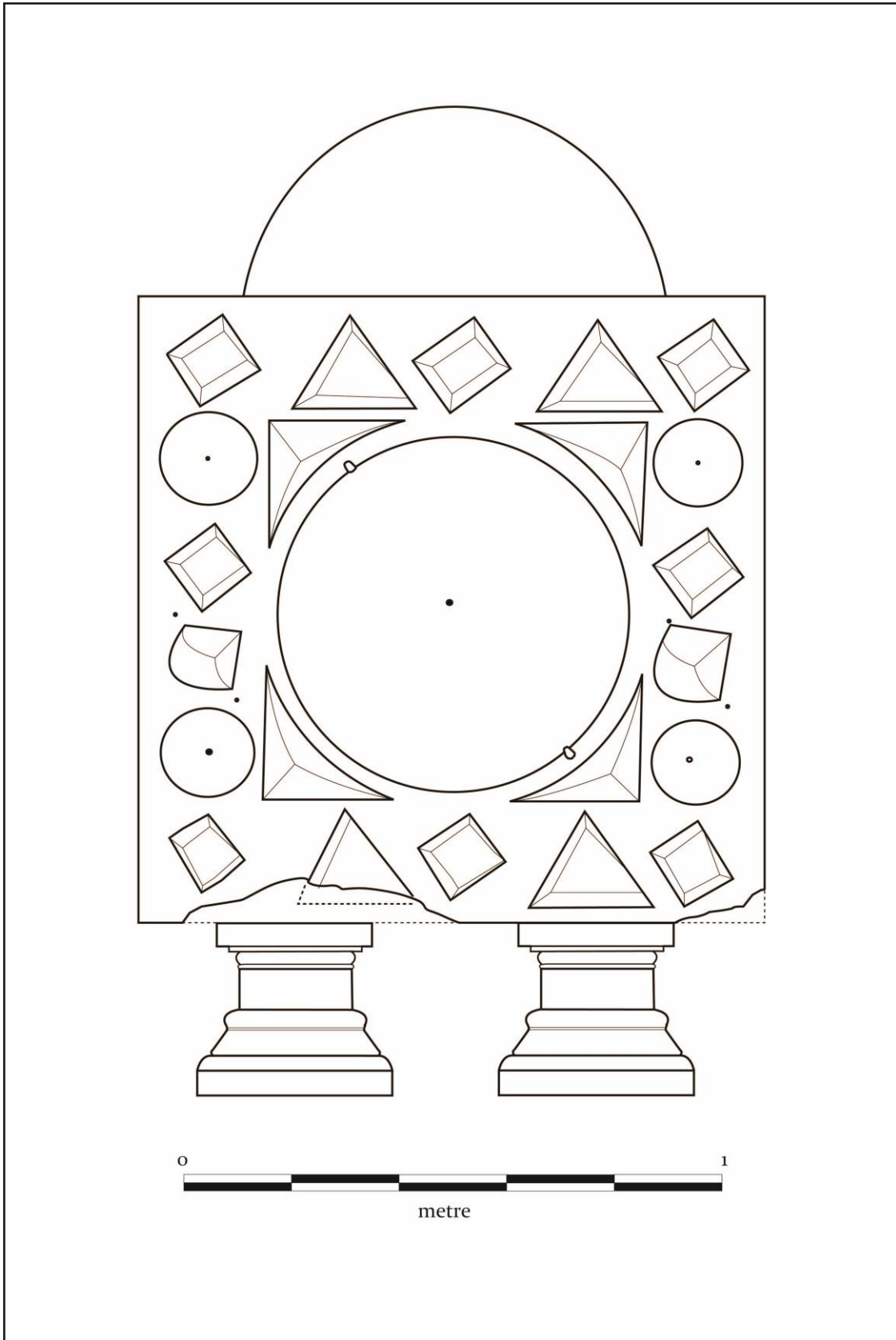


Fig. 4.13. Madeley Court sundial. West-facing elevation. Source: author.

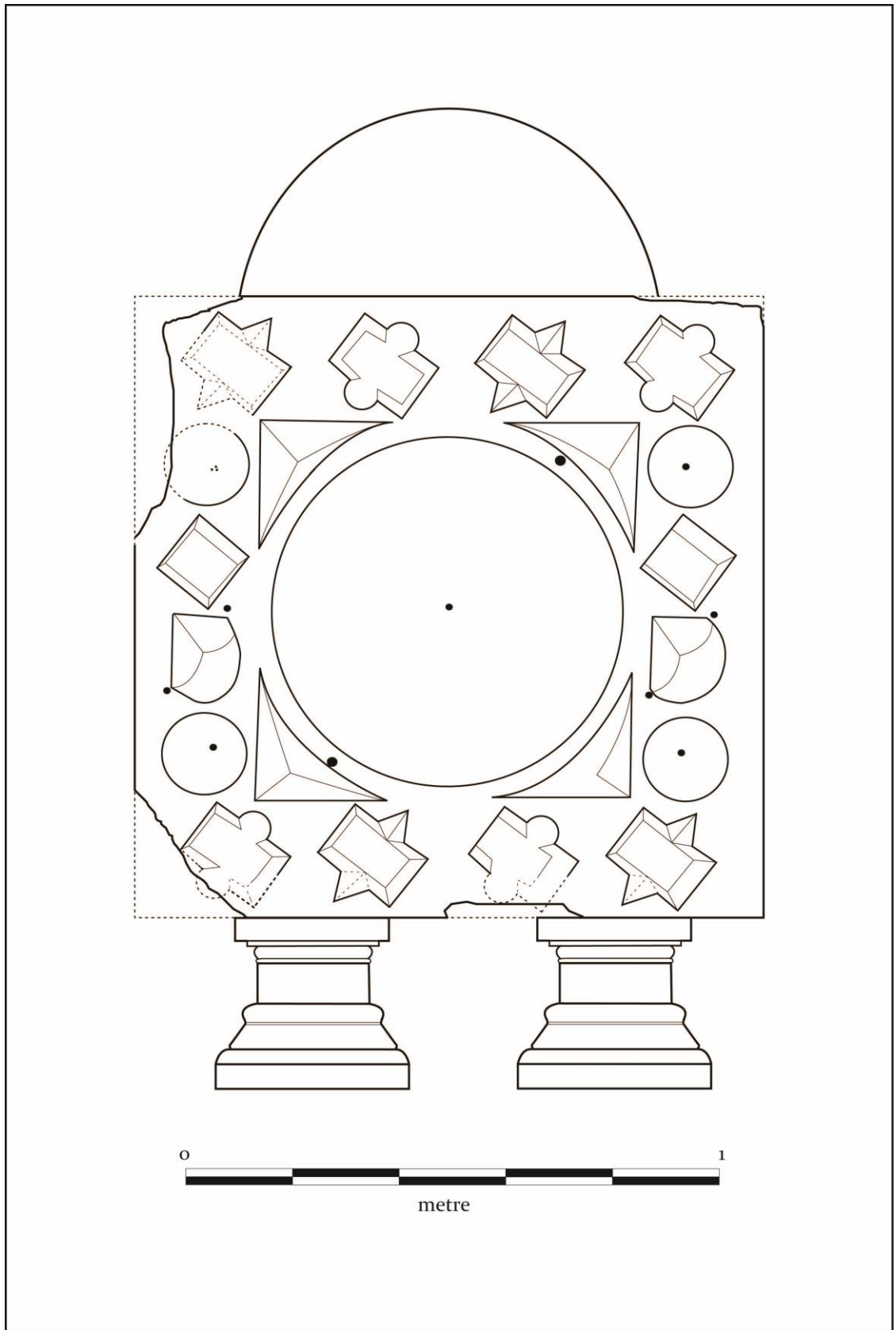


Fig. 4.14. Madeley Court sundial. East-facing elevation. Source: author.

variously-shaped depressions which originally held gnomons and decorative devices. The north face is blank. The block sits on four small pillars 0.38m high (exactly fifteen inches, a measurement erroneously transcribed by Baugh (1985, 43) as 'fifteen feet'). It was described in this form and at this location in 1834 and again in 1854 (Blunt 1854; Somerville 1988), and, given its size and weight, it is extremely unlikely to have moved since the seventeenth century. The location of this feature suggests a geometrical division of the garden into four quarters.

The south side of the sundial (**Fig. 4.12**) contains a central recessed hemisphere measuring 0.66m across and 0.32m deep. This is surrounded by four smaller hemispheres, one in each corner, each 0.33m wide. All of these hemispheres contain a central fixing hole and one above; which would have enabled the mounting of 'triangular gnomons' (Somerville 1988, 61). Between and around these hemispheres are six further shield-shaped depressions which would presumably have held armorial devices, now lost. The west (**Fig. 4.13**) and east (**Fig. 4.14**) sides also have a central recessed hemisphere, again measuring 0.66m across and 0.32m deep; these have holes on the edges described by Somerville (1988, 61) as 'diametrically opposed at an angle of 52-53°', in which bar gnomons would have been fixed at the angle of latitude (52° 40' for Madeley Court). These faces also have four additional smaller hemispheres, although arranged around the main hemisphere rather than at the edges of the blocks. There are also a number of other triangular, lozenge-shaped and square recesses cut into the stone on these sides; at least two on each side also have fixtures for bar gnomons at the same angles as the main hemispheres in each case. The other recesses lack evidence for gnomons, but may be variations of 'cup and safe' dials which recorded celestial events such as equinoxes (Daniel 2004, 33, 50). There are ten of these on the east face and 14 on the west face of the Madeley sundial. In addition, the upper hemisphere on top of the main block also contained a single upright gnomon. Therefore the Madeley dial has no less than 33 different measuring devices.

The art of constructing such elaborate multi-faceted sundials appears to have been brought to England by the German Nicolaus Kratzer, who was appointed 'astronomer and deviser of the King's horologes' by Henry VIII in 1519 (Hackmann 1991, 70-73). Henry VIII had sixteen sundials installed at Hampton Court alone by the 1550s (Henderson 2005, 180). Certainly the construction of large free-standing polyhedral sundials seems to have been most enthusiastically adopted in Britain, and particularly in Scotland; in France and Italy they were not a feature of the Renaissance garden to the same extent

(Somerville 1987, 246). However the spirit of the Renaissance garden was very much ‘an area for the demonstration of the sciences’ (Strong 1979, 28) and so elaborate sundials were not an inconsistent feature. Only one garden sundial attributed to Kratzer has survived, at Acton Court (Gloucestershire); it is only 0.18m square but its astronomical markings are arranged in a similar way to the Madeley dial (albeit on four sides, and due to an error by the stonemason, incorrectly) (White 2004, 261). Two other sixteenth century sundials survive in England, at Marrington Hall (Shropshire) and Elmley Castle (Worcestershire). The Marrington dial is dated 1595 and is an ‘obelisk’ type, much thinner and smaller than the Madeley dial; the Elmley dial is larger and some of its carvings are reminiscent of the Madeley dial.

A much larger corpus of late sixteenth century and early seventeenth century dials survives in Scotland. Somerville (1987, 234-235) identified three broad types of free-standing ornamental sundial: lectern, obelisk, and facet-head. The term ‘facet-head’ was used to cover a ‘wide variety of types, from the simple cube to the complex polyhedral (Somerville 1987, 241), although none of those in his exhaustive gazetteer even remotely resemble the Madeley sundial. There are some elements in common, however, such as the decorative devices on the obelisk dial at Wemyss Castle (Fife) and the lectern dial at Ladyland House (Ayrshire) (Somerville 1987, 235-240). The makers of these Scottish dials were well-known specialists such as John Mylne; few appear to have worked in England, although the Ayrshire sundial maker John Bonar produced a sundial for the church in Bangor (County Down) in 1630 (Bigger 1901, 162). Several dials from the early seventeenth century offer closer comparisons. The mathematician John Marr built a large square stone dial at St. James’ Palace in 1629-30, and in 1631-32 he built another one at Hampton Court; this latter having ‘nine lardge Hemispherical Dyalles and eight large plane Dyalls upon a great stone of Portland’ and featuring astronomical instruments as well as celestial ones (Somerville 1988, 63).

Perhaps the most celebrated dial of the period was that in the Privy Garden at Whitehall (Figs. 4.15 and 4.16). The Whitehall dial contained a huge array of timekeeping and celestial devices, and was described in some detail by the Jesuit mathematician Francis Line in 1673. There were six ‘pieces’. The first piece had 20 dials around the edge, with a further 8 reclining dials on top, as well as four globes and, additionally, ‘yssuing out of the sides thereof towards the East, West, North and South 4 Iron branches supporting Each of them a glasse Boule, which shew the Hour, in 4 different wayes to witt by the 4 Elements’ (Line 1673, 4-5). The second piece was similar but with 16 facets, not to ‘shew

the Hour, but the different Rising of the more remarkable starres, according to the three manner of Risings observed by Astronomers, to witt, the Cosmical Rising, the Acronycall, and the Heliacall', as well as 12 additional instruments (Line 1673, 6-7). The remaining pieces continued the variation on the same themes: the third with 28 instruments, the fourth with 16 and the fifth 14; the final piece was a decorative glass ball. The combination of dials meant that as well it was possible to tell the time in five different ways, which was necessary for scriptural and astronomical purposes. Thus:

'The first of these 5 ways, and which divides the space between sunne Rising and setting into 12 Equall parts, making thereby the Hours unequall (as is sayd) that is longer in summer then in winter, is the Most ancient of all; and are therefore called *Horae Antiquae* ... They are also called *Horae Planetariae*: because the Auncient Astrologers supposed a new Planet to raigne in each of these unequall Hours. The second way of counting 24 Hours from sunne Rising till sunne Rising, is used by the Babylonians, and these Hours are therefore called *Horae Babylonicae* ... The third way of counting 24 Hours from sunne sett to sunne sett, is used chiefly by the Italians: and therefore these Hours are called *Horae Italicae* ... The fourth way [of] counting also 24 Hours from Noone or Midday till next Midday, is used by Astronomers in calculating the places and positions of the starres and Planets in the Heavens, &c. And are therefore called *Horae Astronomicae* ... The fifth and last way which counts 12 Hours from Midnight to Noone, and as many from Noone to Midnight, is used as well in Most parts of Europe, as heere in England: and is therefore styled ... *Horae Vulgares*; the vulgar or usuall Hours.' (Line 1673, 11-12).

The dials themselves were made of a combination of glass boxes, set into the structure or upon it; these were painted either behind the glass or on top of it. The gnomons employed on the declining dials took the form of 'a Lions paw, or Unicornes Horn or such like relating to his Majestyes Armes' (Line 1673, 3). It seems likely that the recesses on the Madeley dial would have contained similar instruments. Although containing only 33 'dialls', as opposed to the 126 of the Whitehall dial, the Madeley dial was probably able to show the time of day in many of the five systems in use at the time; the time of sunrise and sunset; length of the day; temporal and zodiacal calendars; and perhaps even the local time in other countries (Somerville 1988, 64). It is also possible that the Madeley dial featured globes suspended from brackets, as at Whitehall. In addition the gnomons, and the painting of the individual elements, could have expressed other messages, as at Whitehall.

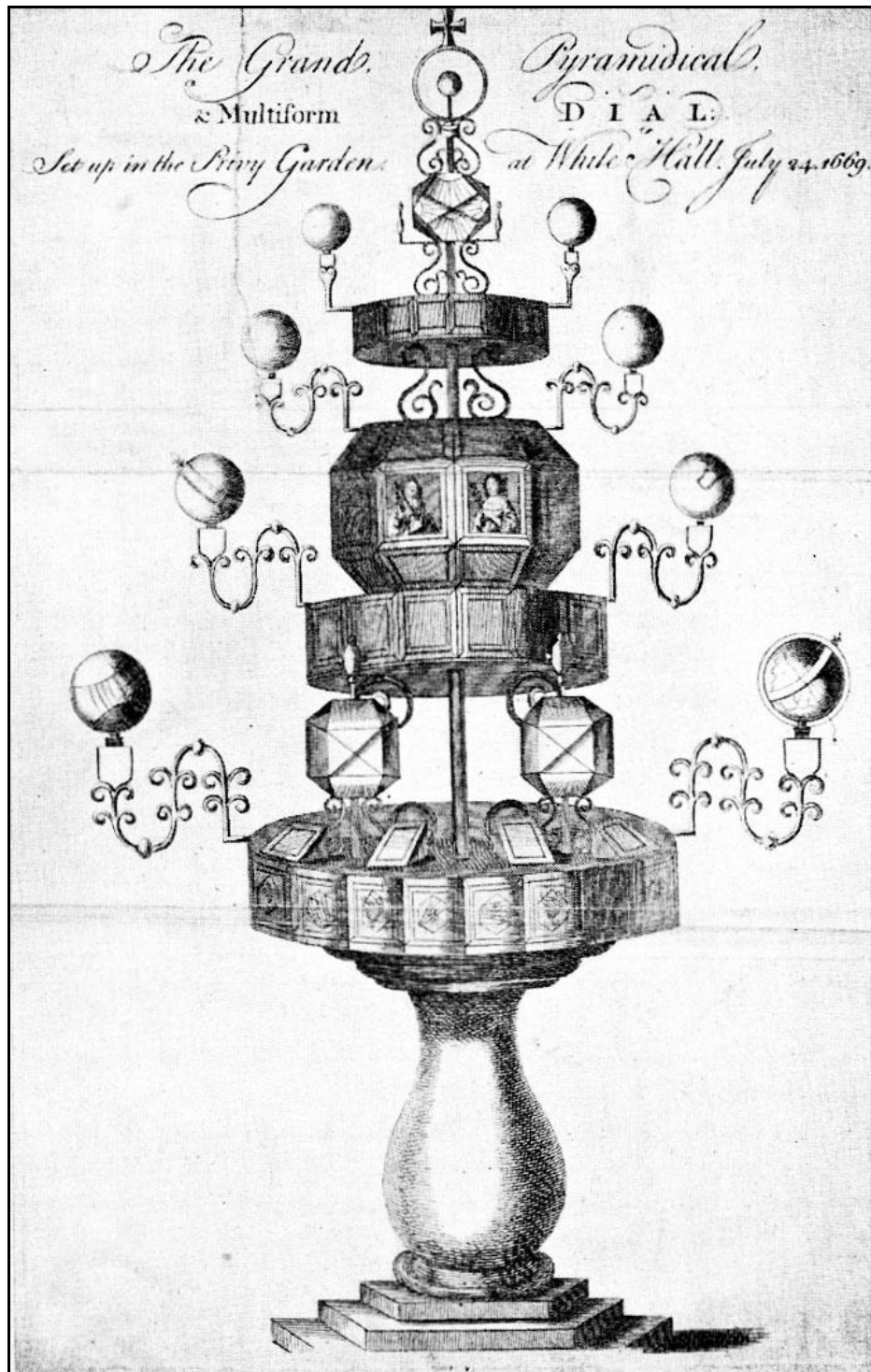


Fig. 4.15. The sundial in the Privy Garden, Whitehall. Source: Line 1673, 2.

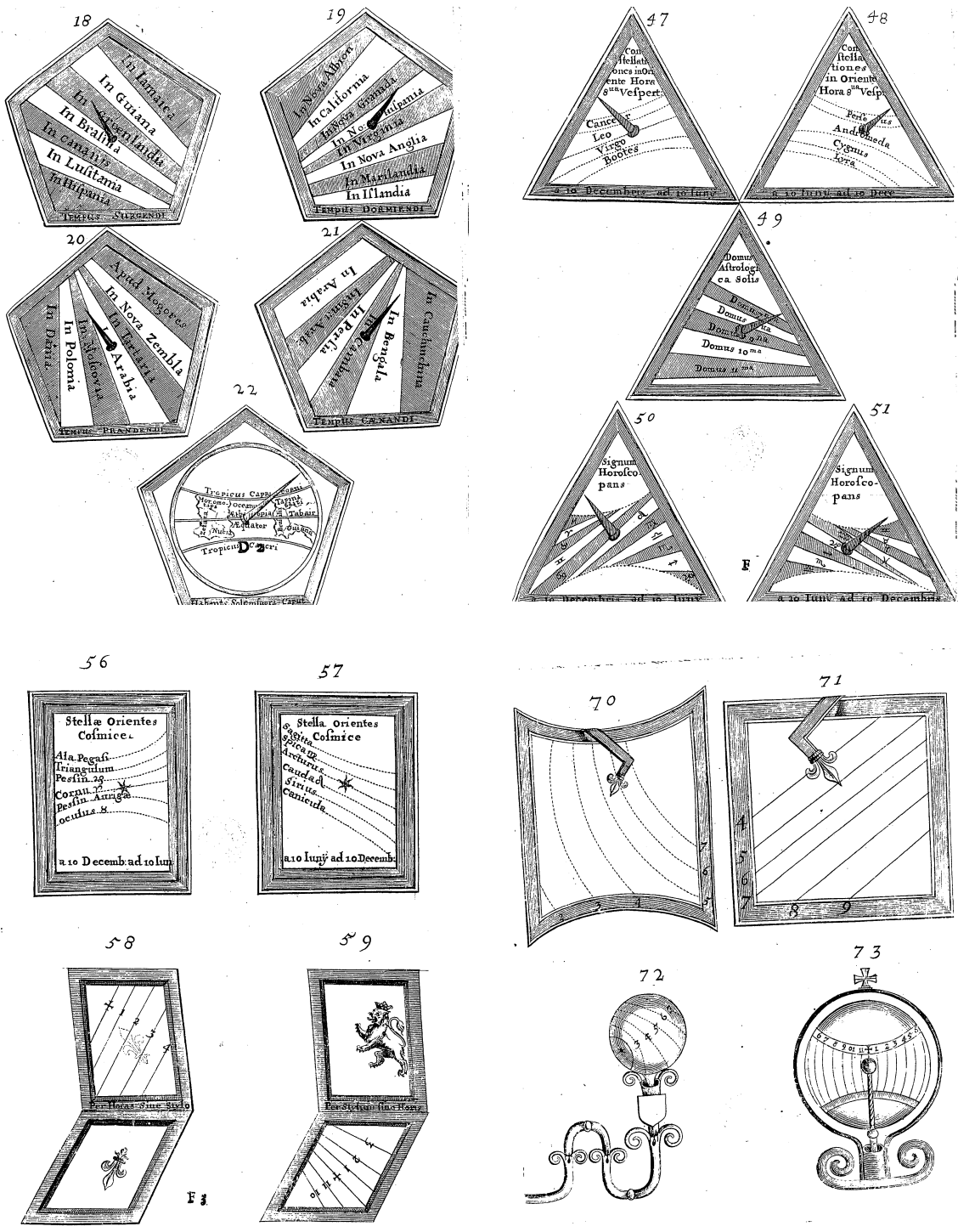


Fig. 4.16. Details of some of the 126 'dials' and other devices on the sundial in the Privy Garden, Whitehall. Some of the shapes on the Madeley dial were clearly intended to contain similar instruments. Source: Line 1673, 16-32.

The Whitehall dial had been designed by Edmund Gunter in 1624, possibly replacing or upgrading an earlier dial by Kratzer which was essentially the same size and form. Certainly the earlier dial was recorded in 1584 and is known to have been repainted in 1595-96 (Somerville 1988, 63-64). The rebuilding of 1624 was actually undertaken by Nicholas Stone – a highly-regarded and innovative master mason, who had trained under Inigo Jones at Holyrood and became master mason to James VI/I in 1619, and to Charles I in 1626 (Somerville 1998, 65). Primarily known for his sculpture, Stone also designed Goldsmiths Hall and undertook several commissions for Dudley Digges, the son of the mathematician Thomas Digges (Colvin 2008). Holyrood also has a famous multifaceted sundial – rather larger and more complex than Madeley but with some intriguing similarities; however the Holyrood dial is known to have been built by John Mylne in 1633 and is not associated with Stone (RCAHMS 1951, 152-153). Stone is however known to have produced at least two other sundials in the early 1620s. Although he only worked once in Shropshire (a tomb effigy at Acton Burnell dated 1632), it ‘is at least possible’ that he, or a pupil, produced the Madeley dial (Somerville 1998, 65).

On balance the date of the dial seems most likely to fit in with the walled garden of the 1620s or 1630s. Henderson (2005, 181) describes the sundial as being ‘late sixteenth century’ in date. Somerville (1987, 246) also originally suggested that it was sixteenth century, but on closer examination came to the conclusion that it was probably early seventeenth century – but nevertheless accepted that there is insufficient evidence to date it more closely than the period c.1570 to c.1640 (Somerville 1988, 64). However its archaeological context – in the centre of a walled garden of c.1620-1640, from which it has never moved – makes it most likely to have been commissioned by Basil Brooke. Brooke’s travels, courtly connections and known enthusiasm for science and technology, also mark him out as the most likely originator of the dial. The presence of sundials at Moreton Corbet and Naworth may also have been an influence on Brooke’s choice of a sundial as the centrepiece of the walled garden (Harwood 2006, 40-43; Hepple 2001, 113-114). It is unlikely that Brooke had acquired a second-hand dial from elsewhere – such an instrument would of course only work in the location where it had been designed and made. In any case the size of the Madeley stone is such that this sundial must have been finished *in situ*, where it is today, certainly to the extent of making the various astronomically-accurate depressions in the surface, and perhaps even going as far as completing a delivered roughed-out cube.

Somerville (1987, 252-254) argues for a link between sundials in particular, and to some extent 'scientific gardens' of the Renaissance more generally, with freemasonry. Such links seem improbable in the case of the Catholic Brooke family. However there are no obvious parallels with other Catholic garden furniture, nor – except for the rather weak circumstantial connections with Moreton Corbet and Naworth – can any convincing Catholic connection be traced through the commissioners of other similar dials. The 1672 account of the Whitehall dial was written by a Jesuit, so there is no inconsistency between an interest in mathematical instruments and deeply-held Catholic convictions – indeed, as argued elsewhere in this theses, the two things more often than not appear to have gone together. Since the design of any of the metalwork or decoration will never be known, there is no evidence for any specific Catholic references which may or may not have been part of that design. It can be argued that the five hemispheres of the south face form a Quincunx, but this is highly conjectural. The contemporary symbolism of the sundial is just as likely to have reflected Basil Brooke's industrial interests (Coalbrookdale steel could have been used for the fixtures and fittings, for example) and political outlook. Not much more can be said on the basis of archaeological evidence, other than that the sundial was evidently a rather magnificent gentry toy which demonstrated scientific understanding and enthusiasm.

4.4 The park, the wider estate and beyond

Just as with the Madeley Court gardens, post-seventeenth century developments significantly altered the area within and around the park. Consequently even tracing the outline of the park, let alone determining in any detail its internal arrangements during the sixteenth and seventeenth centuries is not easy. There is a growing consensus in the literature that even the medieval park was very much more than a 'deer park': they included mining, quarrying, forestry and other industrial activities (Moorhouse 2007); and in the post-medieval period parts of many parks were leased out for agricultural and industrial undertakings (Bowen 2013, 200-202). In any case it is clear that perceptions of parks – either before or after this period – were more fluid than some of the literature on park landscapes might suggest. Thus the boundaries of emparked medieval monastic precincts are perhaps better seen as a permeable 'zone ... rather than a hard line in the landscape' (Everson and Stocker 2007, 230). Certainly for the post-medieval period it has been convincingly argued that later seventeenth century and eighteenth century landowners took a very broad view of what constituted their 'estate'. At Whitehaven (Cumbria), for example, a landscape of salt production and coal-mining was developed

by the Lowther family from the 1630s, whilst maintaining and indeed enhancing elements of a more politely designed landscape which carried other symbolic meanings (Cranstone 2009).

It may be significant that the Madeley Park is not noted on Saxton's county map of 1577, unlike the comparable Lilleshall Park to the north. However Saxton's coverage of parks has been shown to be inconsistent elsewhere (Prince 2008, 8-9). Nevertheless Madeley's omission might imply that even at that date the encroachment of industrial features such as coal mines, and perhaps agricultural land-uses, had destroyed the coherence of the area of the park. This section will therefore focus less on the spatial arrangement of the park, and more on the routes through and around it, and on its relationship with the settlements, the estate and the wider landscape. The industrial elements of the estate are not considered here as they are discussed in detail in the following chapters.

That being said, it is possible to reconstruct at least some of the possible former extent of the park (Fig. 4.17). The name 'Park Street' is given to a section of the main east-west route immediately to the west of the settlement of Madeley; this name is noted on nineteenth century mapping, and it seems reasonable to conclude that the southern boundary of the park was at one time more or less contiguous with the alignment of that road. The valley of the Mad Brook, immediately to the east of Madeley Court, would have provided a logical eastern boundary – although eighteenth and nineteenth century developments (including a canal wharf and extensive deep coal mining operations) at Tweedale have removed any traces of pre-industrial landscape features. A boundary along the Mad Brook would have placed Madeley Court rather at the edge of its formal park, rather than the centre; so it is also possible that the boundary was further east, perhaps as far as the parish boundary along the crest of the hill between Madeley and Kemberton. The northern boundary may have followed the stream which also delineated the parish boundary; however its original course (and the nature of any pre-nineteenth century land use) has been lost as a result of the construction of the Great Western Railway in the 1860s (Fig. 1.07). At some point, moving westwards from Madeley Court towards the Severn Gorge and Coalbrookdale, one would have left the park. The western boundary may have been marked by the continuation of Park Lane around to Lightmoor; the name 'Rough Park' is still used for the area to the east of the road here; however it is possible that the boundary was further west, in which case it has been lost due to nineteenth and twentieth century development.

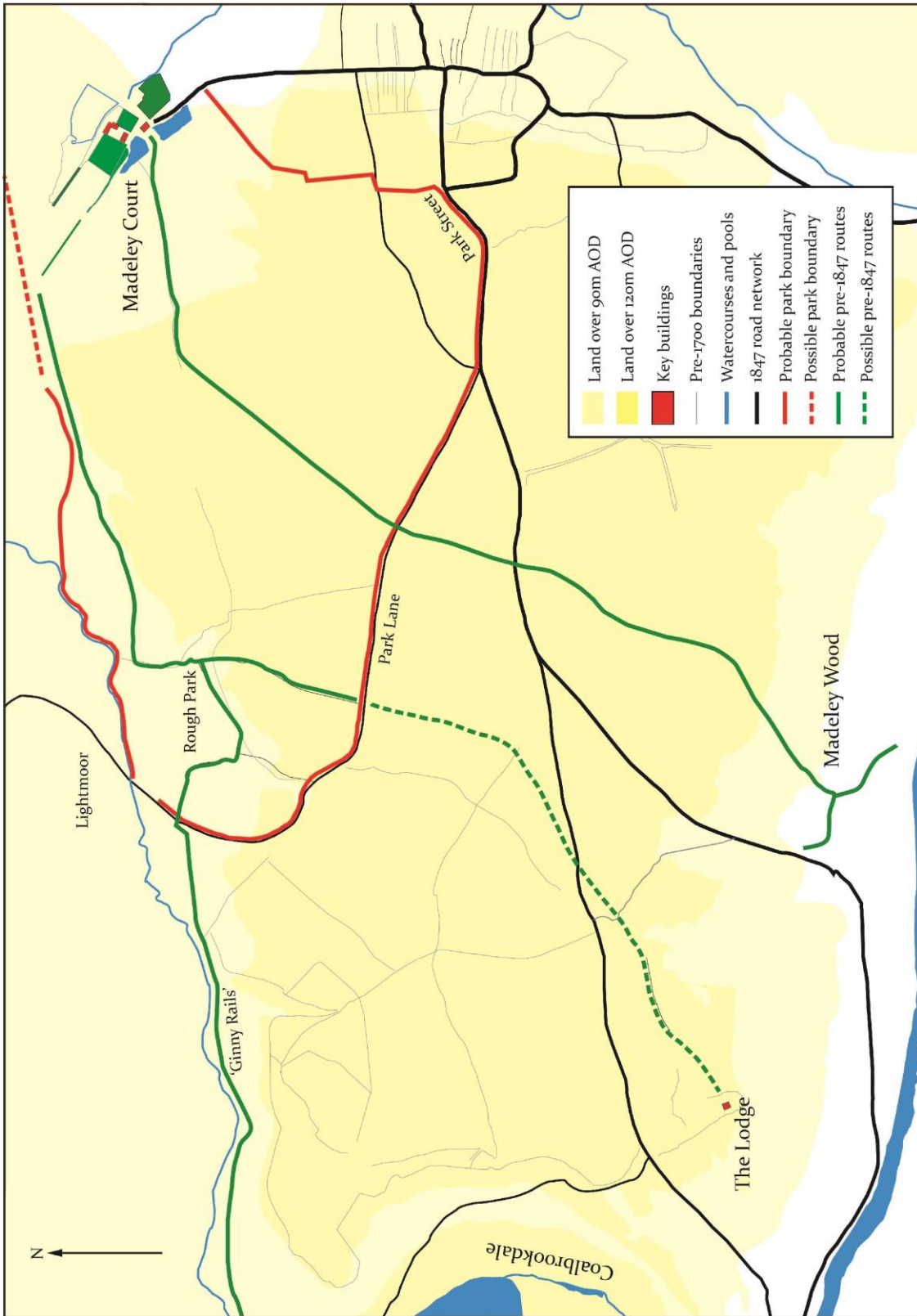


Fig. 4.17. The possible extent of the Madeley park, and routes through the landscape, in the first part of the seventeenth century. Source: author.

Travel from the settlement of Madeley to the Severn Gorge (including Madeley Wood) and to Coalbrookdale could follow two options: to the south and east down the valley of the Mad Brook, or to the west (Fig. 4.17). The more formal westward route was from the High Street – along the southern edge of the park – to arrive at the eastern side of what was later known as Lincoln Hill. There was also a long-standing gentle-contour route which descends into Coalbrookdale from the northern side of Madeley Court; used from the 1790s for horse-drawn plateways ('Ginny Rails'), and again in the 1860s by the Great Western Railway, this could have been both a natural route between Madeley Court and Coalbrookdale, and a possible extension of the northern boundary of the park.

The settlements in the estate would have formed an important element of the landscape, although less subject to being redesigned than other landscape elements that were more directly controlled by the Brooke family. New development in Madeley during this period was limited, and took place largely within the medieval town plan. The physical separation of Madeley Court from the church and settlement had symbolic significance in the Middle Ages; the 'isolated manor' physically embodied the social separation between manor, church and settlement (McDonagh 2007, 189-191, 198). This separation may also have had meaning in the sixteenth and seventeenth centuries – albeit with a different emphasis. Many post-dissolution landowners built entirely new houses on new sites. Others – like the Brookes – chose not to do so. Whilst this may have been a financially prudent course of action, the evidence of the development of Madeley Court itself suggests that it was never an entirely satisfactory gentry house: it lacked symmetry and its orientation to surrounding landscape features was perhaps unorthodox (Chapter 5, and Fig. 4.09). In other examples where the detached location of the pre-dissolution house was retained, it served to emphasise the status of the inhabitants of the house, and provided a mechanism by which 'social status and political power could be actively negotiated and maintained' (McDonagh 2007, 199). Moreover the restatement of those power relations was undertaken by continually rebuilding manor houses on the same sites well into the early modern period. By reinforcing the validity of the medieval spatial arrangement, the Brookes were asserting their position as the rightful inheritors of power and status (McDonagh 2007, 200).

The two principal outlying settlements – Madeley Wood and Dale End – were located at the confluence of their valley-streams with the River Severn; both continued to serve interests focussed on coal mining and river-borne trade respectively. They both grew in size, but their design was most strongly influenced by geological and topographical

factors. Madeley Wood was located to the east of the confluence of the Mad Brook with the River Severn. As a settlement, its location was a compromise between three factors: its relationship to the confluence, its relationship with the main road to the River Severn from the settlement of Madeley, and its relationship with the lucrative coal mines to the north. Its design (or lack of it) arose from the same considerations. The dominant landscape feature at Dale End was the confluence of the Cald Brook with the Severn, and the water-powered forges at the bottom of Coalbrookdale. These features might have formed a natural focus for settlement; however the potential significance of Dale End as a settlement in the sixteenth and early-seventeenth centuries has been overshadowed by the later enlargement of the settlement Upper Coalbrookdale settlement, and the dominance of the narrative of the later period. This is not to deny that there may have been settlement in Upper Coalbrookdale during the period of this study; it is just that there is no evidence for it. There is only one standing building in Upper Coalbrookdale that can be firmly attributed to the 'seventeenth century'; and this may well post-date the period of this study. This is the 'Tobacco House'. It overlooks the Upper Furnace pool, in common with the later 'Darby Houses' that were clearly designed to do so (Belford 2007), which would imply that its construction post-dates the 1658 furnace.

Turning to property owned and managed by the Brookes beyond Madeley, with the exception of industrial interests, most of this extra-Shropshire estate appears to have taken the form of relatively short term and speculative investments. For Sir Robert Brooke, of course, the Manor of Madeley represented only one of a number of acquisitions which resulted from his position at court in the aftermath of the dissolution. Thus he had acquired property in Suffolk at some point in the 1530s, and in Cambridgeshire and Kent early in the following decade; this was followed by Madeley in 1544, Ludstone in c.1548 and finally Lapley in 1549. Madeley and Lapley were intended for his two older sons; Ludstone (which was sold in 1557) provided a useful short-term family home close to Claverley whilst the former prior lived out his days at Madeley.

John Brooke seems to have focussed primarily on his life in London and the development of the Madeley estate – certainly he does not appear in historical records of any property transactions during the latter part of the sixteenth century. Basil Brooke, on the other hand, was highly active in a variety of property investments, in addition to those relating to his industrial portfolio. From the beginning of the sixteenth century he invested in woodland and agricultural land, and bought and sold other properties,

including several estates in Lancashire from c.1607, Buckinghamshire from at least 1609, and land and property in and around London from the 1620s (CCALS: DBN/B/1/12; CBS: D-X750/2; CBS: D-D/16/2-3). He retained an interest in his cousins' Lapley property, and was also involved – along with Humphrey Giffard of Chillington – on behalf of his sister Dorothy in the management of the estate at Knight's Grange in Cheshire after the death of her husband Hugh Starkey (Stewart-Brown 1938, 82-83).

Basil Brooke's London property included a house in St Sepulchre-without-Newgate, as well as land at Pursefeild and Fickettesfeild (Lincolns Inn Fields), on which latter property he built houses in 1639-40 (Shirley 1863, 136). This was presumably a speculative development as the houses were sold almost immediately – No.41 to Robert Brudenell (a relative of his first wife and later the Earl of Cardigan); this property was subsequently known as Cardigan House⁹ (Riley and Gomme 1912, 45-58). The other properties were not in Brooke's ownership at his death, and may have been sold in the 1630s to settle debts which at that stage were approaching £25,000 (Hammersley 1973, 373). Despite the death of Bishop Bishop at the St Sepulchre house, Brooke clearly held no sentimental regard for this property. It is evident that the non-industrial elements of Basil Brooke's estate beyond Madeley were acquired – and disposed of – entirely for their financial value; they held nothing in the way of social or spiritual capital.

The etymology of the word 'landscape' may have had its roots in property ownership (Schama 1995, 10), but thanks to the visual artistic revolution of the Renaissance it had, by the seventeenth century, come to encompass certain aesthetic considerations. This combined with the slightly eccentric chorographical tradition – which saw the past in the present, and provided anthropomorphic similes for landscape features (Mendyk 1986, 479-480). This in turn linked with older ways of imbuing natural landscape features with spiritual meaning and significance, which for Catholics were undergoing a revival under the Jesuits (Walsham 201b, 162-163). These three threads would have influenced Basil Brooke's perception of his surroundings. In this context, therefore, it is necessary to consider aspects of landscape vision that were unrelated to property ownership: views out from the estate to natural and antiquarian features of potential symbolic significance.

⁹ In the eighteenth century this became the site of the Royal College of Surgeons.

Perhaps the most obvious and significant feature of an older natural landscape was The Wrekin (407mAOD), a hill formed of Precambrian volcanic debris located some 7km west of the settlement of Madeley. A dominant feature of the local and indeed regional landscape, it was a hill-top fortification in the Bronze and Iron Ages and is associated with variety of mythological stories. It is not visible from the centre of the Madeley, nor from Madeley Court. However, the Christian ritual of Eucharistic procession which emerged in the later twelfth century was one which ‘linked the periphery’ of settlements to their centre, and involved axial movement (Rubin 1991, 267-268). It seems unlikely that such formal processions formed a part of post-dissolution Madeley life; however many of the Catholic inhabitants would have been aware of the symbolism involved (Johnson 2007, 131-134). Certainly a hypothetical traveller walking from the centre of the ‘cross’ of Madeley to the periphery of the settlement – and, significantly, towards the former spiritual centre at Much Wenlock – would move (westward) up a gently-sloping lane (modern Park Street and Park Lane) to the outskirts of the settlement. To the right (north) would be the former monastic deer park, the open fields would be on the left (south). At the crest of the hill, before the road leads down to the Severn Gorge, the westward view is dominated by the Wrekin (**Fig. 4.18**).

Michael Drayton’s chorographical journey, noted at the beginning of the chapter, featured the Wrekin prominently in its Shropshire narrative. Starting in south-west England, he passed through south Wales, along the Welsh borders and around north Wales, before turning south into Cheshire and then Shropshire. This was a land of myth and mountains: the ‘great Saxon warriors’ fought off the Welsh with the active agency of the Wrekin – ‘a hill his proper worth that knew’: ‘The lustie Wrekin saw himselfe so well to beare, Against the Cambrian part, respectlesse of their power’ (Drayton 1622, 195) (**Fig. 4.19**).

One of the best views of The Wrekin from within the Madeley parish was from a rocky promontory in the south-east of the parish, overlooking the Severn Gorge. Unlike the nearby Lincoln Hill, which had been quarried for limestone since the sixteenth century, there was little of geological value here. As well as the Wrekin, this spot also had a commanding view of the Severn Gorge; looking up the River Severn the view also took in the site of the former Buildwas Abbey (Appendix 3, Fig. A1.03). Moreover it was part of the Manorial holdings. It is not known what – if any – spiritual significance this site may have had before the seventeenth century; however it was the spot chosen by Basil Brooke for the construction of a small lodge.



Fig. 4.18. The Wrekin perceived from ground level in the twenty-first century. Looking west from the high point of Park Lane, on the western edge of Madeley. Source: author.

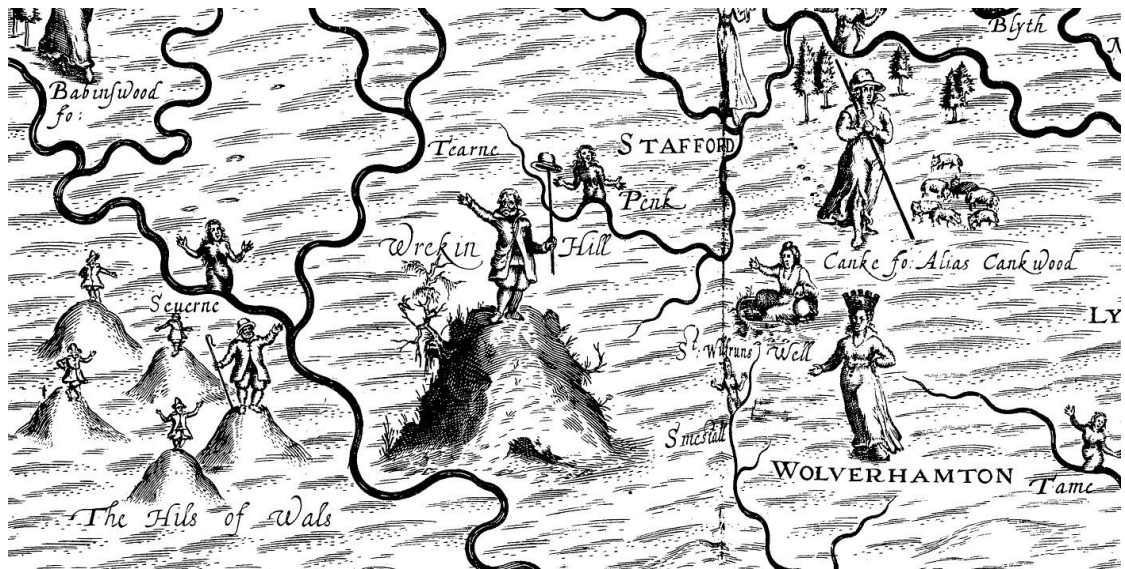


Fig. 4.19. The Wrekin perceived from a chorographical perspective in the seventeenth century. Detail from William Hole's map in Michael Drayton's *Poly-Olbion* showing Shropshire 'on the east of Severne' and Staffordshire. Source: Drayton 1622, 194-195.

4.6 Discussion

The location of Basil Brooke's lodge would have been ideal for contemplation of the spiritual aspects of the natural landscape, reflection on the lost glories of the Old Faith, and gazing at the emerging industrial landscape. The Lodge may also have acted as some sort of observatory, complementing the magnificent sundial in the 'scientific garden'. Its possible social, political and religious roles are considered in the context of the building itself in the following chapter; what matters here is its relationship to the landscape. Like the viewer of Herri Met de Blès' painting of ironworks and mines (Fig. 4.01), the observer in *The Lodge* could obtain a 'world view' perspective that encompassed all aspects of the Brookes' identity.

The Brookes' industrial activities had blurred the boundary between the park and the rest of the estate, and the creation of the gardens around Madeley Court had provided a link between the house and the park. The breaking down of these boundaries to some extent reflects broader philosophical approaches to the understanding of the relationships between art and artifice on the one hand, and nature on the other. Also, a distinctively Catholic view of landscape may have been emerging at this time. There is no doubt that the Brookes were able to display both their gentry status and their status as industrial innovators and entrepreneurs through elements of the landscape they created in the Madeley estate. However, despite their very public Catholicism attested through the documentary record, there is no direct evidence in their design of the landscape at Madeley to suggest that this aspect of their identity was intended for visible and public display. In the absence of any overt symbolism in the gardens or other elements of the landscape, and without knowing the layout of the park in between, it is necessary to consider how the Brooke family's Catholic identity manifested itself by other means.

5. Architectural expressions

The landscape designed and inhabited by the Brookes was a development of an existing landscape, with a great deal of continuity in philosophy and design between the medieval past and the post-dissolution future. This continuity resulted from three principal forces: a desire to express solidarity with a Catholic past, a need to reinforce the Brookes' place as rightful inheritors of the estate, and the resources available to enable the transformation of the landscape. These same three forces would also have applied to the design and creation of the buildings within that landscape. This chapter examines the extant non-industrial buildings in the study area that were owned, occupied, created and modified by the principal actors and their associates during the sixteenth and seventeenth centuries, with particular emphasis on the ways in which the buildings manifest expressions of identity.

5.1 Secular building design and Catholicism

There is a large historical literature on various aspects of post-Reformation Catholicism, although rather fewer archaeological studies concerning the material culture and fewer still investigating secular architecture. Archaeological investigations of buildings have tended to focus on churches, and particularly the ways in which the array of 'Catholic' features – ranging from entire chapels to wall paintings to funerary monuments to fragments of furniture – were affected by the physical processes of Reformation. Iconoclasm inevitably forms an important fulcrum for such studies, which explore destruction, removal, concealment and revival from a variety of ecumenical, liturgical and political perspectives (*cf.* Davidson and Elijenholm-Nichols 1989; Binski 1996; Finch 1991; Finch 2000; Harding 2003; King and Sayer 2011; Owen 2006; Roffey 2003). However in terms of this study, the eighteenth century demolition of the contemporaneous parish church precludes analysis of what would potentially have been an illuminating resource. The partial survival of the Brooke memorials at Madeley says much about late eighteenth century memories of, and attitudes to, the events of the mid-seventeenth century; however this is not the primary concern of this thesis. As noted in Chapter 3 the fragmented memorials offer little visual evidence of the Brookes' Catholicism; in this regard they entirely conform to contemporary conventions regardless of sectarianism, although the epitaphs leave anyone who can read Latin in no doubt about the Brookes' religious identity.

In terms of secular architectural expressions of Catholicism, the role of the private places of worship of the metropolitan elite in sustaining a focus for broader Catholic communities has been addressed. Examples include the Fitzalan Chapel in Arundel (Sussex), where the Catholic Howard family effectively partitioned the parish church of St. Nicholas along sectarian lines (Steer 1967), and Queen Henrietta Maria's chapel at Somerset House which provided a well-used resource for London Catholics (Dolan 2002, 688-650).

In contrast, comparatively little work has been done on the nature of Catholic symbolism in, and Catholic use of, secular buildings. A small number of examples of spectacularly overt recusant secular architecture exist, which have been well-studied. Probably the best-known of these are the projects embarked upon by Sir Thomas Tresham (1543-1605). Conventionally Tresham is said to have been raised a Protestant and converted to Catholicism in c.1580 during the Jesuit mission of Edmund Campion (Kaushik 1996, 40-41). However Tresham – whose father had died when he was three years old – was brought up in the Catholic household of Sir Robert Throckmorton in Warwickshire, and subsequently married Sir Robert's daughter. (Eburne 2008, 114-115). Moreover in 1577 Tresham had commissioned an overtly Catholic sculpture of the crucifixion for prominent display in his home at Rushton Hall (Northamptonshire) (Williams 2001, 221-222), and in the same year commenced work on the cruciform Market Cross in Rothwell (Gotch 1883, 12-15). These facts imply a longer-lasting, and perhaps more deeply-held, Catholicism than had previously thought to be the case. Nevertheless Tresham did accommodate Edmund Campion in 1580 and 1581, and as a result was arrested and imprisoned for twelve years (Kaushnik 1996, 42-43).

In 1593-94 Tresham began work on a Lodge and associated landscape design at Lyveden (Northamptonshire). This 'New Bield' was an entirely separate construction from the existing Manor, now known as the 'Old Bield'. It went further than Tresham's previous architectural adventures, blending the architectural flair and overall plan-form of the Market Cross with the overt Catholicism of the reredos. Moreover, as Andrew Eburne (2008, 117) has pointed out: 'Lyveden is a house and garden designed by a prisoner'. Tresham's prison experience appears to have been a remarkably intense one, and he emerged spiritually invigorated and widely read on theology, architecture and numerology, all of which appear to have informed his designs at Lyveden (Eburne 2008, 117-118). Cruciform in plan, with each side divided into three symmetrically-arranged bays, Lyveden is decorated with a series of religiously-inspired motifs, including IHS

monograms. The IHS monogram was a symbol associated with the Jesuits, which ‘originated in a medieval cult of the Holy Name of Jesus as a Latinized version of the Greek abbreviation IH(ΣΟΥ)Σ’ for JE(SOU)S’ although IHS can also be interpreted ‘as Jesus Hominum Salvator for “Jesus Savior of Mankind”, and In Hac Salus, “In This (Cross) Salvation”’ (Bryce and Roberts, 1993, 368-369). Uncharacteristically for Tresham’s projects, the lodge at Lyveden remained unfinished on his death in 1605 (Girouard 2003), although the equally symbol-laden gardens (discussed in Chapter 6) appear to have been at least partly laid out by this time (Eburne 2008, 124-130).

Whilst the Lyveden project was progressing, Tresham (who was again imprisoned between 1594 and 1595) began work on another Lodge, this time in the grounds of Rushton Hall. The resulting building, conceived in 1593 and completed in 1597, is without question the most famous piece of sixteenth-century recusant secular architecture in England. It has been thoroughly documented and described (Gotch 1883, Isham 1986; Bailey and Pevsner 2013). Symbolism abounds in Rushton Triangular Lodge – not least its plan-form, reflecting the Holy Trinity, with each side being 33 feet long, each having three triangular windows, three gargoyles and three gables. The external walls are decorated with numerous heraldic devices and religious images, as well as biblical inscriptions (one on each side, each 33 letters long), numerological puzzles (providing the dates of the Creation, the Flood, the Calling of Abraham, the death of Christ and the death of the Virgin Mary), and IHS monograms (**Fig. 5.01**). Internally, each floor consists of an hexagonal room with three triangular corner spaces; in the upper room is the inscription ‘SSSDS’ (Sanctus Sanctus Sanctus Dominus Deus Sabaoth, the opening lines of the Tridentine Mass). Finally the building’s official function was the house of the rabbit warrener, and indeed an adjacent pillow-mound is aligned with the Lodge and appears to be contemporary. David and Margarita Stocker have argued convincingly for the very real contemporary Catholic symbolism of ‘humankind as spiritual rabbits’ (Stocker and Stocker 1996, 267-269); so even the building’s ostensible function carries deep symbolic meaning.

Tresham is important because of his recusancy, and because of his high profile within contemporary Catholic milieu. He also had a direct personal connection with the Brooke family. In the summer of 1605, Tresham’s daughter Mary was married to Thomas Brudenell of Deene (Northamptonshire) (Kaushnik 1996, 46). The Brudenell family were also prominent recusants, although arguably more subtle in their public manifestation of their faith than Tresham; Thomas subsequently became the first Earl of Cardigan

(Morey 1978, 45-46). Thomas Brudenell, along with his three brothers, had inherited the Deene estate in 1585 from his uncle Edmund Brudenell. Edmund also had a daughter, Etheldreda, who became Basil Brooke's wife at about the same time that her cousin had married Mary Tresham (Baugh 1985, 27). It is therefore likely that Brooke and Tresham had met – certainly his architectural antics will have been familiar to him.

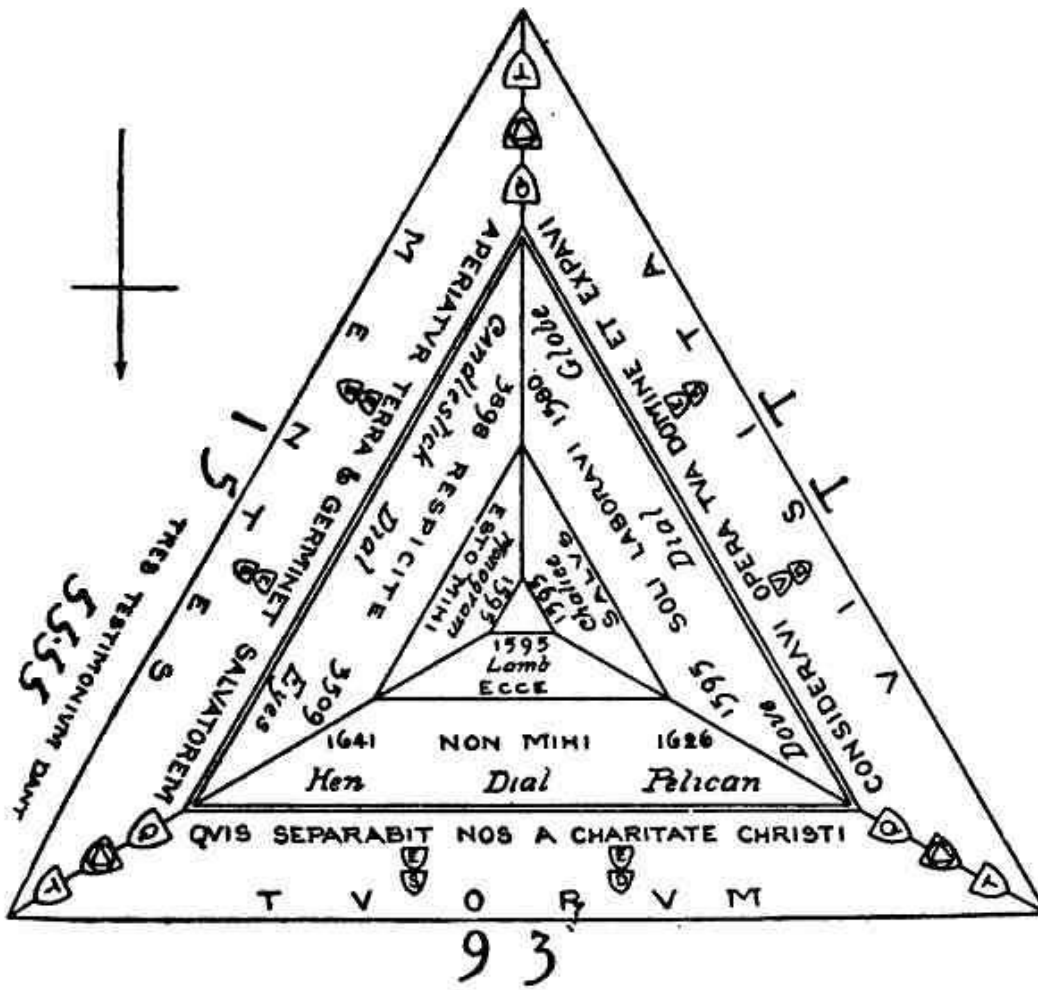


Fig. 5.01. A nineteenth-century transcription of some of the Catholic symbolism built into Thomas Tresham's Lodge at Rushton. Source: Taylor 1896, 296.

The spectacular and blatant nature of Tresham's edifices has tended to overshadow the study of other possible instances of the expression of recusancy in secular buildings. Nevertheless some work has been done on 'recusant' features in more conventional secular buildings that are known to have been owned or occupied by Catholic families in the post-Reformation period. Most obviously, there is a large body of popular writing on

priest holes, and some individual examples have been examined as part of general investigations of the buildings within which they are located. Many are attributed to the Jesuit lay brother Nicholas Owen, who specialised in their construction and was commissioned to create hiding places in a variety of houses across England (Hogge 2005, 118-119). Two well-known examples in the region (both in Worcestershire) include Harvington Hall, which contains no less than seven such hiding places, and Hindlip Hall – demolished in the early nineteenth century but apparently similarly riddled with priest holes; ironically Owen was arrested at Hindlip in 1606 and subsequently executed (Hodgetts 1973, 192-194; Hodgetts 1975, 18-55). The best-known example local to the study area – although probably not by Owen – is at Boscobel House, and is discussed below. A series of gazetteers was compiled and published during the 1970s and 1980s (Hodgetts 1973; Hodgetts 1975a; Hodgetts 1975b; Hodgetts 1977; Hodgetts 1982), and an attempt was made by the same author to analyse the somewhat limited dating evidence (Hodgetts 1972) as well as comparing historical lists with surviving examples (Hodgetts 1988). However more recent syntheses have not been developed, and little work has been done subsequently on priest holes in England or indeed elsewhere in post-Reformation north-west European contexts.

Catholic symbolism has been noted in otherwise seemingly uncontentious buildings in Scotland and Ireland. In both places these symbolic representations appear to be no earlier than the 1580s, and the majority are seventeenth century in date. The representations generally fall into three main groups: IHS monograms and associated words and abbreviations, *Arma Christi*, and crosslet gunloops (Bryce and Roberts 1993; Bryce and Roberts 1996; Donnelly 2005). Post-reformation wall paintings in secular buildings in Ireland continued to include Catholic scenes and motifs, as at Ardamullivan Castle (County Galway) and Ballyportry Castle (County Clare) (Morton, 2004, 342-346). On the whole these manifestations were quite subtle, but two exceptional Scottish examples are worth noting. One is the elaborate heraldic doorway at Huntly Castle (Strathbogie), dated 1606 and incorporating a range of Catholic imagery such as the Five Wounds of Christ and the twin-headed eagle of the Holy Roman Empire (Bryce and Roberts 1993, 365). The other is the curiously-named Wine Tower (Fraserburgh), an isolated three-storey building of c.1580 on an exposed headland; the top storey appears to have been a chapel with interior decoration including the *Arma Christi*. Access to the Wine Tower was originally via a ladder to the first floor; moreover it is ‘evident that the entire structure was designed to prevent the viewing of its interior’ (Bryce and Roberts

1993, 368). Ostensibly a folly or viewpoint, the Wine Tower was in fact a place of worship concealed in plain view on the estate.

There is the question of the extent to which the Brookes' may have felt it desirable to introduce any, all, or indeed none of the 'Catholic' architectural symbolism described above to their suite of secular buildings. Certainly Catholics preferred to define their own religious spaces to complement, or oppose, those of the Church of England. Traditions of ritual and expression were relocated to new places: for most Catholics, the household became the most important spiritual centre. Advice for the creation of a place of worship in the domestic sphere was provided by authors such as the Jesuit Robert Southwell, and Richard Broughton (Broughton 1603; Brown 1973; Gillow 1885, 1:318; Pilarz 2004). Yet transforming the home into a religious space need not have required 'new furniture, pictures, or icons ... the householder could leave his rooms just as they were ... [and] reconceptualise the purpose and meaning of each room' (McClain 2002, 384). Nevertheless, with the household at the centre of Catholic spiritual and intellectual life, there could be little separation of private (worship) and public (political) life. Women in particular were at the centre of this 'overtly political and dangerous' balancing act: their management of the household also included the maintenance of 'private' places and the sheltering of priests and others (Dolan 2002, 655-658). It is also worth noting the increasing use of outside space, and natural features (Chapter 4). Finally, *in extremis*, as Lisa McClain (2002, 391-397) has noted, even outwardly anti-Catholic places such as prisons, courtrooms and places of execution, could be subverted into opportunities for sermons, blessings and pilgrimages.

5.2 Madeley Court

Madeley Court is located at SJ 695 051, approximately 1km to the north of the centre of the settlement of Madeley (see Figs. 1.04, 3.09 and 3.17). Formerly the most important grange of Much Wenlock Priory, Madeley Court was already a substantial house at the dissolution, comprising two linked ranges and a free-standing chapel. Madeley Court has been the subject of several architectural and archaeological studies dating back to the 1920s, with the principal work being undertaken prior to and during conservation work by the Telford Development Corporation in two stages: excavation and some building survey in 1978-79 (Meeson 1979), and further building recording, excavation and other work between 1988 and 1992. Some of this has been published (Somerville 1988; Moffett and Meeson 2009; Aldsworth and Worthington 2009; Stamper 2009), but

much of it remains in unpublished archive form (Worthington 1993). The main thrust of the present study therefore has been to interrogate previous work as much as the building itself, although numerous site visits have been made between 2007 and 2012. There are three principal phases of construction which can be attributed to the period when the house was in the ownership of the Brooke family (**Fig. 5.02**).¹⁰

When Dorothy Brooke moved in to Madeley Court sometime between 1553 and 1557, the complex was essentially as it had been in the fourteenth-century. It would appear that only relatively minor physical alterations were made during Dorothy's occupation of the house, although these reoriented the relative status of the internal spaces and so influenced subsequent developments. More ambitious modifications and extensions were made during the 1570s by John Brooke. These included the addition of a first floor to the north range, the rebuilding and extension of the east range, and an entirely new west range (Phase 1). The west range partly re-used the footings of the medieval complex and also incorporated re-used medieval masonry, presumably from the demolished east and west ranges (Meeson 1979, 4). Evidence both from the excavations and the standing buildings suggest that the whole building was comprehensively redecorated at this time, and to a high standard. Fragments of ceiling plaster suggested elaborate decoration incorporating depictions of birds, seashells, floral scrolls and coats of arms (Moffett and Meeson 2009, 37).

The resulting U-plan mansion ameliorated many of the irregularities of the medieval complex. However, although John Brooke had managed to forge the somewhat disparate elements of the medieval grange into a more fashionably symmetrical country house, some components of the earlier complex remained evident. The slightly skewed angle of the east wing was one reminder of the earlier heritage of the house, but the most obvious anomaly was the thirteenth century chapel – now standing at an awkward angle in the newly-enclosed courtyard. Moffett and Meeson (2009, 39) argue that this was not demolished until the 1590s. Certainly the stratigraphic relationship with the new west wing implies that it was still standing when this was built, and the relocation of the main doorway to the north range (later embellished with a porch) would have meant

¹⁰ The principal source for the phasing of Madeley Court is Moffett and Meeson 2009; they identified 13 periods of development from the twelfth to the twentieth century. The dating of some of these has been re-evaluated as part of this study, which has focussed on the sixteenth and seventeenth centuries. This chapter refers to three phases: Phase 1 broadly corresponds to their Periods 1-6, Phase 2 to their Periods 7 and 8, and Phase 3 to their Period 9. See **Fig. 5.02**, and compare with Moffett and Meeson 2009, Fig. 20.

that entry to the house involved the partial circumnavigation of the old chapel. However John Randall (1880, 11) suggested that the first floor of the 'western addition' was actually a chapel, with the ceiling adorned with coats of arms. The question arises, therefore, of the extent to which the retention of pre-dissolution features was intended to make some sort of statement about the Brookes' Catholicism and their inheritance of the material remains of the monastic landscape.

The retention of the old chapel might have provided a relatively straightforward mechanism by which to express Catholic identity and continuity. Not demolishing this structure was a conscious decision, a deliberate act just as much as building a new structure, or augmenting buildings with Catholic symbolism. However it was a much less contentious or brazen act than new building would have been; it would be much easier to justify (if justification were needed) the retention of existing structures on non-sectarian grounds. It is also possible that the chapel was not only a private place of worship, it could have had a customary public role – as at Arundel (Sussex), where the church building accommodated both a private Catholic chapel and a public Anglican parish church after the dissolution.

The resulting 'courtyard' could also have had a quasi-liturgical function; excavation found evidence for a short-lived structure beneath the later sixteenth century porch on the south side of the main range (Meeson 1979, 4-5). Thurley (2009, 180-185) has noted that cloisters were constructed in royal and episcopal palaces both before and after the reformation, as part of the setting for processions on particular feast days; and that this tradition was sustained in collegiate buildings and smaller country houses well into the late sixteenth century. Whilst it is tempting to see the small courtyard and early structure as a putative cloistral range – and indeed the spatial relationships between Hall, Chapel and courtyard at Madeley Court are faintly reminiscent of early Tudor palace arrangements – the evidence for this is weak. Moreover, even if such a layout was designed or intended, it appears in non-Catholic houses of the same date. One local parallel is at Pitchford Hall, 23km to the west – an ambitious 1560s and 1570s expansion of a medieval hall to create an elaborate mansion for the Protestant Shrewsbury cloth merchant Adam Ottley (Pevsner 1958, 227-228). A strikingly similar layout was also evident during this period at Acton Court (Gloucestershire), remodelled by the Protestant Poyntz family (Rodwell and Bell 2004, 197).

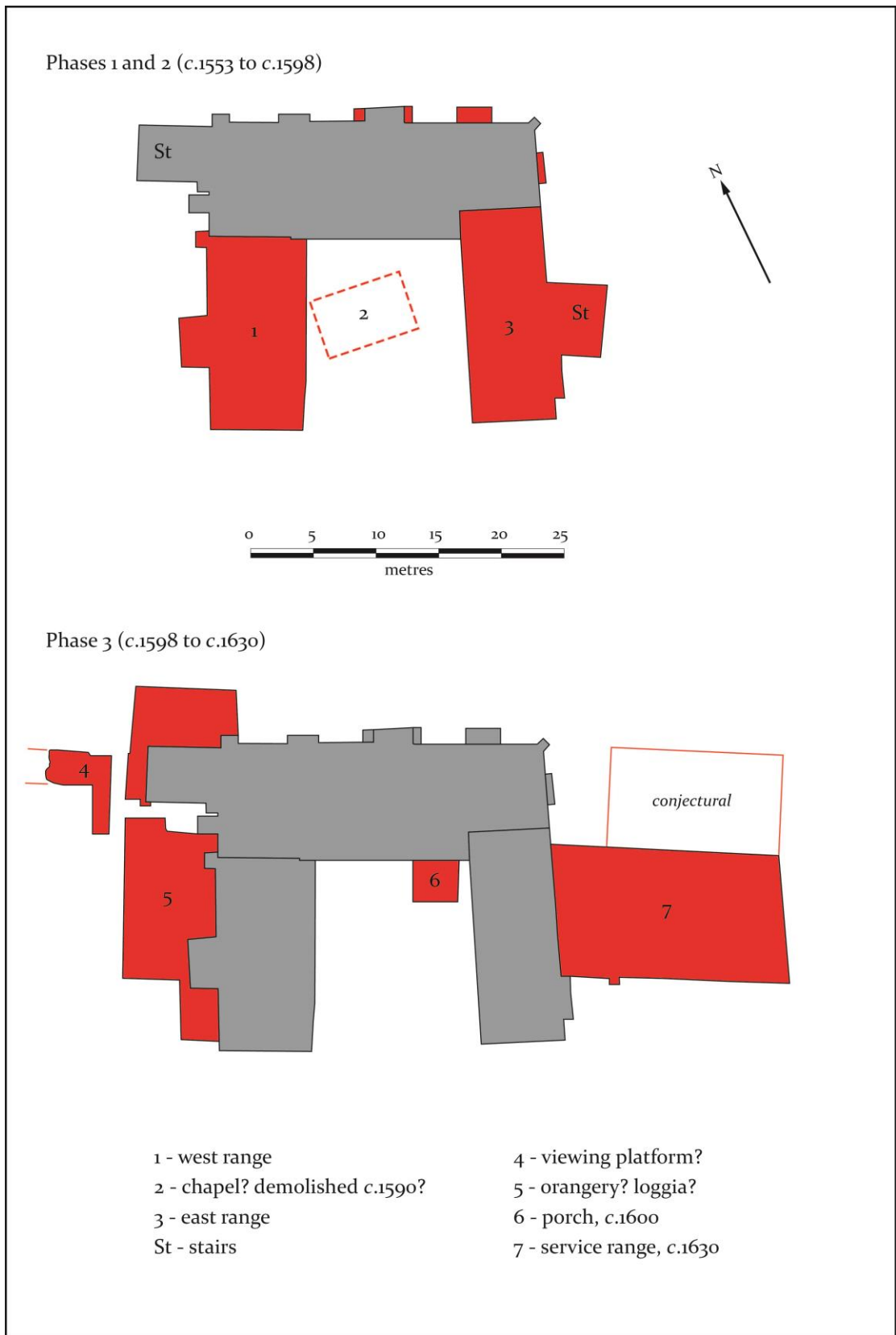


Fig. 5.02. Madeley Court: simplified phase plan. Elements in red are new at that phase.
Source: author, after Moffett and Meeson 2009, Fig. 20. See also footnote 10 on page 165.



Fig. 5.03. Madeley Court: courtyard elevations of the north (left) and east (right) wings, showing Phase 2 windows and Phase 3 porch.

Whatever symbolism may or may not have been intended by this arrangement, it was in any case short-lived. Further substantial alterations were made to Madeley Court in the last thirty years of the sixteenth century (Phase 2), which included the demolition of the chapel in order to open up the courtyard. It is possible that the Brooke family had by this time built their own chapel (or appropriated an existing one) at the parish church. The removal of the chapel provided an opportunity for extensive refenestration. New windows were inserted into the courtyard-facing walls; the south end gable of the east range was entirely rebuilt, and a series of large dormers inserted in the north range and east range (and presumably in the subsequently demolished west range) (Fig. 5.03). In the north range these alterations corresponded with the subdivision of the space into smaller rooms; in the east range a series of rooms were created which were accessed from a north-south corridor (Moffett and Meeson 2009, 40-42).

Stylistically the Phase 2 alterations are unambiguously of the later sixteenth century and can therefore be associated with the remodelling of the house by John Brooke. Moffett and Meeson (2009, 40-41) suggest that this period of refenestration and internal

modification took place in the 1590s, although arguably it could have taken place in the previous decade. Much more flamboyant alterations were made to the house in the first three decades of the seventeenth century. These included the addition of a porch (Fig. 5.04) and a gatehouse, as noted in Chapter 4. On stylistic grounds Moffett and Meeson (2009, 42) argue that the porch was added in c.1600, with the gatehouse perhaps slightly earlier; in other words that these developments were the work of John Brooke. However, with some understanding of the mind set and outlook of the principal actors at Madeley Court (Chapter 3), another possible scenario presents itself: namely that these more sophisticated additions were an early foray by Basil Brooke into gentry house architecture. The late-sixteenth century had seen the emergence of a new 'class of professional designing craftsmen', responding to the increase in demand for new buildings from social groups outside the nobility (Airs 1995, 46). Many of Brooke's gentry neighbours drew on the design and project management skills of a range of such craftsmen; as the seventeenth century went an understanding of the 'principles of architecture' were increasingly seen as an essential component of gentry education (Airs 1995, 50). It would be surprising if Basil Brooke was not abreast of these developments.



Fig. 5.04. Madeley Court: the porch, probably early-seventeenth century, and possibly the work of Walter Hancock. Source: author.

The porch added to the main entrance at Madeley Court faced sideways, a feature that it had in common with porches on other Shropshire gentry houses – the nearest broadly contemporary example is at Benthall Hall, the home of the recusant Benthall family (Benthall 1979). Despite its vernacular plan form, the Madeley Court porch had architectural pretensions: it in many ways echoes the porch built by Sir Nicholas Bacon at Gorhambury (Hertfordshire) at the end of the sixteenth century (Hill 1996, 36-39); as noted in Chapter 4, the gardens created by his son, Sir Francis Bacon, may also have had an impact on Basil Brooke.



Fig. 5.05. Madeley Court: the gatehouse. Source: author.

The most important – and stylistically distinctive – addition to the Madeley Court complex in Phase 3 was the gatehouse (Figs. 5.05 and 5.06). This was built in a single phase, although it may have incorporated parts of an earlier building; there are some inconsistencies at the rear which hint at this. The external elevations are of sandstone, with timber-framing elsewhere. The outward-facing façade of the gatehouse consists of two three-storey sub-octagonal towers either side of an arched entrance; the main part

of the building is two storeys in height. There are a variety of decorative roundels incorporated into the masonry of the southern elevation – symbols used include Tudor roses, four-leafed clovers and armorial shields. As Moffett and Meeson (2009, 38) note, these details are typical of the period c.1600 and ‘do not, in themselves, suggest a close date’. However Tipping (1922, 154-160) noted how the roundels at Madeley Court exhibit a particular form (‘a moulded ring enclosing a recess’) which is found on certain other buildings in Shropshire but not elsewhere. These unique elements enable the authorship of the gatehouse to be strongly identified with Walter Hancock, one of the newly-emerging band of professional architectural designers. It seems likely that the other Phase 3 alterations at Madeley Court – such as the porch – were also his work.

Although Hancock was ‘a shadowy figure’ (Baker *et al.* 2006, 180), his obituary celebrated his ‘most sumptuous buildings, most stately tombs, [and] most curious pictures’ (Worsley 2007, 31). He was said to be ‘very skillful’ in ‘the art of masonry, and in setting the plottes for buildings and performing the same’ (Airs 1995, 45-46). Two local structures can definitely be attributed to him. The most prominent is the Market Hall in Shrewsbury (**Fig. 5.07**), in which Hancock’s role as master mason is well-documented. Hancock was recommended to the Bailiffs of Shrewsbury by a former patron, Sir Francis Newport of High Ercall Hall, in glowing terms: ‘I ... can well write unto you of mine own knowledge and experience that you cannot match the man in these parts (with any of that occupation) neither in science and judgement of workmanship, nor in plain-ness and honesty to deal with all ...’ (cited in Airs 1984, 372). Hancock also designed the tomb of Richard Herbert (d.1596) in St. Nicolas’ Church, Montgomery (Powys) (**Fig. 5.08**) (Haslam 1979, 166-167). Both the Market Hall and the Herbert tomb have very strong stylistic parallels with the Madeley Court gatehouse.

Hancock was also associated with Condober Hall (some 30km west of Madeley Court). Condober – a large country house on an H-plan – was built from c.1598 for Thomas Owen; Owen was a Justice of the Common Pleas and a Member of the Council of Wales, and had been granted the Manor of Condober in 1586 (Hodges 2011, 7-9). Although a much more ordered structure than Madeley Court, several features at Condober are reminiscent of the Brookes’ gatehouse. The main entrance to Condober Hall is a round arch flanked by columns and crested with strapwork; it is a close replica of the arch of Augustus at Rimini (perhaps via Hampton Court) – which also provides the prototype for the distinctive Hancockian roundels deployed here and at Madeley Court (Reiff 2000, 8-9).

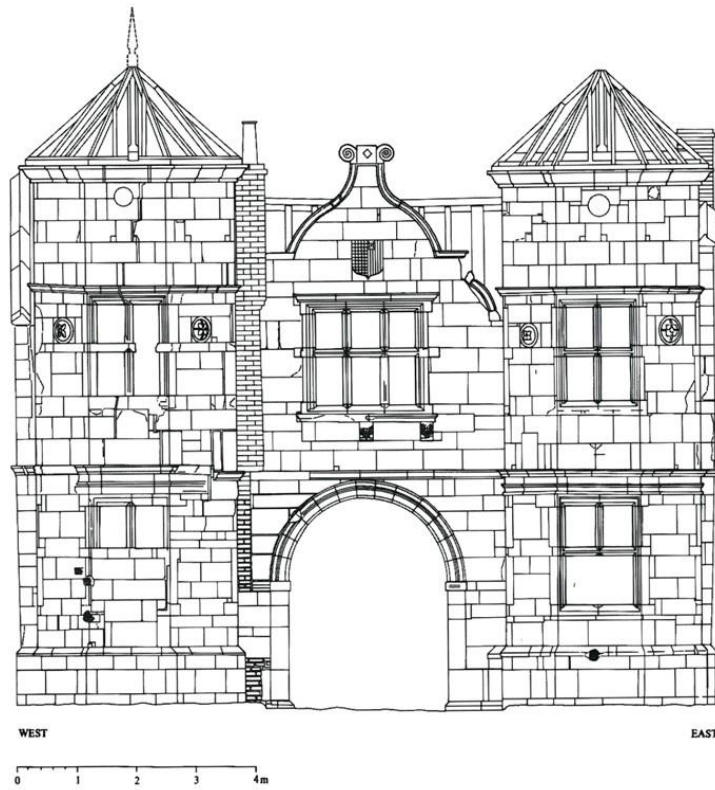


Fig. 5.06. Madeley Court: the gatehouse. Source: Moffett and Meeson 2009, Fig. 28.



Fig. 5.07. Shrewsbury Market Hall. Source: author.



Fig. 5.o8. The tomb of Richard Herbert in Montgomery. Source: author.

A more striking architectural parallel can be seen in the gateway to Condever, the round arch of which, like the gatehouse at Madeley, is surmounted by an elaborate floating cornice. At Condever, overall design and project management appears to have been in the hands of the better-known master mason Lawrence Shipway (Airs 1984, 371-373); however Hancock was certainly involved in the early stages of the project, along with other master masons such as John Richmond of Acton Reynald who had worked at Morton Corbet in the 1580s and could well have influenced the development of Hancock's repertoire (Harwood 2006, 39). Hancock died in c.1599 (Baker *et al.* 2006).

Again it is necessary to consider whether the gatehouse design represents an attempt to make a statement about the Brookes' Catholicism. Certainly there are no overtly 'Catholic' symbols of the sort discussed above incorporated into the decorative devices, nor are there any more covert inscriptions. The plan-form is entirely conventional, there is no cruciform symbolism as at Tresham's 'New Bield' and as might be implied at The Lodge and Upper House (see below). The elevations are stylistically no different from Hancock's other work for the solidly Protestant burghers of Shrewsbury, or his other non-Catholic clients. Hancock was not a Catholic himself, and his commissions were largely for non-Catholic employers. Therefore his engagement by Brooke appears to have been entirely on his merits as a master mason – presumably recommended through local gentry contacts – and was not motivated by any particular Catholic association or design intention. However this again reinforces Brooke's parity of status within local gentry circles.

The creation of the gatehouse was followed by a more substantial series of additions to the main house, and a series of projections beyond it (Fig. 5.02, and also shown in Fig. 4.09). At the western end of the house there were further additions which appear to have been made in association with the creation of the walled garden from c.1620 – the possible orangery and viewing platform, which brought the house into the garden. To the east there was a service range, and this may have been associated with the development of a farm complex. To the south-east of the house, adjacent to one of the ponds, was a Malthouse. This has been dendrochronologically dated to c.1606-c.1636 (Aldsworth and Worthington 2009, 119), but has been the subject of some confusion in the literature. The confusion partly stems from the building's proximity to the fishpond and the label 'old mill' applied to it on the Tithe Map. This error was further compounded by Randall (1880, 331-332) who wrongly associated it with medieval documentary references to mills within the Manor. There is no archaeological or structural evidence for this having been a water-powered mill. The most recent interpretation suggests that the building was built as a malthouse (Aldsworth and Worthington 2009); certainly there was a malthouse here in the early nineteenth century although it remains open to debate whether that was the original function of this building (Clark and Worthington 1993, 11-15; Michael Worthington, *pers. comm.*). The quality of its construction is consistent with a building in the precinct of the Madeley Court complex; however its more functional role is expressed by the use of brick for the walls. Very similar bricks are used in the walled garden.



Fig. 5.09. The Lodge. Simplified phase plan. Source: author.

5.3 The Lodge

The Lodge is located at SJ 674 038, on a rocky promontory at an elevation of 140mAOD (see Figs. 1.04 and 4.17). It has spectacular views in all directions, but particularly across and along the Severn Gorge (Appendix 1). The Lodge is situated approximately 2km from Madeley Court, and just over a kilometre from the industrial landscape of Coalbrookdale. The Lodge is significant because of its location, and because of its possible social and religious role. The Lodge had not been investigated archaeologically prior to the present study; and it has still not been subjected to dendrochronological analysis or other scientific dating methods. This section therefore represents the first detailed archaeological analysis of The Lodge in the context of the Brookes, their ownership of the (industrial) landscape, and their Catholicism. A detailed analysis of the phasing of construction is provided in Appendix 2. This section considers the date, form and possible functions of The Lodge as a building.

The earliest phase of construction (**Fig. 5.09**) is the only part of the present building which is relevant to the present study. This comprises a square structure measuring 5.2m east-west by 5.1m north-south in plan. The walls are constructed entirely of local ashlar sandstone, although the ground floor is rendered externally on the south and east sides. The south-facing and west-facing elevations (**Figs. 5.10, 5.11 and 5.12**) appear to have retained the original layout of fenestration – each floor is lit by a single window; on the ground and first floor these are two-light stone-mullions, and on the second floor they are small roundels. There was formerly an external doorway at ground floor level on the east side, now somewhat modified, but originally a square-headed arch with plain chamfered moulding (**Fig. 5.13**). This was set slightly off-centre; to the south (left) of this was a small stone-framed window, later blocked but possibly also an original feature. The present doorway in the south-facing elevation (**Fig. 5.10**) is a later insertion and there are no other former doorways; that, together with the style of this doorway suggests that this was the original entrance – in turn suggesting an original approach at least partly from the east (see **Fig. 4.17**).

The original form of the windows on the upper floors has been largely obscured by subsequent additions; however the remains of a possible window-jamb survive on the north side of what is now the first-floor bedroom door. The north elevation was almost entirely consumed by the fireplace, although the small staircase was lit by two stone-mullioned windows, and there was a single round window in each gable at second-floor level. As originally constructed, this building consisted of a single room on each floor. Access between the ground floor and first floor was provided a stone-built semi-spiral staircase built into the alcove to the east of the chimney-breast. The current stairway to the second floor is a later insertion; access was originally provided by an internal timber staircase which the evidence of the ceiling joists suggests was located in the north-east corner of the first floor room.

The ground- and first-floor rooms both contain similar fireplaces, each constructed of substantial chamfered stone blocks. Both fireplace surrounds have inscribed marks taking the form of a stylised 'EE' on the first floor fireplace, and the same symbol reversed on the ground floor fireplace (**Fig. 5.14**). There are several possible interpretations for these symbols. Least likely is that they are personal monograms. Although Basil Brooke's first wife was called Etheldreda, her maiden surname was Brudenell, and 'EE' are clearly not the initials of 'EB'; moreover they are also not the initials of any of their six children (Thomas, Anne, Mary, Dorothy, Agatha and

Catherine) (Randall 1880, 12). Conceivably 'EE' is a cipher for 'BB' – Basil Brooke – but this does seem rather tenuous. There are two alternative interpretations, neither of which are particularly convincing. These marks are superficially similar to 'VV' marks noted elsewhere in the country invoking the Virgin Mary, such as those which appear within the broadly contemporary palimpsest of carvings at Baddesley Clinton (Warwickshire) (Meeson 2005, 42-43). Another interpretation is that these are 'apotropaic witches marks to ward off evil spirits which might come down the chimney' (Anon. 2009, 3). Certainly there is certainly no stratigraphic clue as to their relationship to the features into which they are carved, and so a Catholic or even a Brooke connection cannot be made.

The first floor room contains a wall painting, in poor condition on the eastern part of the southern wall (**Fig. 5.14**). The wall painting is executed on a very light plaster skim across the wall. Nevertheless it is possible to discern that it contains three elements: a dado, just below window-sill height; a frieze 0.56m above this; and between them a main panel. This style of wall-painting predominated in the region before c.1625, before being replaced by a 'more restrained and architecturally conscious' form (Davies 2008, 19). In detail, the dado comprises a so-called 'Shropshire scroll', very similar to that at Old Idsall House, Shifnal (Shropshire, 9km north-east of The Lodge); that house is dated 1575-1600 but the wall painting may well be later (Davies 2008, 168).

The 'Shropshire scroll' is found in various iterations in seventeen separate houses locally; however although it may have had a common inspiration – possibly a 'Byzantine' pattern published by Walter Gedde in 1615 – the work was undertaken by a variety of artists (Davies 2008, 91). The frieze is a more geometric pattern incorporating diamonds and circles, again possibly derived from designs published by Gedde, and is more distantly reminiscent of work dated to the first quarter of the seventeenth century, such as 8 Castle Street, Hereford (Herefordshire, 100km south-west), Moorend Farm (Cheshire, 62km north), and 43 High Street, Bromyard (Herefordshire, some 71km south) (Davies 2008, 134, 130, 137). No details of the design in the main panel are discernible. On balance, despite the inclusion of the older 'Shropshire scroll' element to the design, the wall painting appears to date to the first quarter of the seventeenth century.

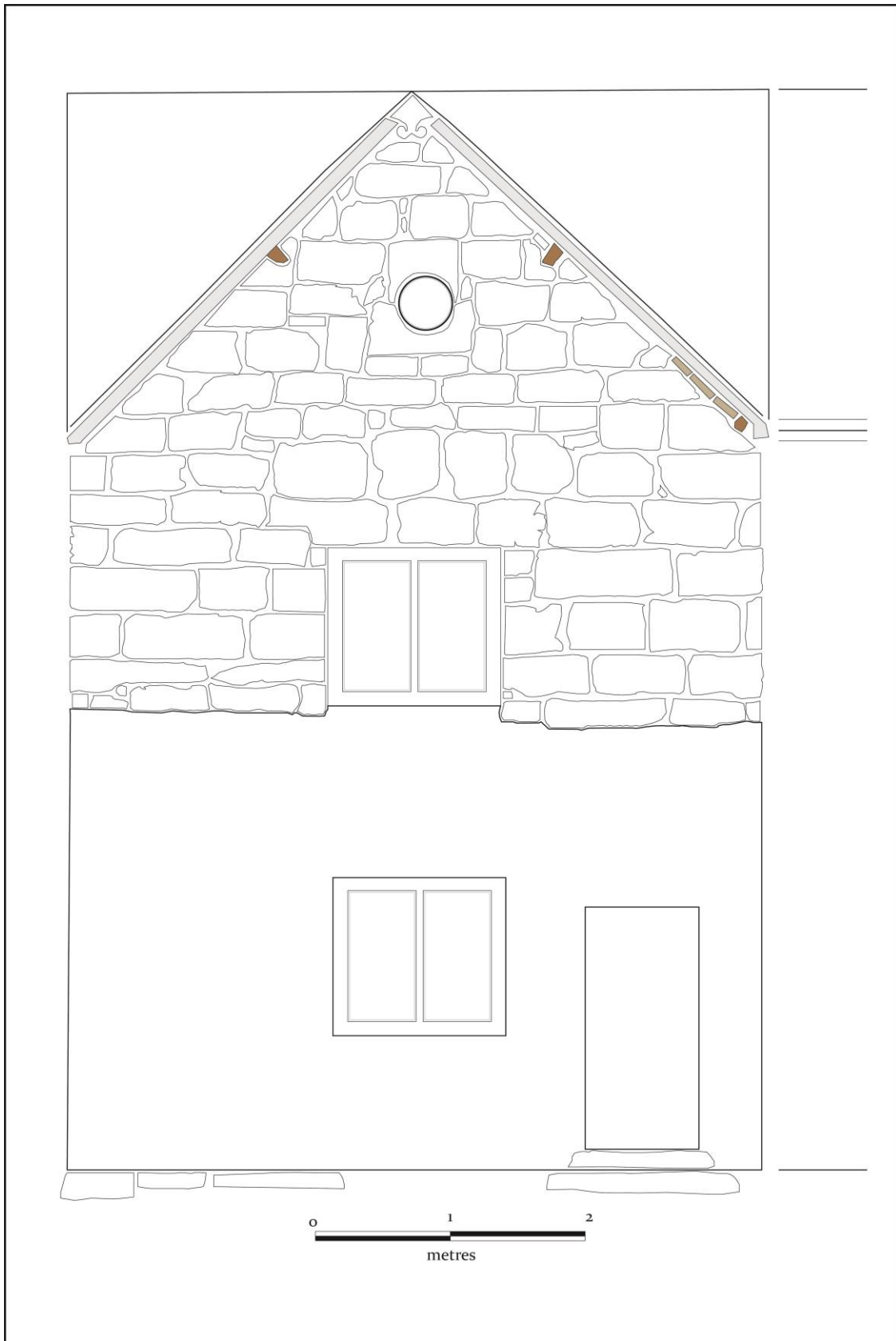


Fig. 5.10. The Lodge: south-facing elevation as existing (2008). Source: author.



Fig. 5.11. The Lodge: south-facing elevation. Source: author.



Fig. 5.12. The Lodge: west-facing elevation. Source: author.



Fig. 5.13. The Lodge: possible original external door in the east wall. Source: author.



Fig. 5.14. The Lodge: interior decorations. Left: wall painting of c.1615-c.1625 on the first floor. Left: inscribed graffiti (undated) on the first floor fireplace. Source: author.

The attic room is an unusual space, and the roof structure was clearly designed to be seen. There is no trace of any original decoration, and no carving was noted on any of the stone or woodwork. Arguably the exposed roof structure represents an overt 'laying bare' of an internal cruciform element of an externally square building, something hidden from the outside but made visible internally. Going further, the arrangement of the beams could be seen as incorporating an 'I' and an 'H', and perhaps even an 'S'. However if this is really a manifestation of Catholic symbolism in the built fabric it is an unusually subtle one. Comparable roof structures are extant in other buildings with no known Catholic associations, and a more reasonable explanation is that this is an entirely pragmatic method of constructing a decorative four-gabled roof on top of a square building.

One final – and perhaps the most significant – element of The Lodge is a portable artefact. This is a hand-written prayer book of early seventeenth century date. It 'belongs' to The Lodge, in the sense that it lives within that part of the present complex which has the Phase 1 building at its core, and has been passed down with the property through successive owners (James Lea, *pers. comm.*). It was examined *in situ* in 2008, but was not subsequently made available for inspection. Like most of the evidence in this study, it is fragmentary and barely readable. It consists of a combination of prayers and meditations; it has not been possible to determine whether these are transcribed from elsewhere or creations of the writer – it could perhaps be both. There can be no doubt about its Catholic origins: there are several references to the Virgin Mary, and a passage about purgatory. It is conceivable that this is an artefact of Henry Hawkins' visit in the 1630s. The initials 'W.S' appear at the foot of a rambling prayer on the inside front cover, but there are no other identifying marks – and there is no 'W.S.' identifiable in any of Basil Brooke's known connections.

On balance the available evidence suggests that The Lodge was built in the first thirty years' or so of the seventeenth century. The exterior detailing of the roundels in the gable ends appears to reflect, rather than anticipate, the more sophisticated efforts seen in the Madeley Court gatehouse. The design and construction generally is less accomplished than the gatehouse. The fireplaces are consistent with an early seventeenth century date; in particular the ground floor fireplace which is very closely related to the ground floor fireplace in Upper House, which must post-date c.1621 (see below). The bricks used in the first floor fireplace are identical to those used in structures of c.1620-c.1640 at Madeley Court. All other extant detailing, fixtures and

fittings are also consistent with an early seventeenth century date. Finally the wall painting, although containing some elements which reflect earlier local practice, seems to be the work of an artist familiar (albeit perhaps at several removes) with designs in Gedde's book published in 1615.

The name of The Lodge suggests several possible functions. Tresham's Triangular Lodge at Rushton was a warreners' lodge, and was surrounded by pillow-mounds. David and Margarita Stocker (1996) have argued convincingly that the proximity of the rabbit warrens to the Triangular Lodge is a deliberate continuation of the Catholic symbolism inherent in the building. The rabbit was a powerful Catholic symbol of human frailty and the need for Christ's salvation. It is argued that 'the rabbits themselves' were 'intended to play a part in the elaborate theological and liturgical tableau which Tresham created in ... his newly constructed park' (Stocker and Stocker 1996, 266-267). There is no landscape evidence for or against the presence of warrens at The Lodge in Madeley during the seventeenth century. The field-names 'Mill Coneygreave' and 'Lower Coneygreave' occur on the 1847 Tithe Plan, relating to fields about 100m to the east of Madeley Court – of course the presence of warrens at Madeley Court does not mean that there weren't also warrens at The Lodge.

Another possible function could be that of a hunting lodge. Certainly the plan-form of The Lodge follows an established convention for small gentry hunting towers which can be traced back to the fourteenth century (Roberts 1995). However as discussed below it is an extremely small example of this building type, and so perhaps other possible functions need to be considered. In addition, with the exception of the top storey, with its four-gabled roof and round windows, The Lodge is a very simple structure indeed for a period which saw some exceptionally flamboyant ancillary buildings. Apart from Tresham's Lodge at Rushton, Sir Philip Sidney proposed a lodge in the form of a six-pointed star in his *New Arcadia* (1590) (Skretkowicz 1982, 177-178); other early seventeenth century examples, such as Thomas Cecil's Wothorpe Lodge (Hertfordshire) or Francis Bacon's imaginatively-designed 'summer house' at Gorehambury (Hertfordshire), were also exuberant expressions of their owners' learning and ambition (Henderson 2005, 174-177). However, the scale and relative plain-ness of The Lodge is in keeping with changing architectural trends from the 1620s, moving 'away from the demands of Aristotelian magnificence, towards a greater reticence' (Cooper 2002, 299). It also conforms to the generally conservative architectural attitudes deployed by the

Brookes elsewhere on the Madeley estate, and perhaps their lower social status compared to these better-known contemporary examples.

Perhaps the most obvious local parallel to The Lodge is to be found at Boscobel House (**Fig. 5.15**) located on the Shropshire-Staffordshire border (at SJ 837 083), approximately 20km east-north-east of The Lodge, and part of the Giffards' Chillington estate. There are three main components of the building complex at Boscobel – a 'north range', the hunting lodge and the farm complex. Conventionally the hunting lodge at Boscobel is said to have been built in c.1630, as the 1660 account of King Charles' adventures mentions the house as having been constructed 'about thirty years since' (Blount 1660, 7). Dendrochronological analysis has suggested that the north range may have originated in the sixteenth century, and that the hunting lodge could represent the remodelling of an earlier building, possibly constructed at the same time as the adjoining north range (Tyers 2010). Alternatively the early seventeenth century hunting lodge could have been built from re-used timbers (Tyers 2010). In form, the Boscobel hunting tower is broadly similar to The Lodge. It is roughly square in plan, of three storeys, with one elevation occupied by a substantial chimney. The principal difference is an external stair turret (Weaver 1987, 18). The story of the hunting party cited in Chapter 3 presents a clear association between the two structures, which appear to have been constructed at around the same time. Whether Giffard copied Brooke, or the other way about, is not really significant; in any case it seems likely that, just as Brooke had been invited to at least one hunting party at Boscobel, so Giffard (and other Catholic gentry friends) may well have been entertained at The Lodge.

Despite being only 4.5km from Chillington, Giffard's Boscobel was a hunting lodge in the tradition of the private retreat exemplified by the Lodges of Christopher Hatton, William Cecil and Thomas Tresham (Henderson 2005, 172-173). It was effectively a small farm, with stabling, and extensive cooking, eating and sleeping arrangements for a hunting party. It was also situated within extensive gently-rolling woodland. The surviving Phase 1 form of The Lodge clearly provides very limited accommodation with no stabling; although it may be that contemporary ancillary buildings have subsequently been lost. The Lodge is less than 3km away from Madeley Court, so its use may have been limited to day visits, or at least single-night stays. Unlike Boscobel, it was not situated in good hunting territory; although partly wooded, the immediately adjacent area was riddled with mines, quarries and charcoal burning sites.



Fig. 5.15. Boscobel House. Source: author.

The Lodge may also have functioned as a banqueting house. The ‘banquet’ was an unheated feast of sweetmeats and other delicacies taken separately from the main meal; one significant feature of many banqueting houses is the extensive vistas which banqueters could enjoy. The plan-form of a Greek cross on a square was a ‘popular conceit’ for sixteenth and early seventeenth century banqueting houses, and there was also a tradition of elaborate wall painting and symbolic decoration within them (Henderson 1999, 65-67). The notion of The Lodge as a banqueting house is supported by the apparent absence of a banqueting house in the Madeley Court gardens. If this was indeed the case, the decision to create a ‘detached’ banqueting house here was a deliberate one; somewhere close by but away from the main house and settlement. The Lodge was no Wine Tower – although activity in the top storey would have been well-concealed from outside eyes – but nevertheless does contain the potential to have had similar multiple functions. Indeed The Lodge could have served as a hunting tower and banqueting house, and also provided accommodation for a servant engaged with some aspect of the management of the park or estate.

5.4 Upper House

Upper House – and particularly its associated barns – have long been considered an important part of the seventeenth century history of the area. The primary historical significance is one of association, namely that the barns (‘King Charles’ Barns’) were reputedly the hiding-place of King Charles II on 5th September 1651. However the supporting cast of the King Charles story are more germane to the present study than the escape of the King himself. The house (Fig. 5.16) was built by Francis Woolf in c.1621. Woolf was a prominent local Catholic and merchant with close connections both to the Brooke family and to the Giffards; he was involved with the Coalbrookdale ironworks from at least 1609, and was one of the merchants who shipped Basil Brooke’s steel down the River Severn. In between Giffard’s Royal Oak and Woolf’s barns, King Charles’ party had also considered using Woolf’s boat a possible means of escape. Francis Woolf’s son, another Francis, took over the lease of Brooke’s Madeley ironworks during the inter-regnum.



Fig. 5.16. Upper House: north-facing elevation. Thomas Telford’s church tower, on the site of its medieval predecessor, can be seen in the left background. Source: author.



Fig. 5.17. Upper House: simplified phase plan. Top: the house and barns, showing their relationship to each other and to Church Street. Bottom: the development of the house.

Source: author.



Fig. 5.18. Upper House: north-facing elevation. Top: as existing (2010). Bottom: interpretive drawing showing phasing and conjectural details. Source: author.

Upper House (SJ 694042) is situated on Church Street, approximately 500m north-west of the Church, and some 1.2km south of Madeley Court. The house, together with its original grounds – which as late as the 1770s still comprised over 150 acres – occupied a good portion of the south-western quadrant of the original planned settlement. This fact, together with the apparent deviation of the main outer road into the settlement – that is, respecting the plot on which Upper House was situated – perhaps hints that the present house is located on the site of an earlier building of some significance. The house was surveyed for the first time as part of this study. The circumstances and results of the survey are presented in more detail in Appendix 2; this section places the form and style of first two phases of the house, and the first phase of the barns (Figs. 5.17 and 5.18), in context.

The earliest part of the house is the north-west wing (Phase 1). This was a free-standing three-storey structure, roughly square in plan; it was a timber-framed building on an ashlar sandstone plinth. It was served by an external brick chimney on its north-eastern corner. The nature of this original structure is intriguing, since it is more characteristic of the broadly contemporary lodges at The Lodge and Boscobel (see above) than it is of a merchants' house of this period. It shares the same roughly square plan, with a 'cruciform' plan of the second-storey gables. As at Boscobel and The Lodge, the chimney was external; unlike these two houses however it is not located centrally on one of the walls but is placed at a corner. There is no cellar. Aside from its construction it is, in fact, strikingly similar in many ways to The Lodge. However, the location of the house – in the centre of the settlement – weighs against its interpretation as a hunting tower or lodge. The location of the chimney suggests that the original primary entrance was from the south or west sides. Certainly the tower-house would have lacked a prominent 'face' in any direction, except towards the barns. Although it is highly unlikely that Phase 1 of the Upper House was a hunting tower or lodge *per se*, there remains the possibility that this 'cruciform' three-storey square building was constructed by Woolf in homage to the similar buildings at The Lodge and Boscobel.

There are three further possible interpretations for the unusual form of Phase 1 of the Upper House. Firstly, it could represent the adaptive re-use of an earlier farm building, such as a dovecote – albeit an unusually large and elaborately-constructed dovecote. However, it seems unlikely that a prominent local merchant with close personal ties to leading gentry families, would have adapted a dovecote as his family home, however elaborate it may have been. The second possibility is that it could represent the first part

of a much larger intended structure that was never completed to the design of the original scheme. For example, it could have been a west wing or tower which was intended to be counterbalanced by a similar east wing or tower at the other end of an unbuilt range. However there is no apparent financial or other reason why a counterpart wing could not have been constructed; although there is (as yet) no archaeological or documentary evidence to suggest that it was not. Thirdly, this square range with a substantial external chimney could have functioned as a separate stand-alone kitchen as a later addition to an earlier range of domestic buildings now lost.

The house was extended during the seventeenth century in two phases, the first of which (Phase 2) was probably erected before the Civil War. It contains few original features, having been largely remodelled during the construction of a further extension in the later seventeenth century (Phase 3). However the fireplace in the Phase 2 part of the building is very similar in form, scale and structure to that in the ground floor of The Lodge. It comprises the same cantilevered lintel construction with a large bressumer acting as a relieving arch, and has similar chamfering to the vertical side-pieces. Similarly the stone-mullioned semi-dormer window on the second storey, which is an original survival of the Phase 2 construction, is also close in style to those of The Lodge. It is of course quite likely that Woolf and Brooke employed the same local mason to construct both buildings at around the same time, not to mention adherence to prevailing architectural trends.

The listing description notes the former provisional list inscription as referring to a 'priest's hole'; this is probably derived from Randall (1880) on the basis of local hearsay and has been repeatedly cited subsequently (*cf.* Orchard 1986; Tart 2012). However the survey undertaken during the course of this study found no evidence for any priest holes or similar arrangements. On a site visit when the building was in use as offices, staff there pointed to three separate locations of so-called 'priest holes'. Two of these were located in areas of the building known to have been constructed in the eighteenth or nineteenth centuries; the third, in the Phase 2 building, was found to be a 1980s stationery cupboard built into the void left by the removal of an eighteenth century fireplace. It is still possible that as-yet undiscovered 'priest holes' are concealed between the fabric of the Phase 1 building and its external chimney, but it has not been possible to determine the presence or absence of such features during the present survey.

5.5 Catholic symbolism in the Madeley buildings

There is no evidence at Madeley Court for anything other than a conventional sequence of post-dissolution improvement undertaken to keep up with wider trends in gentry housing. The hiatus in significant alterations between the 1550s and the 1570s is partly a consequence of site-specific circumstances – namely the occupation of Madeley Court by the former Prior and then the widow of the deeply conservative Robert Brooke. However a twenty-year hiatus between the acquisition of a property following the dissolution, and its Elizabethan redevelopment, is not unusual nationally (Coppack 1990, 136-140; Girouard 1983, 4). The short-lived post-Reformation existence of the monastic chapel was a pragmatic survival architecturally, which may have facilitated the equally pragmatic Bossian survival of conservative Catholicism. Evidence of Mass being celebrated at Madeley Court is limited to an unreferenced and undated note in Randall's nineteenth century local history (Randall 1880, 11-12), and although Basil Brooke is known to have hosted the Catholic activist Henry Hawkins at Madeley (Höltgen 1999, 602-603), the complex does not appear to have played a significant liturgical role for the Brookes. Certainly there does not appear to have ever been a space within the main house suggestive of the sort of clandestine church noted elsewhere in Europe (Kaplan 2002, 1032-1033). The most noteworthy building in the Madeley Court complex – the gatehouse – is perhaps remarkable for the profusion of its adornments, but nevertheless sits quite firmly within the repertoire of Walter Hancock who was a local master mason with no particular sectarian affiliation. Neither the forms of the Madeley Court buildings, nor their decorations, contain any overt or covert Catholic symbolism.

Despite the known Catholic associations, the firmly non-sectarian architecture of Madeley Court is not exceptional. There are Catholic houses of about the same date with no obvious symbolic intent; conversely there are non-Catholic houses riddled with ornate symbolism. Thorndon (Essex) is an example of the former; it was acquired in the early 1570s by Sir William Petre (c.1505-1572), a Catholic who was Secretary of State to Henry VIII, Edward VI, Mary and Elizabeth. His son, Sir John (1459-1613), demolished the old hall and replaced it with a 'large, rambling house' (Clutton and MacKay 1970, 27). This house was in turn demolished in the 1730s, but its layout and appearance are recorded in a map of 1598, and a drawing by Grand Duke Cosmo III of Tuscany who visited in 1669. The drawing (**Fig. 5.19**) shows an asymmetrical multi-gabled mansion of

generally late-sixteenth century style, and a gatehouse whose twin flanking octagonal turrets bear a superficial resemblance to those at Madeley Court.

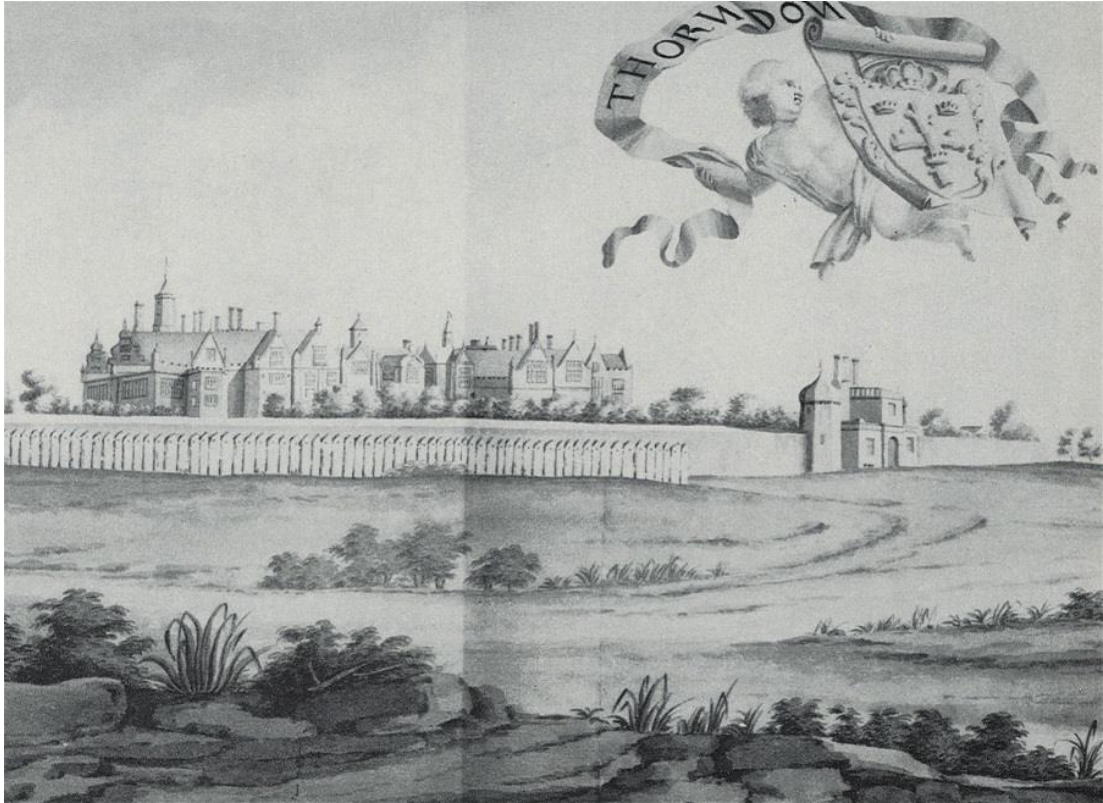


Fig. 5.19. Thorndon Hall. Source: Thorndon Hall.

Conversely, the exuberantly ornamented late sixteenth century mansion at Moreton Corbet (Shropshire) provides an example of the latter (Fig. 5.20). This was built by Robert Corbet, who was a contemporary of Sir Philip Sidney at Shrewsbury School; the pair later travelled together around Europe. Sidney's Arcadian visions may well have been influential in the development of Moreton Corbet; it was also a 'very early example' of the adoption of Vredeman de Vries's designs published in 1578 (Harwood 2006, 39). One of the masons employed by Corbet, John Richmond, subsequently worked at Condober, where he may in turn have influenced the thinking of Walter Hancock.

Of the Madeley suite of buildings considered here, the Lodge is probably the only building where it might be possible to claim any sort of symbolism in its design and decoration – although any interpretation of the extant features in The Lodge remains highly speculative. Four components stand out. Firstly the 'cruciform' internal arrangement of the roof space could be interpreted as embodying some sort of

iconography, both in its overall form and in reading specific elements as an 'IHS' monogram, although this is tenuous. Secondly the graffiti on the fireplaces could possibly be read as versions of the 'VV' monogram, although given the undateable nature of these other interpretations are equally plausible. Thirdly the wall painting suggests a relatively high status role for the first floor room; however the painting is so degraded that it is not possible to identify specific motifs other than very general decorative schema. A secular (or indeed non-sectarian) wall painting would have been entirely in keeping with the suggested public role as a banqueting house. Even if religious symbols were evident this is – as Donnelly (2005, 38) points out in an Irish context – not necessarily 'evidence of resistance' but could instead be 'merely evidence for the continuation into the early modern era of a Medieval tradition of adorning secular houses with devotional images'. Fourthly, the strongest piece of evidence – the prayer book – is a portable artefact, and whilst its provenance suggests a long-standing association with the building there is no conclusive proof of a connection with the Brooke family.



Fig. 5.20. Moreton Corbet Castle. Source: author.

A further strand of evidence is the relationship between The Lodge and Boscobel House. It is tempting to take the more interesting elements of the apparently well-known Catholic history of Boscobel and try to transpose them onto The Lodge. However such an approach is problematic. Boscobel and its famous oak tree are best known for their association with King Charles: story which was firmly embedded in the popular imagination soon after the Restoration. Subsequent developments at Boscobel – particularly under the ownership of the Evans family between 1812 and 1918 – were undertaken with a view to ‘improving’ the evidence of these associations and have, in fact, largely destroyed or obscured a great deal of the original structure (Weaver 1987, 20). Boscobel’s place in Catholic history is largely the consequence of nineteenth century modifications to make it more ‘authentic’ in terms of the King Charles narrative, which required a supporting cast of hiding places and people moving furtively around the countryside. These modifications included the (re)creation of a ‘secret’ altar and the re-branding of a former stair turret as an ‘oratory’ (Weaver 1987, 32-33). After the Royal Oak, perhaps the most famous feature of Boscobel is the so-called ‘priest hole’, where Charles II is said to have spent an uncomfortable night on 6th-7th September 1649; however it is not an entirely convincing feature as currently presented, as the staircase to which it relates appears to be a post-1649 insertion. Taken together, these strands of evidence are no more than strongly suggestive that The Lodge was perhaps used for Catholic worship and networking with other Catholic families.

In contrast to both Madeley Court and The Lodge, Catholic worship at Upper House is well-documented, at least for the later part of the seventeenth century (Randall 1880, 56). The Woolf family were a key part of the Brooke industrial enterprise, and were also closely involved with the events of September 1649. However the extant building contains no evidence of any overt or covert Catholic symbolism, aside from the broad similarity of the Phase 1 element to the hunting lodges at Boscobel and The Lodge. This was probably a result of Wolfe’s desire to emulate his higher-status gentry associates; although well-connected and perhaps ambitious, Woolf was a merchant – albeit a wealthy one. Upper House appears to be displaying social ambition rather than any specifically Catholic identity.

5.6 Discussion

Overall, it is clear that the Brookes did not make any significant attempt to display their Catholic identity through the medium of their non-industrial buildings. Whilst elements

of some of the buildings could be interpreted as being 'Catholic' in nature, such associations are at best tenuous. Comparable examples of similar features can be found in contemporary buildings erected by Catholics and non-Catholics alike. Generally the Brookes appear to have favoured conservative architectural expressions, with the Madeley Court porch and gatehouse mild-mannered exceptions which were in any case comfortably conforming to a contemporary local oeuvre. John and Basil Brooke, unlike Thomas Tresham, but rather like their friends and neighbours the Giffards, chose not to manifest their Catholic identity through the architecture of their estate. Rather, they chose to use their buildings to express their gentry identity first and foremost, finding other avenues through which to declare their Catholicism.

6. Industrial pragmatism and survival

The house, gardens and the estate landscape represented a conventional expression of the changing identities of the Brooke family during the sixteenth and seventeenth centuries. However an important source of their financial wealth – and for Basil Brooke at least – a significant source of social and political capital, was an increasingly complex and sophisticated portfolio of industrial enterprises. Certainly during the early seventeenth century Basil Brooke was one of the leading industrialists in England; he was also an innovator and entrepreneur, introducing new technologies and methods. In addition to creating wealth, industry had the potential to demonstrate scientific understanding, and it may also have provided opportunities for the Brookes to display their particular strain of humanist Catholicism. The industrial portfolio created in the seventeenth century was built on earlier foundations that had been developed by John Brooke. He in turn had inherited ironworks and coal mines which had been established before the dissolution. This chapter considers how substantial those foundations might have been by examining the extent of industrialisation on the estate before Basil Brooke inherited the Manor of Madeley in 1598. The significance of sixteenth-century industrialisation at Madeley is assessed in the context of local and regional industrial developments on former monastic estates by other gentry families – both Protestant and Catholic.

6.1 Processes and products

Before considering the specific industrial developments undertaken in the Manor of Madeley during the sixteenth century, it is necessary to describe the resources that were available, and the industrial processes involved in adding value to those resources. The Madeley estate during this period was producing two things: coal and iron. Coal was a domestic fuel: although some industries were using coal during the sixteenth century – notably salt-making and the manufacture of ceramics – these were not taking place in the study area; coal was not used in ironmaking until the eighteenth century. Consequently in terms of the *chaîne opératoire*, there was no connection between the two products – except that some of the mining operations involved in the extraction of both iron ore and coal would have been similar. Iron and coal deposits would have been exploited separately; the same pits would not have been producing both minerals. The mining process would have involved sinking shafts down from the surface, connecting

shafts by horizontal 'drifts', and tunnelling horizontal adits into the hillside, or combinations of these methods (**Fig. 6.01**).

There were two principal native varieties of iron ore in use in this period. The ore found in the study area was siderite, an argillaceous Coal Measures iron carbonate (FeCO_3); siderite has a high phosphorous content (around 1%) and so produces brittle metal. This was 'calcined' or roasted to produce iron oxide, which was then suitable for smelting. The other variety of ore was haematite, an iron oxide (Fe_2O_3), which is much lower in phosphorous and does not require calcining; it was favoured for high quality products (Tylecote 1991, 201-204). This was found in the Forest of Dean and South Wales. Ore from the Forest of Dean was certainly imported to the Coalbrookdale ironworks in the seventeenth century; it may well also have been during the sixteenth century. Certainly the trade in Forest of Dean haematite went as far upstream as Worcester (65km downriver from Madeley) during the Roman and medieval periods, and the quality of the iron ore was widely known and well-appreciated (Allen 1996, 226-230). Management of the extraction and supply of ore in the study area during the sixteenth century appears to have followed the customs of the Black Country and the Forest of Dean, wherein mining and ironworking were separate businesses (King 2003, 46).

Once extracted – and, if necessary, calcined – there were a number of processes required to turn iron ore into a finished artefact. The first was smelting, in which the ore was refined in order to extract the iron and remove and discard the other elements. Understanding whole sequence of operations is made more complicated than it might otherwise be by the fact that in England during the sixteenth century there were two different smelting methods in use. These produced iron with different chemical and physical properties, and so generated different chains of subsequent operations. The evidence suggests that only one of these processes was actually in use in Madeley during the study period; however smelted iron produced by both processes was being worked in the study area to make finished goods, so it is necessary to describe both sets of processes¹¹.

¹¹ This description is based partly on Tylecote 1976 and Percy 1864; but largely around the author's own experience of experimental archaeometallurgy, including conversations with Peter Crew, David Dungworth, Jane Humphris Marcos Martinon-Torres, Gerry McDonnell, and Tim Young.



Fig. 6.01. Sixteenth-century mining. Shafts (A and C), drifts (B and D) and an adit (E and F). Source: Agricola 1556, 105.

The first, and oldest, smelting method was the bloomery process. This was developed during the Iron Age and remained in use in England until the eighteenth century – although output was statistically insignificant after the mid-seventeenth century. The bloomery was a small shaft furnace, internally circular in plan (although the external form varied); it was anywhere from 0.5m to 1.5m in diameter and up to around 1.5m tall, and open at the top (**Fig. 6.02**). Bellows were used to create sufficient draft to raise the operating temperature to around 1200°C; the air supply from the bellows was fed into the base of the furnace through a narrow aperture in the furnace wall; this aperture was lined and the lining was called a ‘tuyere’. A separate opening in the base of the furnace wall, known as the ‘tapping arch’, was blocked during the smelting process but was opened afterwards to enable the removal of slag and iron. A fire was lit, and the furnace was loaded from the top with iron ore and charcoal. In simple chemical terms this was a reducing process: the combustion of the charcoal (ie. carbon) produced carbon monoxide (CO); this combined with the oxygen in the iron oxide to produce carbon dioxide (CO₂) – given off as a gas – leaving the iron (Fe) in the furnace. In practice there were a more complex series of smaller reactions also taking place, resulting from factors such as the presence of other minerals in the ore, the composition of the furnace walls, and the regulation of the blast and temperature. The useful output of the bloomery was a heterogenous semi-solid lump of consolidated iron (the bloom); the other output was slag (that is everything in the original ore and resulting from the smelting process). The iron bloom would typically contain between 1% and 3% carbon, and a number of impurities such as slag and charcoal.

The second smelting process was essentially similar, but used a larger and more powerful furnace – the blast furnace – to create a higher temperature of up to 1400°C. The additional blast was created by the application of water power. A sixteenth century blast furnace stack was a substantial stone structure, typically 5m or more square in plan – although the internal shaft was usually circular with a diameter of around 2m – and up to 8m high. The blast furnace enabled the production of a more homogenous iron which could be tapped in a molten state and run into moulds either to create large artefacts (such as cannon) directly, or to create ingots (known as ‘pigs’). The resulting ‘pig iron’ contained relatively high proportion of carbon – typically between 6% and 8% - but was relatively free of impurities. As well as producing a physically and chemically different product, the output of the blast furnace was significantly greater – partly because of the increased size of the furnace itself, but largely because it was possible to run the blast furnace continuously. The bloomery produced a single bloom of no more than 20-30kg

at a time, and needed to be cooled and possibly repaired before another smelt could take place. In contrast, the blast furnace, once up to temperature, was run for several months – typically from autumn to spring when a steady supply of water could be guaranteed – and by the end of the sixteenth century a single blast furnace was capable of producing up to 200 tons in such a ‘campaign’.



Fig. 6.02. Bloomery furnaces. Woodcut from a late-sixteenth century Swedish encyclopedia. Source: Degerfors Järnverk Archive.

In Europe, blast furnaces were certainly in use in Sweden in the twelfth century, and possibly in Germany by the thirteenth century (Björkenstam 1995; Magnusson 1995). The conventional story of the blast furnace in England is that the technology was introduced through the migration of Huguenot ironmasters from France into the Weald of Sussex and Kent towards the end of the fifteenth century. The earliest recorded English blast furnace was at Buxted in 1491, with a second at Newbridge in 1496 (Awty and Whitwick 2004; Cleere and Crossley 1985). Blast furnace technology was then adopted through a process of gradual diffusion from the Weald northwards. The blast furnace built by William Paget on Cannock Chase (Staffordshire) in c.1560 is often cited as the first in the English midlands (King 1999, 60). This diffusionist model has been challenged in recent decades by archaeological excavations on early ironmaking sites in England, including other parts of Shropshire, where blast furnaces were in use from the 1550s. It now seems probable that that water-power was applied to increase the draft used in the bloomery smelting process from at least the fifteenth century – an indigenous development which echoed those in Sweden and Germany. This technological evolution effectively created

the blast furnace, or at least a small-scale precursor (David Cranstone, *pers. comm.*). This is an area which is under-researched, and the relationships between evolved and introduced technologies remain unclear.

Having smelted ore to produce iron, it was then necessary to work the iron to produce something useful. Iron forging was both a physical and chemical process. The physical aspect worked the metal to the required shape, homogenised it, and forced out large impurities. The chemical process was an oxidising one: the metal was heated in an open hearth ('chafery') – initially at around 900°C but subsequently at lower temperatures – and the iron was effectively decarburised both by the process of reheating and by the mechanical working. The resulting wrought iron would have a carbon content of around 1% or less. Processing bloomery iron necessarily involved more forging stages due to the heterogeneous nature of the original bloom: an initial forging would have taken place immediately as the bloom was withdrawn from the bloomery, with subsequent stages in a 'finery' forge. Pig iron went directly to the finery forge.

Consequently most finery forges were located in fairly close proximity to smelting sites. With bloomery-smelted iron the two operations could be in the same building, a form of ironworks that developed in the later Middle Ages and is known in the archaeological literature as a 'bloomsmithy' – although in contemporary documentary sources they are usually referred to simply as 'smithies'. As blast furnaces were introduced the forge became a separate and more specialised building in its own right. The links between the smelting and forging aspects of the ironworks became weaker from the seventeenth century onwards, as the iron trade developed a more sophisticated capitalist, thus producing a tendency to move away from vertically-integrated business models (King 2002; King 2011; Hayman 2008). The finery forge only produced wrought-iron bar, or 'bar iron' as the product was known in the sixteenth and seventeenth centuries. The manufacture of artefacts took place in smaller, more specialised forges (again known as 'smithies'). All finery forges, and most other forges producing artefacts on a significant scale, were water-powered by this date. Some fine work – for example the manufacture of hooks, nails, chains and hinges – was done by hand until well into the nineteenth century, as was the finishing of cutlery (including agricultural implements as well as tableware), weapons, and complex items such as instruments. The reliance on water power, and the decreasing weight of items as more and more processes were enacted upon them, meant that the natural process flow was quite literally 'downstream' (Fig. 6.03).

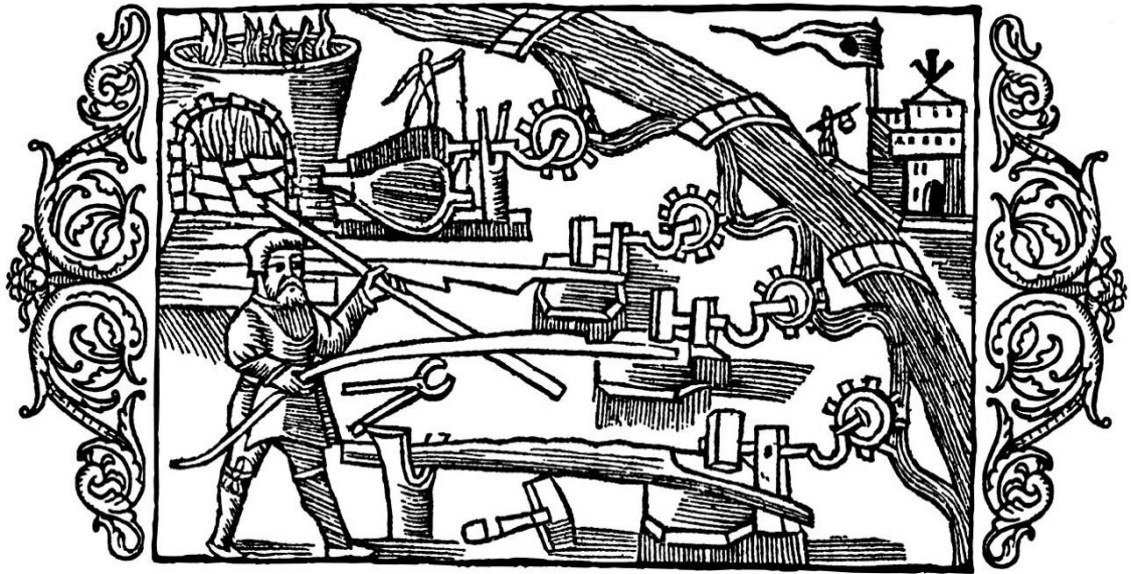


Fig. 6.03. Process flow. A water-powered blast furnace upstream, with a series of water-powered forges downstream. Woodcut from a late-sixteenth century Swedish encyclopedia. Source: Degerfors Järnverk Archive.

6.2 The monastic inheritance

The extent of pre-dissolution industrial development has been the subject of debate among investigators of the Coalbrookdale landscape. Perhaps inevitably biased by his own religious outlook and the nature of his commission, Raistrick (1953, 1) dismissed industrial developments before the later-seventeenth century as ‘domestic’; Mott (1957b, 82-84) was similarly unconvinced that there was much in the way of ferrous industry at Coalbrookdale before 1600. In contrast, a subsequent generation suggested that pre-dissolution industrialisation in Coalbrookdale had been significant, and the early establishment of coal mines and ironworks was an important consideration in later developments (Clark and Alfrey 1986, 47; Trinder 2000, 12-13). The extensive landscape changes after 1700 mean that comprehensive archaeological testing of either hypothesis is impossible. Nevertheless this is an important issue in assessing the timing and significance of the Brookes’ subsequent industrial activities. Therefore this section presents a comprehensive analysis of the evidence in a regional and national context; it will look at the extent of industrialisation on the Much Wenlock estate as a whole, which has never been undertaken before. Discussion will compare industrialisation on the Much Wenlock Priory estates with other examples of monastic industrialisation; this

will inform the analysis of post-dissolution industrialisation in subsequent sections of this chapter, which will compare developments in the Manor of Madeley with other former parcels of Much Wenlock Priory land that were disposed of at the same time. In this way the significance of the Brookes' industrial enterprise can be measured against progress made by other post-dissolution landowners.

Documentary evidence for the industrial infrastructure of Much Wenlock Priory falls into three broad categories: mills, mines and ironworks (**Fig. 6.04**). References to the last category come very late in the pre-dissolution period, and it is possible that some of the earlier 'mills' were later converted to ferrous production. Water powered mills were used on most monastic estates for grinding wheat, meal and malt – supplying a 'fundamental necessity for medieval life' as well as potential income through multure (Bond 2004, 310). However it is important to note that documentary references to 'mills' should not always imply their use for grinding corn: archaeological evidence for cereal processing has only been recovered from 40% of excavated medieval mills (Astill 1997, 210). Many monasteries gained significant income from both raw wool and finished cloth, selling into a sophisticated pan-European market (Bell *et al.* 2007; Robinson 1998, 130). Linen was another source of income: the processing of flax ('retting') often required complex systems of watercourses, pools and sluices (Higham 1989, 41-48). Value could be added by scouring and pounding cloth in a detergent solution: this process – fulling – was one of the first to be mechanised with the application of water power (Salzman 1923, 203-206). Several monasteries constructed or rented fulling mills from the twelfth century; these could be located both within the monastic precinct, and in the surrounding landscape (Bond 2004, 321; Coppack 1986, 47-49; Higham 1989, 49). There was at least one fulling mill in the Wenlock portfolio, and there may have been more; some of these non-specific 'mills' may also have had other industrial functions from time to time. Water-powered installations are expensive to create and yet relatively cheap to adapt to new uses; a single site may have had many uses at different times, and the available documentary evidence only provides intermittent snapshots.

Between 1291 and 1536 nine non-specific 'mills' were recorded as belonging to Much Wenlock Priory. Two of these were in its desmene of Oxenbold from at least the late-thirteenth century – at Shipton and at Brockton; the latter was rebuilt in c.1400, possibly as a fulling mill (Currie 1998, 371-378; NA: C116/207). There were two more at Little Wenlock by the fourteenth century (NA: SC 6/HenryVIII/3021/11; SA: 1224/2/10). The town of Much Wenlock itself had one mill, and a second in the parish, Bridlackemill,

was recorded in 1536 and may have had earlier origins (SA: 3095/2). The remaining mills were in the Manor of Madeley. The first was recorded in 1291, and by the 1370s this was being let for 10s. per annum (NA: LR 2/184, ff. 107, 117, 118, 120). A second mill may have been acquired by the priory in 1363; it was being let to 'John le French de Brocktune' in 1383/4 at a rent of twelve chickens per year for life (NA: E315/94 ff.12v-13). These mills were most likely to have been located on the Mad Brook, where three water-powered sites were extant in the nineteenth century; this watercourse – although less powerful than the Coalbrookdale system to the west – was closest to the core of the settlement. The 1291 mill could have been located at Madeley Court, where a later water mill was constructed in the early 1600s (Aldsworth 2006, 106-110). The fourteenth-century mill may have been the antecedent of one depicted on nineteenth century mapping further south along the same watercourse; its existence is recalled by the existence of 'Mill Lane' running off the easternmost of the medieval back streets (now Station Road). One of these mills was mentioned in the manorial court records in 1432, when John Crowe was given until the following Easter to make repairs or face a fine of 6s. 8d. (SA: 1224/2/8d/155). A third mill had been constructed in the Manor of Madeley – this time in Coalbrookdale – by 1520, and although its ownership is not clear it has been assumed for the purposes of this analysis to have also belonged to the Priory (SA: 1987/30/2; SA: 2280/2/45/3376-3379).

Mining also developed as a significant area of monastic endeavour in the later Middle Ages. The coalfields of north-east England began to be exploited in the early thirteenth century by the monks of Durham, and by Hexham Abbey, Newminster Abbey and Finchdale Priory, amongst others; from the fourteenth century the monasteries at Halesowen, Nuneaton, Hulton and Leicester began systematic coal extraction in the English midlands (Bond 2004, 340-341). In Yorkshire the coalfields around Sheffield were first developed by the Premonstratensian canons of Beauchief from 1368 (Colin Merrony, *pers. comm.*). Metaliferous mining was also a significant activity in Yorkshire: the Cistercian abbeys of Bylands and Fountains were extracting the Nidderdale lead ores from the late twelfth century (Raistrick and Jennings 1965, 35-36). The rights to these orefields were fiercely contested between monasteries. In the thirteenth century an agreement between Bylands and Fountains for shared mining operations had to be drawn up by the Cistercian General Chapter, after disputes which were felt to have brought 'disgrace to the order' (Jennings 1999, 81-84). In the fifteenth century, Fountains' expansion of lead mining brought the community into conflict with both the Augustinian canons of Bolton Priory and the miners of the Duchy of Lancaster (Raistrick

and Jennings 1965, 60-61). Iron mining rights were acquired by several Yorkshire abbeys during the twelfth century: among the earliest was Riveaulx (Jennings 1999, 75-77); others included Fountains, Kirkstead, Kirkstall and Byland, exploiting significant orefields near Bradley, Sheffield, Leeds and Bentley respectively (Bond 2004, 344). The low-phosphorous ores of the Forest of Dean were being exploited from the thirteenth century by the Cistercian abbeys at Flaxley, Grace Dieu and Tintern (Bond 2004, 343; Robinson 1998, 121-122).

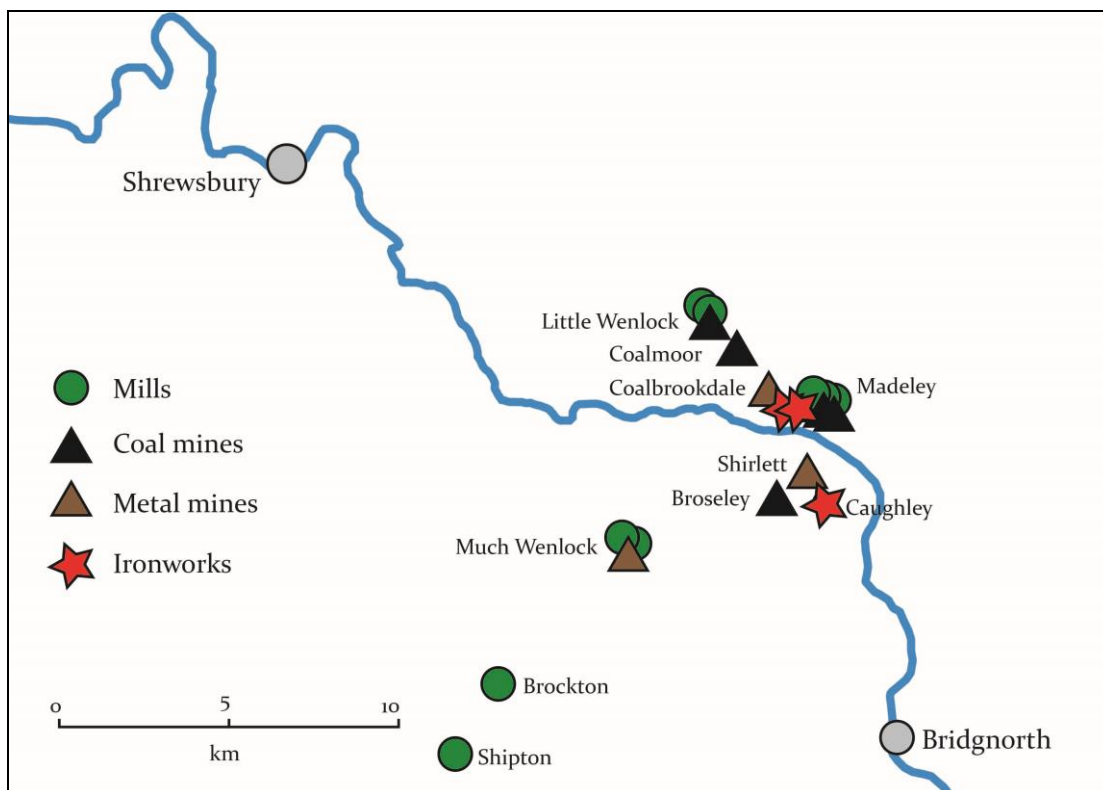


Fig. 6.04. Industrial assets owned by Much Wenlock Priory. Source: author.

Much Wenlock Priory followed suit from the early-fourteenth century. This was perhaps motivated by a period of financial and organisational vicissitude which had begun in the late-thirteenth century. This was partly the result of the seizures of alien priories under King Edward I and King Edward II, but it was compounded by incompetent – and perhaps corrupt – priors, and overspending on building projects in the early-fourteenth century (Gaydon and Pugh 1973, 37-39). In any event the Priory began the exploitation of mineral resources in the East Shropshire Coalfield – although at one remove, by leasing mining rights to laymen. Thus in 1322 ‘Walter de Caldbrooke’ was granted a licence to

mine 'sea-coles' at the Brockholes for 6d. per year (SA: 1037/19/1). The Brockholes are located on the lower slopes of the north bank of the River Severn to the west of Madeley Wood, about a kilometre from Madeley church. One 'Adam Collier' was mentioned in Little Wenlock in 1344, and the place-name 'Colmorsyate' (now Coalmoor) was also recorded in the same parish during the early-fourteenth century (SA 1224/2/10; SA 1224/2/1). Another coal mine at Madeley was mentioned in 1390 (SA 1224/342); this was again presumably somewhere along the Severn Gorge in the vicinity of Madeley Wood. Seven years later one 'James Mynour of Derbyshire' was granted permission to 'work ... in a mine of copper and silver within the lordship of the alien priory of Wenlok or about the priory there' (NA: CCR/RichardI/6/128). It is implied that this mine already existed in 1397; however this geologically unlikely enterprise appears to have been short-lived.

Mining operations continued into the fifteenth and early-sixteenth centuries. It appears that the earliest and most substantial developments took place in the parish Broseley, on the south side of the Severn; coal was being worked here in the fifteenth century, both on behalf of Much Wenlock Priory in the Manor of Broseley, and to a lesser extent by Buildwas Abbey elsewhere in the parish (Eyton 1854: 2:14; NA: 1224/342). The Much Wenlock coal mine in Broseley was worth 1s. 4d. per year at the dissolution (NA: SC 6/HenryVIII/3021/10). North of the river, an ironstone mine near Coalbrookdale was let for £5 per year in c.1540 (NA: LR 2/184/107, 120v). At the dissolution an ironstone quarry – and other quarries – were recorded on the Priory's estate at Shirlett (NA: SC 6/HenryVIII/6, 8). The coal mines in Little Wenlock and Coalmoor continued to provide an income; they were now leased to Edmund Brydgewode and Thomas Boswell and together brought an annual rental of 13s. 4d. (NA: SC 6/HenryVIII/3021/11). It is therefore possible to identify several areas of coal- and ironstone-mining that had been developed on the Much Wenlock estate in the pre-dissolution period: three in Madeley (at Coalbrookdale, Mad Brook and Madeley Wood), one across the river in Broseley, one in Little Wenlock, and one at Coalmoor.

Ironworking was another of Much Wenlock Priory's industrial activities – in common with many other monastic estates. Foremost among these were the great Cistercian houses, notwithstanding that order's ban on receiving revenue from mills – although probably ostensibly justified by the rule requiring self-reliance (Bond 2004, 35, 351-353; Coppack 2003, 114). Perhaps the most impressive iron working establishment in the Cistercian world was the elaborate stone-vaulted water-powered forge built by Fontenay Abbey (France) in the twelfth century to process ore from the monastic estates (Benoit

1988, 215-43). In England, Riveaulx was granted an iron forge in the 1140s – one of the earliest such grants; by the end of the twelfth century the monastery had several forges (Jennings 1999, 75-77; Williams 1998, 375). Fountains had established an iron forge at Bradley by 1194, probably water powered, and others followed (Clay 1929, 97-106). Other notable Cistercian water-powered monastic ironworks included the extensive complex at Bordesley Abbey in Worcestershire (probably converted in the thirteenth century from an earlier mill), and the rather more heavy-duty hammer forge at Chingley in Kent, constructed in the early fourteenth century by Boxley Abbey (Astill 1993, 273-278; Crossley 1975, 6-17). The only non-Cistercian monastic forge to have been excavated is that of the Augustinian foundation at Waltham Abbey, a substantial purpose-built structure which may date in parts to the twelfth century (Huggins and Huggins 1973, 131-142). Some monasteries also converted precinct buildings into smithies during the fifteenth century, as at Fountains and Kirkstall (Coppack 1986, 50-1; Wrathmell 1987, 16-18); at Tintern – another Cistercian foundation – a guest house was converted in the fifteenth century for use as a metallurgical workshop (Courtney 1989, 106-113).

In contrast, it was not until the sixteenth century that specific references occur to ironworks in the Much Wenlock industrial portfolio. This suggests that ironstone extraction had been on a relatively small scale. The precise nature of these ironworks is not known, but they probably incorporated both smelting and forging operations; again they were run by leaseholders rather than directly controlled by the priory itself. The earliest direct reference to ironworking in Madeley is to 'le Newhouse and Calbroke smithy' at Coalbrookdale, which was leased to Hugh Morall for 63 years in 1536 (NA: LR 2/184/107, 117; NA: SC 6/HenryVIII/3021/5d). This 'smithy' may have begun operations in the fifteenth century: in 1498 lessees in Madeley were subjected to restrictions on timber use, including being forbidden to cut oak, ash and crab – possibly suggesting that these were reserved for use by the ironworks (NA: E 315/94/12v). Similar species selections were associated with ironworking operations at Flaxley in the Forest of Dean (Bond 2004, 95-96). In 1535 Much Wenlock priory also had rental income from two ironworks in Shirlett (NA: SC 6/HenryVIII/3021/6-10). A second ironworks was recorded at Coalbrookdale in 1544; the fact that this 'bloomsmithy' was not noted in 1536 suggests that it was a very late development indeed.

It is possible to estimate the quantity and proportion of Much Wenlock Priory's income that was derived from mineralogical and metallurgical activities on the eve of the dissolution. This is based on the *Valor Ecclesiasticus*, a national audit of the wealth of all

monastic houses undertaken on behalf of King Henry VIII in 1535. This was compiled in only five months and was delegated to local commissioners; there was some under-recording of assets and sometimes considerable under-valuation of those assets (Robinson 1983, 16-18). Nevertheless it is a useful comparative tool. Non-specific 'mills' are excluded from this analysis, because of the ambiguity of the term as noted above.¹² The *Valor Ecclesiasticus* shows that the combined income of coal and ironstone mines and ironworks was worth £46 8s. 4d. per year. This represented slightly over 11.5% of the total annual income of £401 7s. 0¼d recorded in 1535 (NA: SC 6/HenryVIII/3021/1-18). It is apparent that industrialisation on the Much Wenlock estates was advanced in comparison with its local neighbours. Buildwas Abbey, for example – a Cistercian foundation with an annual income at dissolution of £142 14s. 6½d – derived most of its wealth from the wool trade, although had been involved in mining and quarrying principally for its own consumption (NA: SC 6/HenryVIII/3006/7-15). The Augustinian establishment at Lilleshall also relied on extensive agricultural holdings which it farmed directly; it does not appear to have engaged in mineral extraction and ironworking at all, although its former estates were developed in this way after the dissolution (Gaydon and Pugh 1973, 73-79). Nationally, however, it is clear that Much Wenlock Priory was not an exceptional example of early industrialisation, both in absolute terms and relative to its size. As a proportion of income received, Wenlock's 11.5% was overshadowed by the approximately 25% of Rievaulx's total annual income that it received from similar industrial activities (Page 1974, 134-138).

As a well-endowed pre-Conquest foundation, with extensive agricultural estates and an increasingly lucrative pilgrim trade, Much Wenlock did not initially need to develop industrial interests. Moreover, the strict hierarchy of the centralised Cluniac order may have prevented development by the monastery itself of new land uses and new enterprises (Graham 1924, 101-105). Local comparisons suggest that industrialisation was relatively advanced on the Much Wenlock estate; nationally however it was not significant. However it should be emphasised that the *Valor Ecclesiasticus* is a snapshot and does not show trends over time. Thus, although substantial, Riveaulx's industrial output was in decline at the dissolution; moreover ironworking on former Riveaulx properties did not continue in any significant way beyond the mid-sixteenth century (Gerry McDonnell, *pers. comm.*). The relatively late development of ironworking on the

¹² This estimate also excludes the ironworks at Caughley run by Thomas Munslow from c.1523, as it may not have been part of the Priory holdings by this time (SA 1224/3/6).

Much Wenlock estates – taken together with the substantial post-dissolution expansion of industrial activity – suggests that, in contrast, industrialisation here was at the beginning of an upward trend. In this context it may be significant that industrial activities on the Much Wenlock estates were undertaken by third parties rather than directly by the Priory itself. Therefore it is suggested that the development of pre-dissolution industry here was not the result of corporate actions by the monastery, but was instead the response of individual entrepreneurs to market opportunities. In other words, a pattern of fragmented entrepreneurial innovation was already established before the Reformation.

6.3 Fuel production and mineral extraction

The principal industrial asset of the Manor of Madeley at the dissolution was coal mining, with ironworking on a relatively small scale. This section will look at the production of fuel and the extraction of minerals in the second half of the sixteenth century, comparing the performance of John Brooke's enterprise in Madeley with that of other former parts of the Much Wenlock portfolio. Locations of sites mentioned in this section are shown in **Fig. 6.05**. The following section will focus specifically on ironmaking, again assessing the significance of the Brooke concern in the context of other local operations.

The production of fuel was essential for industrial production. Charcoal was used both for smelting and working iron, as well as for non-ferrous metallurgical operations which needed the ore or metal to be in direct contact with the flame. Charcoal was essentially a renewable resource, with careful management of coppiced woodland ensuring a steady (but limited) supply. Generally coppice rotations were every fourteen years, and their operation was closely governed by a series of statutes that became progressively more restrictive. The 1544 Act for the Preservation of Woods required owners of woodland to cut a quarter of them at a time, leaving 12 'standards' per acre for timber, and then to enclose them long enough to enable them to regrow (Statute 35 Hen. VIII, c.17.). From 1559 it was prohibited to use timber for fuel within 14 miles of the coast or a navigable river (timber was defined as trees that would square to one foot, that is the 'standards' rather than coppiceable wood) (King 2003, 48). Initially a temporary measure, the 1544 Act was permanently enforced from 1572 (Statute 13 Eliz., c.25.). Charcoal was not easily transported over long distances by land, so the expansion of the iron industry during this period was limited by access to suitable woodland and water-borne transport

infrastructure. Whilst there is place-name evidence for various ‘coppices’ in and around Coalbrookdale, their existence cannot be dated to before the late eighteenth century and the creation of picturesque walks by the Quaker Richard Reynolds (Blockley 1998, 21-23). The steep slopes of Dale Coppice and Captain’s Coppice – as well those above the upper parts of the Loamhole and Lightmoor watercourses (Oilhouse Coppice) – suggest that alternative land uses were limited, and so these may have been coppiced woodland at an earlier stage; however there is no direct evidence for this. Further east, Lloyds Coppice, on the steeply-sloping southern edge of the Manor of Madeley and beyond the likely extent of sixteenth century agrarian land-use, may also be a relict survivor of an earlier landscape, but again later mining and geological movement has obliterated any field evidence. Other coppiced woodlands are likely to have existed in the area of the former Park, to the north (upslope) of Madeley Wood, and in the area which subsequently became Ironbridge.

The ironstone mine at Coalbrookdale recorded in c.1540 was not subsequently documented. Robert Brooke’s father-in-law William Gatacre, for example, had leased an ironstone mine in the Manor of Bourton in 1537 (NA: SC 6/HenryVIII/3021/6). Bourton was (and is) located approximately 10km south-west of Madeley, between Much Wenlock and Brockton (Fig. 6.04); again however it has not been possible to trace the post-dissolution history of this mine. There is more evidence for ironstone mining on the south side of the River Severn, in the former Manor of Broseley, two-thirds of which had been held by Much Wenlock Priory. The full story of the complex later medieval and early post-medieval history of the Manor of Broseley is not directly relevant here; however the various changes in land ownership eventually resulted in two significant parcels which saw substantial industrial development in the later sixteenth century and afterwards. One of these parcels consisted of those parts of the Manor of Broseley which had been subsumed into the Manor of Marsh by the late-fourteenth century. Marsh was another former holding of the priory; by the fifteenth century this, along with the small manor of Willey, was owned by the Lacon family (Currie 1998, 261-262). In the 1540s and 1550s an average of 219 ‘dozen’¹³ of ironstone per year was bought from the Manor of Marsh; the leading figures in this activity were Alexander Ward, William Onnesley and Robert Sandburne (NA: SC 6/HenryVIII/3021-3027; NA SC 6/EdwardVI/392-393).

¹³ A dozen was a customary measure of ironstone, equivalent to 50 cubic feet or approximately 1.4 cubic metres. 219 dozen would have been 307 cubic metres, or about 300 tonnes (Lynn Willies, *pers. comm.*).

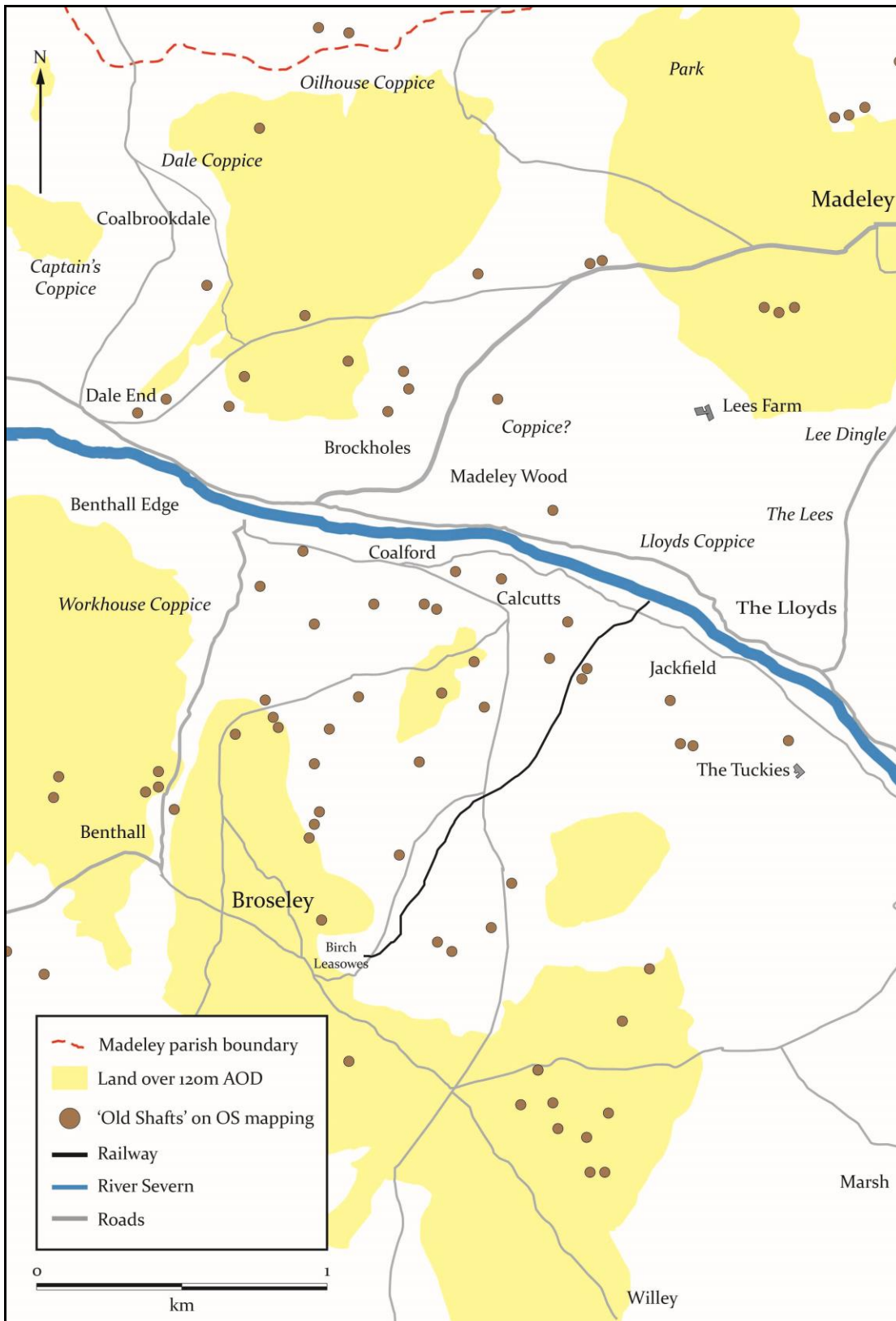


Fig. 6.05. Charcoal production, mineral extraction and transport routes in the Severn Gorge: places mentioned in the text. Source: author.

As with ironstone mining, the documentary evidence for coal mining in the Manor of Madeley is limited. However it is apparent that John Brooke was making the most of a rising coal market. John Brooke is recorded as an employer of colliers in Madeley in 1579 (WRO 008/7/BA3585/67a), and was sending large shipments of coal down the River Severn (Wanklyn 1982, 3; Baugh 1985, 46; Phillipotts 2009, 55). John Brooke's Madeley coals were among the first shipped to Worcester in the late sixteenth century (Dyer 1973, 55-64). This mining activity is most likely to have taken place in the eastern part of the parish, in the Severn Gorge. In 1580 an agreement was made between John Brooke and William Smytheman concerning the 'Lee Pitt' in Madeley (SA 4708 Microfilm 204/Frame No.123-125). The later Lees Farm may have been the location of this 'Pitt'; certainly Lees Farm is near the area known as the Brockholes, where mining was recorded in the fourteenth century and where the most accessible coal seams were located. It seems reasonable to assume that pre-dissolution coal mining at Madeley Wood and perhaps Coalbrookdale continued into the later-sixteenth century, but there is limited documentary evidence for this. Eighteenth and nineteenth century mining, together with subsequent geological instability and large-scale subsidence, has rendered any meaningful stratigraphic analysis of the landscape impossible; however the 'old shafts' recorded on nineteenth-century Ordnance Survey maps (and shown on Fig. 6.06) provide an indication of the extent and concentrations of mining activity.

Again, there is more documentary evidence for early post-medieval coal extraction on the south side of the river than in Madeley. There is also better survival of landscape evidence, notably a complex palimpsest of bell pits and adits along Benthall Edge; many of these features will date to the eighteenth century but earlier features may exist – however it is outside the study area so has not been investigated as part of this thesis. The Manor of Marsh, noted above, produced coal as well as ironstone. The other main landholding on the south side of the river coalesced around the holdings of James Clifford, who had inherited one third of the Manor of Broseley through his wife in 1534 (NA: C 142/27/69; SA: 1224/3/303). The remaining third had been acquired at the dissolution by the Pinnock family; they sold it in 1550, and it was again sold in 1563 to Richard Cupper; he in turn sold it to James Clifford – grandson of the inheritor of the other third (Currie 1998, 260-261). At The Tuckies and the Calcutts, James Clifford and his tenant Richard Wilcox began large-scale coal working from the 1570s, with further expansion in the following decades (Currie 1998, 47-49).

Clifford was responsible for one of the most significant technological innovations of the early post-medieval period which was subsequently to have a significant wider – and indeed ultimately global – impact: the railway. On the south side of the Severn, Clifford built a railway to deliver coal from his pits in Birch Leasowes down to Calcutts, where it was loaded on to barges for delivery to towns up and down the Severn (King 2010, 75-76). This is likely to have been a semi-self-acting inclined plane, partly horse-drawn with wooden rails. The first mention of this railway was in a Chancery case of 1605. Peter King (2010, 78) has argued from a close reading of the legal documents relating to the case that the Severn Gorge railway was likely to have been in existence for several years before the lawsuit, and so it pre-dates the Nottinghamshire railway from Strelley to Wollaton built by Huntingdon Beaumont in c.1604.

During this period the coal from both sides of the Severn Gorge was being supplied exclusively to domestic markets locally and downriver. Industrial uses for coal were limited during the sixteenth and early seventeenth centuries. Ceramic industries were using coal at this date, probably in north Staffordshire, and certainly the regionally-significant Wednesbury pottery industry; however the ceramic industries for which the Severn Gorge became famous in the eighteenth and nineteenth centuries were not developed until after the 1650s. A 1615 Act required the glass industry to use mineral fuel from that date, which resulted in rapid technological innovations (Crossley 1987, 342); again however these were not adopted within the trading area of Severn Gorge coal until the end of the seventeenth century. With the exception of cementation steelmaking after 1615 (Chapter 7), applications for coal in ferrous metallurgy were non-existent before the eighteenth century; this was because all processes were direct processes (that is, the fuel was in contact with the metal), and the high sulphur content of coal produced unusable iron. Technical problems with the use of coal in smelting and forging were not fully overcome until the mid-eighteenth century.

6.4 Ironworking

The ironworking element of the Brooke enterprise in the sixteenth century was dependent on a consistent and reliable supply of high-quality smelted iron. This, in turn, was dependent on consistent and reliable supply of water power. The monastic water mills in Madeley parish have been noted above. Understanding of the origins and early development of the Coalbrookdale water power system is hindered by its extensive rebuilding during the eighteenth and nineteenth centuries. Despite this, it is possible to

some extent to reconstruct the sixteenth-century development and extent of the system. This system modified three natural streams and by the end of the seventeenth century powered five ironworking sites over a total working length of over a kilometre, along which length there was a fall of approximately 100m. Only two of these ironworking sites have a secure documentary provenance in the sixteenth century, and the location only one of these has been confirmed archaeologically. Although there are four possible candidate sites for the second bloomsmithy, only two of these are credible. The historical and archaeological evidence for all of these locations is discussed in order from upstream to downstream (**Fig. 6.06**).

The first possible candidate for the unknown bloomsmithy site is what is now known as the Old (or Darby) Furnace site, formerly and more correctly the Upper Furnace. The existence of the Upper Furnace Pool, located at the confluence of Lightmoor Brook to the east and Loamhole Brook or Lydebrook to the west, is potentially significant. Borehole data obtained in 2001-2003 showed that the pool contained over 17m of silt at its deepest part to the north-west of the 1658 furnace stack (Belford 2001, 14-16). The height of the top of the dam at this point is only 8m above the seventeenth century ground level. It is reasonable to conjecture that a natural pool had formed at the confluence of the two streams, and that this was enhanced at an early stage in the post-dissolution development of the watercourse system. This was possibly the 'mill higher up Coalbrookdale' referred to in 1520 (NA: LR 2/184/107, 120). An 'old forge' was recorded in an inventory of 1718 and its location can be confirmed by a map of 1753 (Raistrick 1953, 279; IGMT 1971.26). The head of water at this point in the system would have been sufficient to power an earlier blast furnace or water-powered bloomery, as well as a forge. It is certainly conceivable that a furnace or bloomery could have been constructed here in the sixteenth century, and, having gone out of use before 1600, was demolished or allowed to collapse decades before the construction of the 1658 furnace.

However there is absolutely no evidence to support this conjecture: there is no documentary reference to such a furnace, and archaeological excavation has revealed nothing to indicate that smelting took place here in the sixteenth century. That said, the ability of archaeological works to thoroughly investigate sixteenth-century activity on this site was frustrated by the existence of the Old Furnace of 1658 – a Scheduled Monument – as well as by the circumstances of the project (described in more detail in Appendix 1).

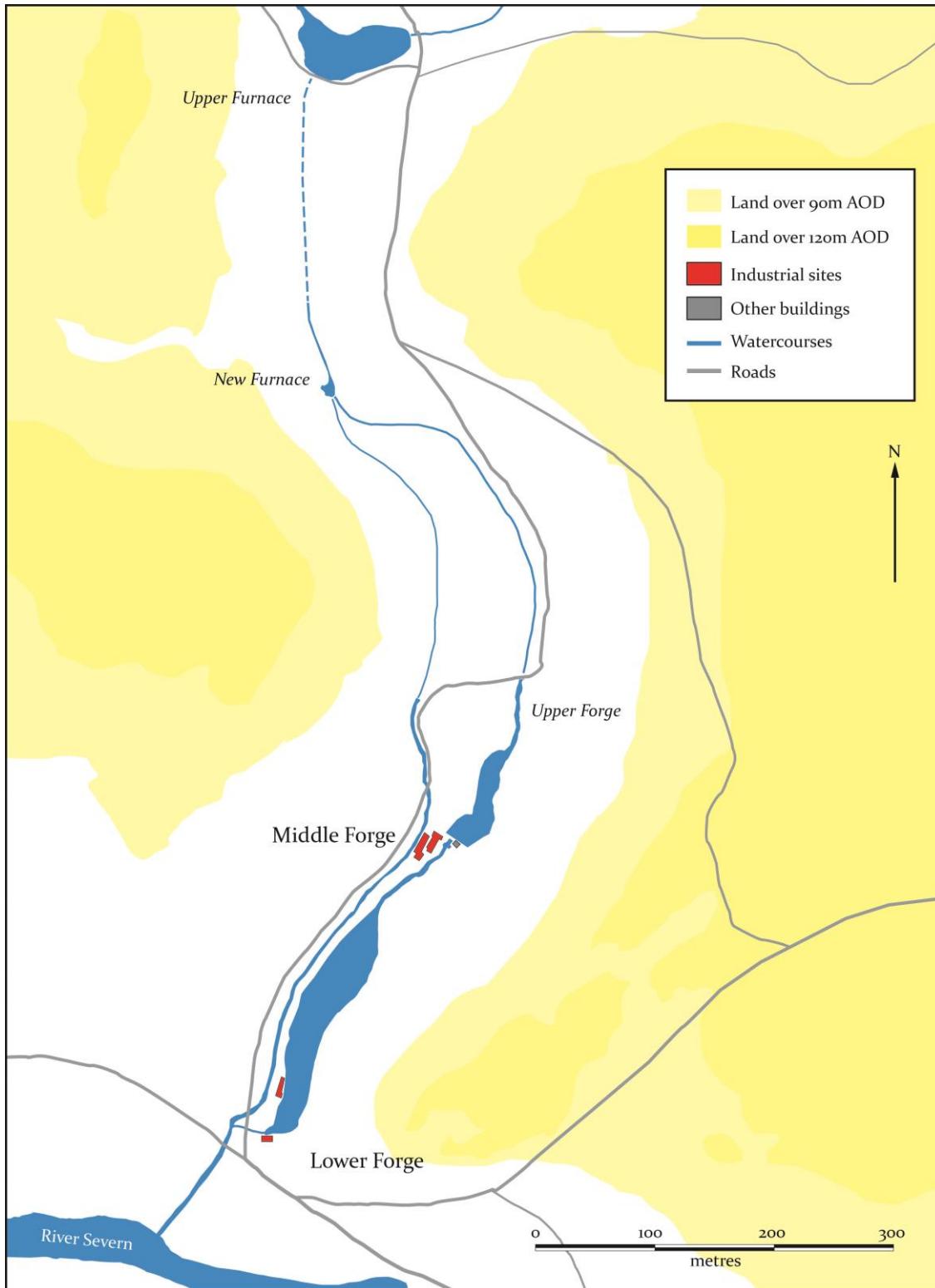


Fig. 6.o6. Coalbrookdale watercourses and ironworking sites in the sixteenth century. Sites in use during the period are shown in normal type, other locations are in italics.

Compare with Fig. 7.14 on page 266. Source: author.

Two other candidate sites for the second bloomsmithy can be ruled out with reasonable certainty. Downstream of the Upper Furnace was the New Furnace, formerly the Upper Forge; and below that the Upper Forge, formerly the Great Forge. Whilst either of these could have been the location of a sixteenth-century forge, there is nothing to suggest that they were. Documentary evidence for the New Furnace site is no earlier than the eighteenth century. The furnace itself was built in c.1715. It was possibly on the site of an earlier forge – although this suggestion stems from Raistrick's (1953, 305-306) confusion over the location of features listed in the 1718 inventory; the 'old forge' that he thought may have been here was in fact at the Upper Furnace site. The New Furnace site may also have been the location of short-lived copper-smelting and brass-making operation between 1703 and 1714 (Clark and Alfrey 1986, 26), but the evidence for this is again limited and in any case it reveals nothing about the site in the 1540s. The site is now buried beneath a modern foundry and no archaeological investigation has been possible.

Turning to the Upper Forge, the earliest secure date for this site is 1668 (Trinder 1979, 8); it must have been in existence before 1615 due to its location in respect of the steel furnaces of that date. Whilst the water power system could have been in existence in the sixteenth century, there is no documentary or excavated archaeological evidence to show that it was. The landscape evidence, supported by admittedly circumstantial considerations of agency, mind-set and identity, present a strong case that it was not.

The landscape evidence is the morphology of the design of the water-power system. The two lowermost installations – the Lower Forge and the Middle Forge – are similar to each other, but quite different from the other pools on the system (Fig. 7.10 below). These inter-connected pools were both 'side-valley' type pools, where the water is taken off the main watercourse by a weir and leat. This method of dam construction is associated with early sites in other comparable metalworking areas situated in steeply-sloping narrow river valleys, such as Hallamshire (Crossley 1989, vii-ix). The tailrace of the Middle Forge Pool formed the headrace of the Lower Forge Pool, and the tailrace of the Lower Forge Pool returned to the Caldbrook before it then returned to the Severn. The purpose of this arrangement was to ensure that the forge could be taken 'off line' when the river was in flood. A cross-valley dam provided a larger reservoir, but at greater risk. The circumstantial evidence of biography (Chapter 3), landscape design (Chapter 4) and architectural flamboyance (Chapter 5) all point to Basil Brooke having a much more innovative and ambitious approach in many areas of life than his father. For this and other reasons, this thesis argues that the Upper Forge complex – including the

steelworks – was created by him as a single entity, rather than being an accretion of several phases or periods (Chapter 7).

On balance, therefore, it seems most likely that the second bloomery was located at the Middle Forge site. It was certainly in use by 1615, as the construction of the steel works respected the extent of its pool and headrace. The pool was enlarged during the early eighteenth century; this enlargement was associated with its conversion to a boring mill in the 1730s and the installation of a water recycling scheme (Belford 2007, 136). This enlargement removed the original western edge, but in the nineteenth century the pool extension was backfilled and so the present pool occupies more or less its original footprint (Belford 2001, 14-16). Finally, and perhaps most conclusively, uniquely among all of the sites on the Coalbrookdale watercourse system, there is archaeological evidence for the existence of the Middle Forge – or at least its pool – in the sixteenth century. Excavations in the pool as part of the CHART project in 2004 recovered a single sherd of sixteenth century pottery from deposits in the base of the original pool.

At the Lower Forge, hearth plates dated 1602 were recorded in the nineteenth century (Raistrick 1953, 54-55, 251). There is no archaeological evidence for sixteenth century activity at the Lower Forge. However, the landscape evidence can be used to make a strong case for it having been built at around the same time as the Middle Forge. In addition to the morphological evidence of the watercourse system discussed above, these sites are both located in a relatively wide part of the Coalbrookdale valley, closest to the River Severn. This would have simplified access between the sites and the main transport artery; moreover the relatively flat valley bottom would have been an easier place to construct water-power systems than the steeper and narrower parts further upstream – with the possible exception of the Upper Furnace site at the confluence of the upper brooks.

Many standing structures that were on the Lower Forge site until 2006 were associated with the nineteenth- and twentieth-century use and occupation of the site, which had seen the abandonment of water power and the decline of the forge. The Lower Forge Pool was partly filled in by 1883 and had disappeared entirely by 1901 (Clark and Alfrey 1986, 36). The archaeological potential of the site was compromised by extensive redevelopment in the 1960s, and further demolition in 2006, neither of which accompanied by formal archaeological recording. The substantial stone wall forming the western wall of the pool dam survives, and until 2006 a timber-framed structure with

iron columns was built up against the southern end of this. One possible location for the sixteenth century forge site would have been at the south end of the pool; a building here (now a garage) is of nineteenth century date, although eighteenth century mapping shows a building on the same footprint. Part of a leat behind the building survives; it too was rebuilt in the nineteenth century and was used for a small hydro-electric plant in the 1920s (Trevor Bagley, *pers. comm.*) (**Fig. 6.07**).



Fig. 6.07. Coalbrookdale Lower Forge. A view south along the watercourse where it turns sharply east to return to the Coalbrook. The nineteenth-century brick building occupies the footprint of earlier structures shown on historic mapping. On the near bank in the foreground is the twentieth century hydro-electric emplacement. Source: Clwyd-Powys Archaeological Trust, photograph 3931-0036.

The remains of a waterwheel were exposed during developments in the 1880s, again during the 1960s, and for a third time in 2014 (IGMT 1974.60; IGMT 1984.3236). Only the most recent event was subject to comprehensive archaeological recording, by the Clwyd-Powys Archaeological Trust (**Figs. 6.08** and **6.09**). However the scope and extent of the 2014 excavations were constrained by the extent of the development, and the high water table. The water-wheel was located on the western edge of the former pool dam

and was oriented east-west – that is, across the natural flow of the water. The installation as it survived was consistent with an early nineteenth century date; both in terms of the brickwork of the wheelpit and leats, and in the cast-iron construction of the water-wheel itself. Timbers were observed and recovered, but again formed part of ancillary structures that were clearly nineteenth century in date. A likely parallel second wheel had existed to the north – the retaining wall behind it contained a bricked-up archway, and a culverted tailrace led away from it.

This arrangement is similar to that of a finery forge illustrated in the eighteenth century *Encyclopédie* written and compiled by Denis Diderot and Jean le Rond d'Alembert (Diderot and d'Alembert 1751-1772). In this twin-wheel arrangement, one wheel powers a pair of bellows and the other the trip hammer (**Fig. 6.10**). An identical arrangement was excavated by the author and colleagues at Wednesbury Forge, and dendrochronologically dated to the sixteenth century (Fig. 6.13). At Wednesbury the original sixteenth-century timber structure had then been fossilised by seventeenth and eighteenth century rebuilding in brick (Belford 2010, 4-7). A similar process of fossilisation could have taken place at the Lower Forge; but the circumstances of the project meant that it was not possible to determine whether or not this was the case.

The evidence strongly suggests that the two bloomsmithies of 1544 were located at Dale End, on or around what later became known as the Middle Forge and Lower Forge. Whilst the existence of additional forges in the sixteenth century cannot be ruled out entirely, there is no evidence to suggest that any of the other water-powered sites on the Coalbrookdale watercourse system were in existence before c.1615. Furnaces and forges needed constant maintenance and repair; the fact the two ironmaking sites extant in 1544 were still in operation in the following century shows that John Brooke (or his tenants) did invest in industrial plant and infrastructure. However, given that the evidence points to an early-seventeenth century date for the Upper Forge, then there appears to have been no significant expansion of the iron industry in Madeley during the late-sixteenth century.

This suggests that developing the ironmaking side of the business was not a priority for John Brooke. There is also little to indicate any active continuation of the ironstone mining that had been taking place in the Manor of Madeley before the dissolution. Instead, his main focus appears to have been the extraction and sale of coal.



Fig. 6.o8. Coalbrookdale Lower Forge: archaeological excavations. Dam wall in the background, nineteenth-century water wheel on the right, parallel watercourse (culvert) on the left. Source: Clwyd-Powys Archaeological Trust, photograph 3931-0057.

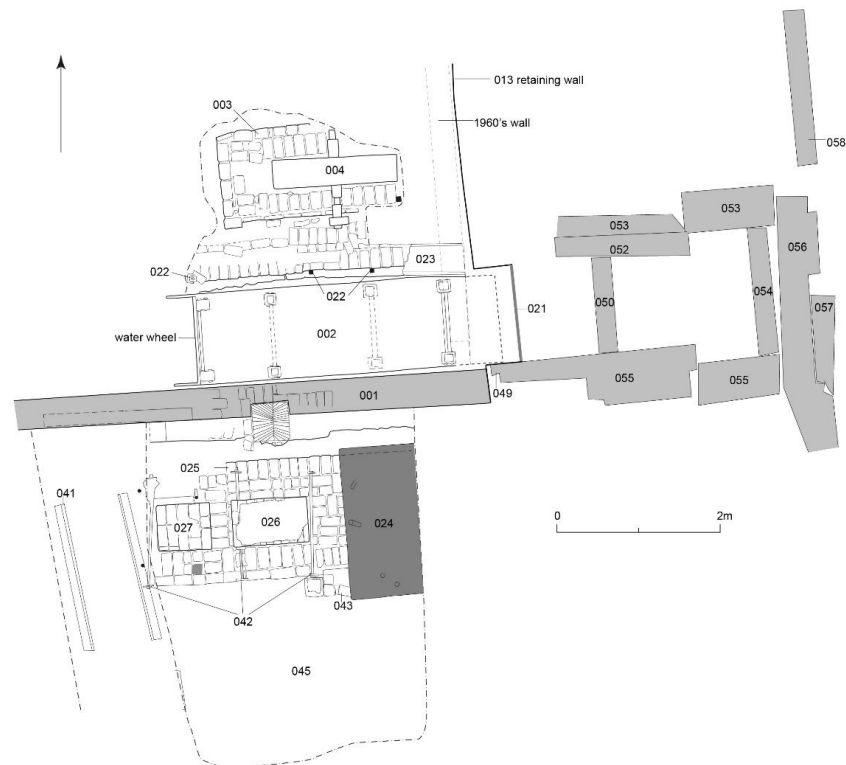


Fig. 6.o9. Coalbrookdale Lower Forge: the excavated water-wheel and associated emplacements. The parallel culvert is off-plan to the north. Source: Watson 2014, Fig. 8.

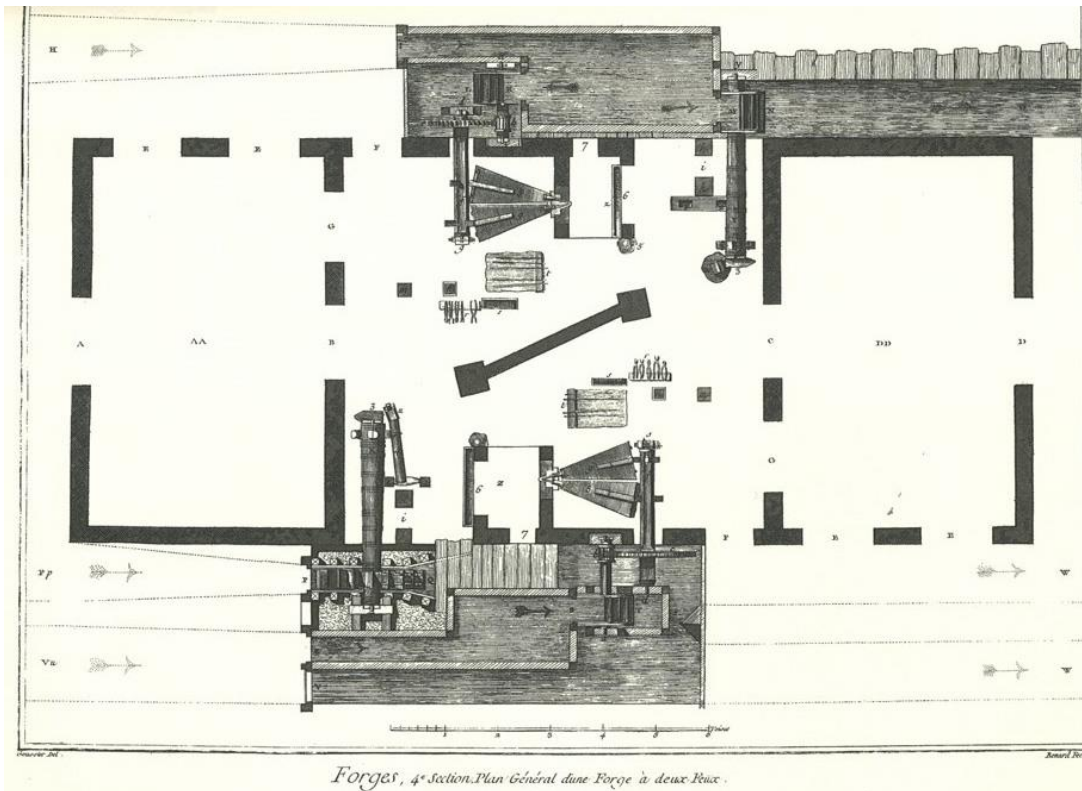
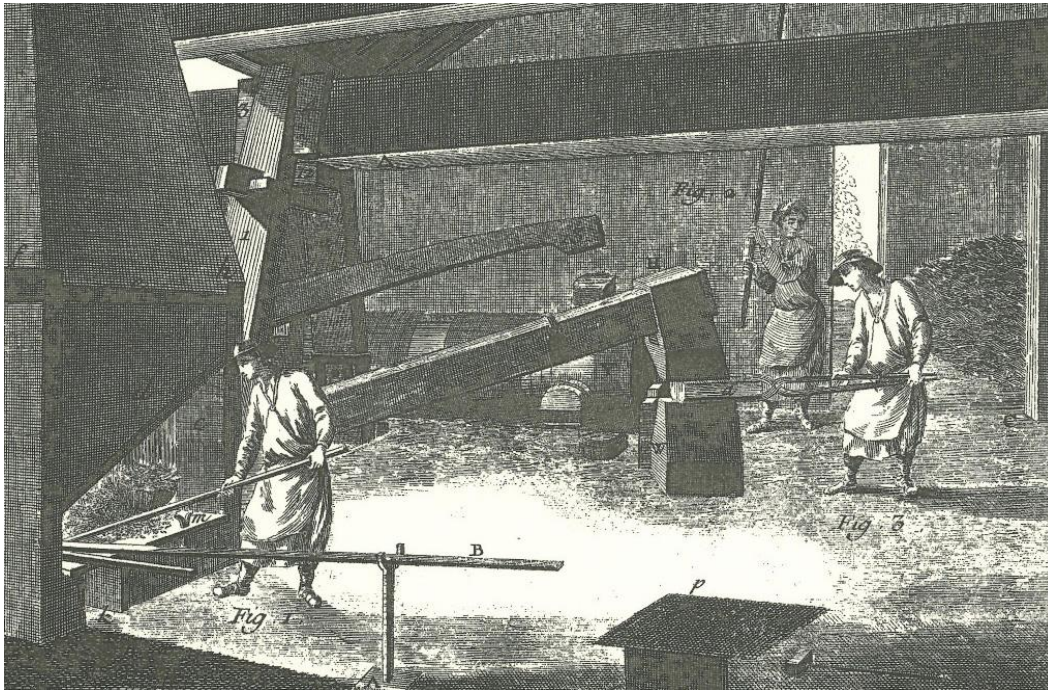
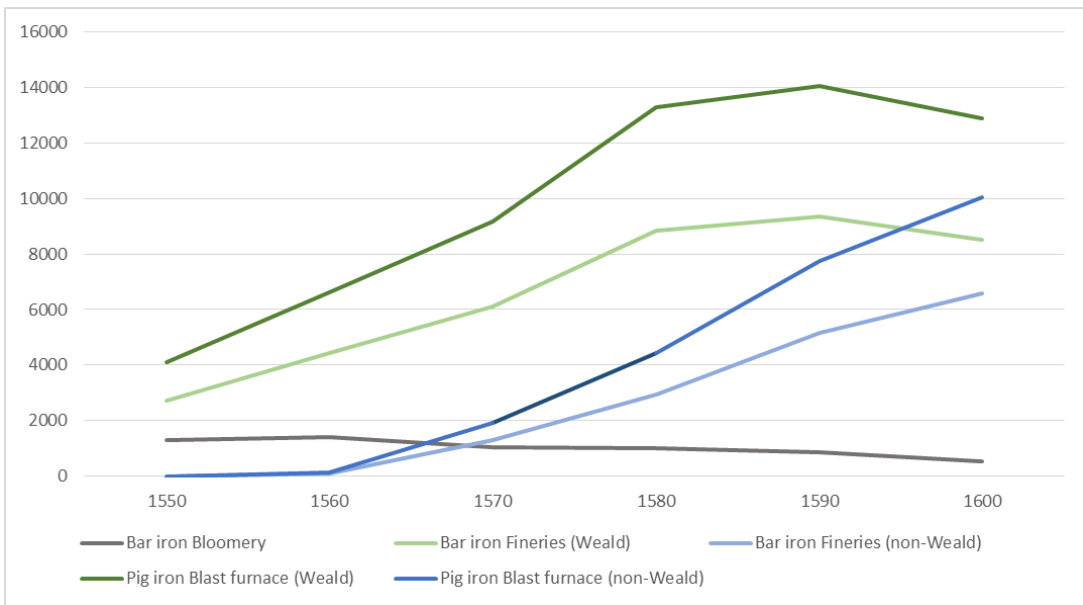
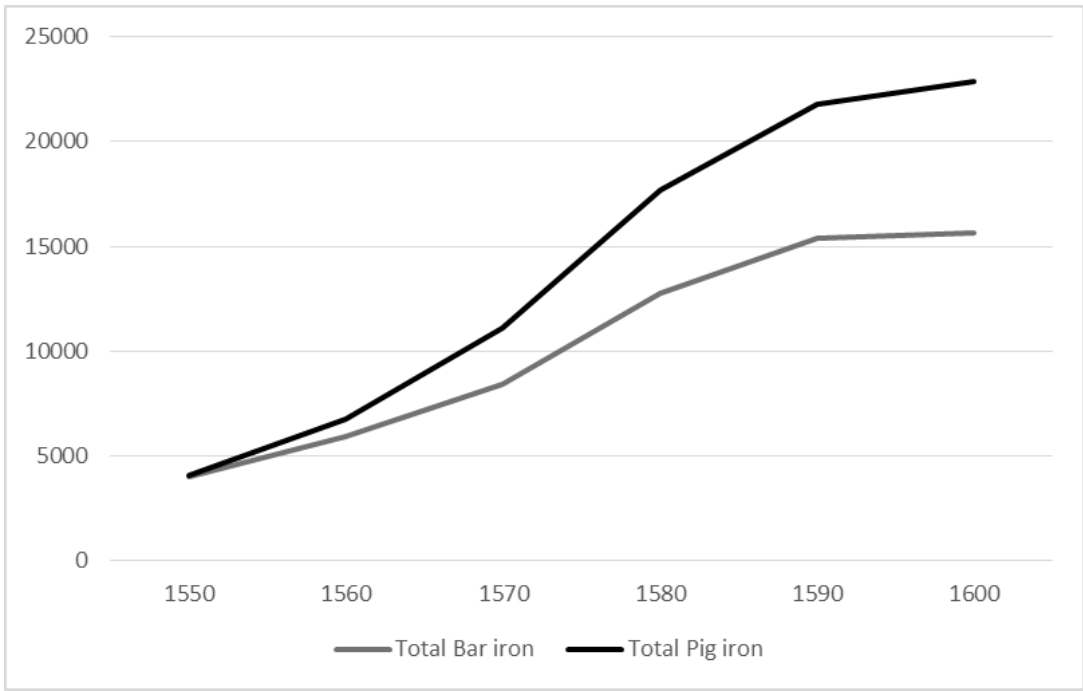


Fig. 6.10. A finery forge with double hearths and hammers. Interior and plan; an eighteenth-century depiction consistent with sixteenth-century descriptions. Source: Diderot et d'Alembert 1551-1572, *Forges*, 4^e section: *Plan Général d'une Forge à deux Feux*.

6.5 The Madeley ironworks in context

When Robert Brooke acquired the Manor of Madeley in 1544, the potential of the ironworks on the property may have been a consideration. He may or may not have discussed the matter with his father-in-law, William Gatacre, who had invested in an ironstone mine seven years earlier. Given Robert Brooke's absence from the Madeley estate generally, and the apparent reluctance of his son to develop the ironworking side of the business, neither Robert nor John – nor for that matter Robert's widow Dorothy – seem to have seen the ironworks as offering much of a return on any investment. In order to understand how much this was a conscious decision by the Brooke family, and how much it was simply a reflection of wider economic and perhaps social trends, it is necessary to compare the extent and pace of industrialisation on the Madeley estate with those elsewhere in the region.

The production of iron increased markedly in Britain during the sixteenth century. This was in response to increasing demand, and reduced reliance on imports. In the fifteenth century more than 60% of iron in England was imported, of which iron from the Basque region of Spain comprised more than 90%. By the mid-sixteenth century imports accounted for less than 40% of English iron, with a much smaller proportion of Basque iron (Crew and Crew 2005, 110-113). In Britain in 1500 just 240 tonnes of iron was being smelted in blast furnaces, all in the Weald. Around 160 tonnes of this was reworked in Wealden fineries to create bar iron, and another 900 tonnes or so of bar iron was also being produced by various bloomeries around the country (King 2005, 7). By 1550 over 4,000 tonnes of pig iron was being smelted, and a similar amount of bar iron was being produced – of which over 2,300 tonnes was the processed output of the Wealden furnaces. Most of this activity took place in the Weald (King 2005, 7). However after the mid-sixteenth century the pace of change increased remarkably. By 1600 nearly 23,000 tonnes of iron was being smelted in blast furnaces, with over 10,000 tonnes of that outside the Weald. The two-stage blast furnace and finery process had almost entirely replaced the bloomery for the production of bar iron. Thus of the more than 15,000 tonnes of bar iron produced in 1600, only 525 tonnes of this was made in bloomeries; the remainder was refined pig iron, of which 6,500 tonnes were produced outside the Weald (**Fig. 6.11**) (King 2005, 5-6).



6.11. British iron production in the second half of the sixteenth century. Top: overall production of pig iron (black) and bar iron (grey). Bottom: production of iron by process (light and dark) and location (green and blue); X-axis = dates AD, Y-axis = tonnes per year. The trend is one of increasing production overall using the new two-stage process, with a decline in the bloomery process; there is a peak in Wealden production in the 1590s, and a steady rise in production outside the Weald from 1560. Source: author, using data from King 2005, 8.

With only two bloomsmithies, perhaps producing around 50 tonnes of iron a year between them, the contribution of John Brooke's Madeley ironworks to this expansion was minimal. Given the later association of Coalbrookdale with innovative blast furnace technology, and the presence of early blast furnaces close by, it is striking that no blast furnace was built in the Manor of Madeley before 1658. In this respect John Brooke's ironmaking activities stood in sharp contrast to those of many of his Shropshire neighbours, who were investing considerably in exploiting the estates they or their families had acquired at the dissolution. Many were expanding existing forges or building new ones, and several were also building blast furnaces. It seems unlikely that Brooke was unaware of these developments, which therefore raises the interesting question of why he decided not to follow suit.

For example, the Caughley ironworks was just across the Severn from the Manor of Madeley. It had also been part of the portfolio of Much Wenlock Priory, but by c.1523 was owned by Thomas Munslowe (SA: 1224/3/9/2). Munslowe subsequently acquired or constructed an ironworks at Shirlett; both were inherited by a relative, John Munslowe, in the 1530s. John Munslowe has been described as a 'furnace technologist', and the documentary sources hint that he was an early adopter of blast furnace technology in Shropshire. When the Shirlett ironworks was let to Reginald Ridley in 1539 the rent was £12 8s. – unusually high for a 'smithy place' (the usual rent would have been around £5) – perhaps suggesting recent new investments; at the Caughley ironworks Munslowe employed John Morell of Caughley Wood, who was described at his death in 1556 as 'a Frenchman born, head man or chief workman of John Munslowe's smithie, called the "Founder" thereof' (Currie 1998, 238-239). A French 'founder' – namely a person working with cast metal, possibly a Huguenot refugee – is highly suggestive of the existence of a blast furnace on one of these sites. In c.1540 Munslowe asked for licence to set up 'a furnes and a forge with two fineries and a chaffereye' somewhere on or near the Long Mynd (NLW: Wynnstay 117/233); this description suggests a classic later two-stage process with blast furnace and forge. Nothing else is known about the Long Mynd site; nevertheless it seems probable that Munslowe had at least one blast furnace – and possibly three – in Shropshire by the 1550s.

Munslowe's blast furnace(s) had been followed by others during the following decade. For example William Acton had 'lately built' two 'iron mills' in Morville, 12km south of Madeley, by 1562; these were most likely a blast furnace and forge on his Aldenham estate (Chaplin 1963; Chaplin 1970). Another blast furnace was in operation at Shifnal,

some 6km east of Madeley, by c.1564 (Cherry 1973, 115-116). Existing, and in some cases long-established sites, were also being augmented: thus at Willey, less than 10km south of Madeley on the other side of the Severn, a forge noted in 1503 was expanded from the mid-sixteenth century with additional bloomeries and later a blast furnace on the Linley brook (Currie 1998, 447-460). Further south, two furnaces were built between 1563 and 1576 near Cleobury Mortimer, on land granted to Robert Dudley, later Earl of Leicester. These furnaces, subsequently known as Cleobury Park and Furnace Mill, were both on or near the sites of earlier bloomsmithies; they remained in use until the 1630s (Baldwin 1994, 40-43; Goodman 1978, 97-98). Excavations at Cleobury Park (Young 2007) suggest that a process of internal evolution from powered bloomery to blast furnace was the more likely sequence of events there during the sixteenth century.

The final Shropshire example is the slightly later development of the former monastic estate at Lilleshall, only 12km to the north of Madeley, which had been acquired at the dissolution by Sir Richard Leveson, a 'Wolverhampton wool merchant' (Baugh 1985, 153-155). John Levenson, a relative, had established an ironworks at Cheslyn Hay (Staffordshire) in c.1563 (King 1999, 60). In the following decade Sir Richard's son Walter Leveson (1550-1602) became active in exploiting all the resources of the Lilleshall estate, which included an ambitious – and contentious – programme of agricultural enclosure and woodland management, and the development of industrial activity. He expanded coal mining operations at Donnington and Wrockwardine in the 1570s; by 1580 had water-powered forges near Kynnersley, and within a few years he had constructed a blast furnace, possibly at Donnington Wood (SA: D. 593/B/2/7/5; SA: 38/158; Baugh 1985, 155-156).

In the wider English Midlands, four significant industrial enterprises based on coal and iron stand out during this period. They reached their peak at different times during the sixteenth century, and declined in a variety of economic and political circumstances resulting from the particular personalities of their owners. The first of these – and one of the earliest – was the Paget ironworks in south Staffordshire. Land on Cannock Chase had been acquired by William, the first Lord Paget, in 1546, and he had 'three iron mills' there by 1553 (Moreton 1964, 21-24). The erection of a blast furnace in c.1560 has been noted above. His son Thomas Paget expanded on his father's industrial entrepreneurship in the 1560s, adding a second blast furnace at Hednesford and later a third at Teddesley Hay. At some point in the following decade he also acquired another forge at Abbot's Bromley (Moreton 1964, 27). The estate was confiscated by the Crown in

c.1583 as a result of Paget's involvement in the Babington and Throckmorton plots; it was subsequently run directly by the crown before being let to Sir Fulke Greville in 1590. Greville over-exploited the woodland to the detriment of industrial operations, and the estate was returned to the Paget family in 1597 (Anderson 1975, 239-240; King 1999, 60). The depleted fuel resources meant that the blast furnaces were unviable, and the forges were subsequently run under several different ownerships (Shill 2008, 19-20).

The second significant industrial enterprise in the region during the later sixteenth century was that of Sir Francis Willoughby. He had inherited his father's estate at Wollaton (Nottinghamshire) which was already benefitting from substantial coal-mining revenue; the estate also included the Manor of Middleton (Warwickshire) where Willoughby began investing in an ironworks from c.1570 (Smith 1967, 90-91). The Middleton ironworks began as a bloomsmithy, but from 1577-1578 a separate forge had been added. In the following decade he established additional forges at Oakamoor (Staffordshire) and Codnor (Derbyshire), and in c.1590 built blast furnaces at all of them (King 1999, 60; Smith 1967, 119-128). This enterprise was technically successful and economically profitable; however by the 1590s the Nottinghamshire coal revenues were in decline, and Willoughby had incurred debts building an ambitious new house at Wollaton Hall. He also led an interesting personal life which would have been costly to sustain. Consequently the capital invested in the ironworks was never recovered. Willoughby transferred the estate (with its debts) to his son-in-law Percival Willoughby in 1595, and died the following year; the Willoughby industrial empire declined in the seventeenth century (Smith 1967, 132-140).

The third enterprise, and probably the largest, was the complex network of coal mines and ironworks in south Staffordshire owned by the Whorwood family, in partnerships with the Comberford and Parkes families. Thomas Comberford (c.1530-1597) developed the estates he had inherited from his father in 1555. As well as the eponymous settlement and manor in south Staffordshire, these included former Bordesley Abbey corn mills on the River Tame at Wednesbury, and other Wednesbury properties of the de Heronville family (Dilworth 1976, 104-110; Hackwood 1902, 36). Subsequently Comberford acquired other estates: these included the Staffordshire Manor of Wigginton and part of the Manor of Wednesbury (Wrottesley 1883, 210). Thomas Comberford also acquired land in and around Tamworth. In 1567, he raised £600 by mortgaging almost all of this estate, which included four water grain mills, and almost 4,000 acres of land including coal mines and stone quarries (Wrottesley 1883, 193).

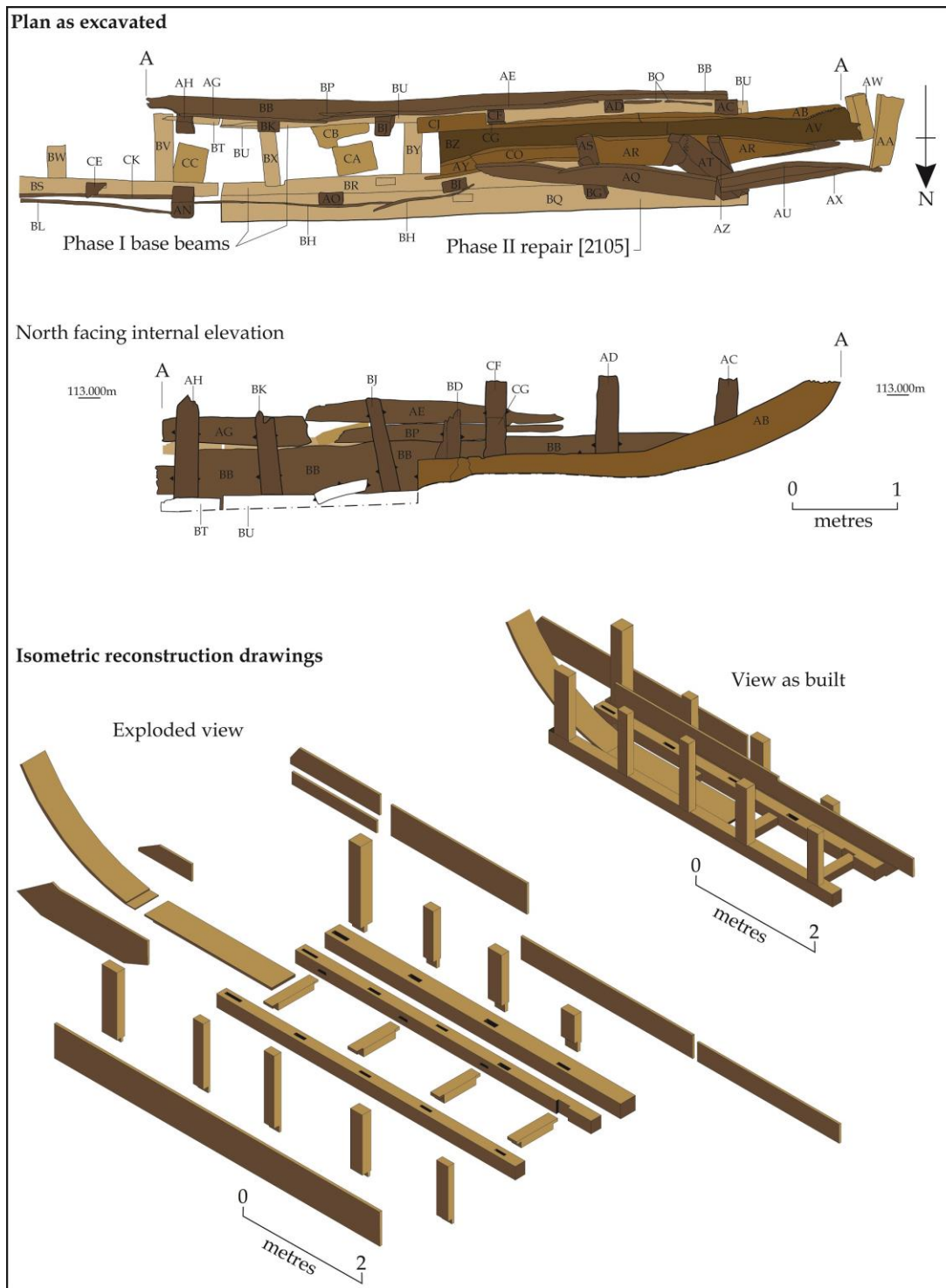


Fig. 6.14. Wednesbury Forge: archaeological excavations, drawings of the timber-framed sixteenth-century wheelpit. Phase 1 is pre-1597 and Phase 2 is an early-seventeenth century rebuild. Source: author, after Belford 2010, Fig. 4.

At some point after this, and certainly by c.1585, a new forge had been built at Wednesbury. This was worked in partnership with William Whorwood, whose father had acquired former monastic estates in south Staffordshire at the same time that Sir Robert Brooke had acquired the Manor of Madeley; indeed Whorwood had acquired some former Wenlock land, rents and properties in Much Wenlock, Walton, Atterley and Marsh (LPFD XIV(1)/1035/128, 131, 157). The two families were closely connected: Richard Whorwood had acted as John Brooke's ward during 1558-1559 between Robert Brooke's death and John's majority. It is tempting to speculate that this wardship may have involved some inculcation into the arts and mysteries of ironmaking; although given John Brooke's lack of investment in these activities at Madeley any such 'apprenticeship', if it ever took place, had limited influence. Wednesbury Forge had at least two double-wheelpits and was probably similar in size and layout to the Coalbrookdale Lower Forge and Upper Forge. Excavations revealed timberwork which could be dated to the rebuilding of the forge following a documented attack by a rival in 1597 (Belford 2010, 4-8) (**Fig. 6.14**). This attack was led by Thomas and Richard Parkes of Wednesbury Bridge Forge, who also attacked Whorwood's iron mill at Perry Bar; Whorwood retaliated by attacking Parkes' ironworks at Perry Bar and Handsworth (King, 1999, 59-76). These actions evidently put the forge out of business for a while, and ended the partnership. On Thomas Comberford's death in the 1590s, his son William inherited the estate and continued to develop the Wednesbury Forge site.

These regionally-significant enterprises were run by people from several different social groups, and the process of industrialisation was beginning to see business relationships being forged by individuals whose fathers or grandfathers would have had little in common. Some of the early investments in industry had been made by members of the aristocracy. The Earl of Shrewsbury stands out as a particularly prolific and wide-ranging promoter of industrialisation – not least due to his extensive landholdings. He was instrumental in developing the coalfields of South Yorkshire, made significant investments in Derbyshire lead mining, and was also involved with ironmaking and, later steel production in the English midlands. Lord Paget's early ironworks on Cannock Chase provides another example of aristocratic initiative, as do the south Shropshire ironworks of Lord Dudley. Lawrence Stone (1957, 165-167) has argued that this was at least partly motivated by the need to do something useful with extensive forest holdings, and developing charcoal-consuming industries was one way of doing this. However the aristocracy also had the easiest access to lucrative monopolies, and of

course finance, to enable them to do this. Many also lost money, particularly in the pursuit of mineral wealth.

However the dissolution had enabled new groups to emerge, and to profit not only from industry, but from other areas of business such as international trade, transport and property investment. These included the 'upper gentry' whose family status were already established before the dissolution – men such as Sir Francis Willoughby. It was also possible for relatively low-status gentry families – like the Brookes, the Whorwoods and the Comberfords – to take advantage of the leverage offered by the sale of monastic land to develop new sources of wealth and propel themselves up the social hierarchy. The realisation of social ambition through industry and business was a long-term project which spanned several generations – and of course even minor gentry had the benefits of relative wealth, good education and networks of potentially useful contacts in the machinery of state. Nevertheless in many cases the gentry industrialists were more closely involved with the day-to-day management of their industrial enterprises than their aristocratic counterparts. This period also saw the increasing influence of people with money, but without existing land or title who were able to spot a niche and develop it to their advantage, such as the Levensons and Parkes's. There were also those who had no money and no land, but a particular skill, and for the first time the sixteenth century opened up opportunities for them: John Munslow, the 'furnace technologist' is one example, and in a different arena, the proto-architect Walter Hancocks.

6.6 Discussion

Such a class-oriented analysis, focusing on economic and social motives for actions, does however ignore the spiritual dimension of human endeavour. By focussing on a particular group – the inquisitive and aspirational gentry – this study has foregrounded religious identity as a motivating factor for actions. Of the three substantial industrial entities that were influential in the Midlands during the sixteenth century, only one was run by a Protestant family. Sir Francis Willoughby's Protestantism is without question: his uncle the Duke of Suffolk was executed in 1554 for his involvement in the Lady Jane Grey episode (Smith 1967, 91-92). It would appear that Protestant involvement in the iron industry – at least on a large scale – was the exception rather than the rule in the sixteenth century. This was also true outside the Midlands. In the Weald, for example, the Darell family had acquired the Manor of Chingley in 1546. Edward Darell, like his father Thomas, followed a career in the Royal household and was also Member of

Parliament for Plympton Erle in 1547 (Bindoff 1982). His brother, another Thomas, had been a member of a Parliamentary Commission into ironmaking in 1548-9, and had evidently learnt about the iron trade during that period. By the 1560s, his nephew Thomas Darell was in possession of a well-equipped forge at Chingley, and built a blast furnace there sometime between 1558 and 1565 (Crossley 1975, 2-3). This development is perhaps less remarkable than those in the Midlands, for two reasons. Firstly it was earlier – the various Thomas Darells were of Robert Brooke's generation, and so their Catholicism was not necessarily an impediment to advancement in other areas; hence, like Robert Brooke, they were able to have Parliamentary careers. Secondly this enterprise was in the Weald, where ironmaking was already well-established.

The Comberford, Whorwood and Paget families were all Catholics – and all connected to each other, and to the Brookes, by religious and business associations as well as by established mechanisms of gentry advancement. William Paget may not have been an outspoken Catholic – indeed in his earlier life he was firmly associated with the Protestant ascendancy of Lord Somerset – but his later forgiveness by Queen Mary suggests at least a careful ambivalence in the matter (Bindoff 1982). The same could not be said of his son, Thomas Paget, who inherited the ironworks in 1563. Thomas was a committed Catholic, another graduate of the Middle Temple, and an increasingly outspoken critic of the Elizabethan settlement. In the 1580s he went from disrupting local church services to clandestine regicidal conspiracy, being involved in both the Throckmorton and Babington plots and was eventually exiled for his troubles (Anderson 1975, 226-239; Clifford 1809, 14-16). The Comberfords' development of their estates was both hindered and helped by their own recusancy and that of others. Thomas Comberford's acquisition of the Manors of Wiggington and Wednesbury, for example, was the result of their confiscation as a result of the involvement of their former owners – the Nevilles of Abergavenny, and Sir Thomas and Anthony Babington respectively – in various schemes and plots to return a Catholic monarch to the throne (Morey 1975, 35-39). Comberford was also periodically arrested for harbouring priests and other acts of recusancy during the 1580s; his Wednesbury tenants Walter Coleman and Thomas Chetwynd were also Catholics (Ede 1962, 124-125; Hackwood 1902, 36). Whorwood's wardship of John Brooke has already been noted.

The Coalbrookdale ironworks as a whole was smaller than any of these, and was also markedly less ambitious than some neighbouring developments – such as Levenson's Lilleshall ironworks and the various coal-producing operations on the south side of the

river. These all appear to have been owned or operated by Protestant families. In this context, the industrial development of the Madeley estate in the sixteenth century appears relatively conservative. Although John Brooke maintained the ironmaking infrastructure which he had inherited, he chose not to upgrade the ironmaking technology from its early-sixteenth century form of the bloomsmithy; unlike many neighbours he did not invest in a blast furnace and develop the two-stage ironmaking process. This could suggest a lack of confidence by John Brooke – probably well aware of the disastrous bankruptcy of Levenson’s rapidly-expanded ironworks at Lilleshall in the 1590s. Equally his hands may have been tied to some extent by existing leasing arrangements: the ‘Calbrooke Smithy’ acquired at the dissolution had been let to Hugh Morrall for 63 years from 1536 – an unusual long-term amalgamation of three conventional leases – and so Brooke may have felt disinclined to interfere with this arrangement, which expired the year after he died.

John Brooke’s greatest industrial success was the expansion of coal mining. Although the Madeley mines may have lacked some of the technical innovations developed by his neighbours across the Severn, Brooke had been able to develop new markets for coal, such as at Worcester. There was evidently enough revenue from coal mining to substantially rebuild Madeley Court and develop elements of the gardens and wider estate. John Brooke appears to have used his gentry and Catholic connections to develop and maintain a sustainable business. He avoided economic pitfalls by not over-ambitiously expanding at the expense of his tenants and neighbours, unlike Levenson and Willoughby; he avoided political trouble by not drawing attention to himself through overt acts of recusancy, unlike Paget and Comberford. John Brooke’s actions seem to have been aimed at maintaining a gentry identity which would ensure the continued inheritance of the estate. This combination of religious and business pragmatism ensured the survival of the Brooke inheritance to the next generation: although the political and religious circumstances of the seventeenth century were to prove an increasingly difficult backdrop against which to negotiate such an approach.

7. Industrial ambition and hubris

John Brooke's pragmatism – in business and religious affairs – had ensured that his son's inheritance was secure and relatively stable. Moreover in the late 1590s the political and cultural backdrop was also less turbulent than it had been in the previous decade. The sixteenth century ended with Basil Brooke in a good position to develop the landscape and social position that he had inherited, and in that his Catholicism could be advantageous: it gave him access to a wide range of social groups, from the self-made Chetwynd family to the Earl of Shrewsbury. This chapter examines industrialisation in the study area during the seventeenth century ownership of the Manor of Madeley by Basil Brooke. Central to these developments – and ultimately central to the trajectory of Brooke's life – was the construction and operation of an integrated steelworks: the first of its kind in the British Isles.

7.1 Steelmaking

Although an important aspect of medieval and earlier societies, the availability and quality of steel was dramatically improved during the seventeenth century by the adoption of a new method of mass production. This method – cementation steelmaking – was Basil Brooke's most significant contribution to the development of metallurgical science and industry in Britain; it was the first to be technically and commercially successful over the long term, and was in use in England from 1615 until 1951. Until the late nineteenth century steel was, like other types of iron, simply an alloy of iron and carbon. There was considerable variation in the nature of steel and in the properties of individual artefacts. Cast iron, smelted in the blast furnace, usually had a carbon content of between 6% and 8%, making it tough but brittle. Wrought iron, the product of the forge, typically contained less than 1% carbon, making it flexible but soft. Steel fell somewhere in between, usually with a carbon content of between 1% and 2%, making it malleable but also capable of taking an edge. There were therefore four ways of producing steel: by producing steel directly from the ore in the bloomery, by fusing together a mixture of cast and wrought iron, by decarburising cast iron, or by increasing the carbon content of wrought iron.

European steel production in this period was less advanced than in Japan, southern India, Sri Lanka, and central Asia; however the extent to which knowledge permeated

between these different regions remains unclear (Srinivasan 2013, 84-86). Asian steel did find its way onto the European market during this period – predominantly via secondary processing in Persia, which gave it the name ‘Damascus’ steel – and its existence encouraged the development of steelmaking in post-medieval Europe (Percy 1864, 375-378; Sriperumbudur 2013, 116-119; Verhoeven *et al.* 1998, 59-60). Contemporary European techniques of steel production involved either the addition of carbon to wrought iron, or the production of ‘natural steel’. Natural steel was a ‘steely iron’ which could be made directly from the ore by manipulation of the bloomery (Schubert 1957, 120). The principal centres of European production by this method were in Styria (Austria) and Catalonia (Spain), where the high manganese content of the local ores lent themselves to the process. The manufacture of natural steel improved from the late middle ages with the development of the *stückofen* type of furnace, which enabled better control of the carbon content (Craddock and Wayman 2000a, 17-18). Such natural steel was being made in England by the fourteenth century, with the principal centres of production in Gloucestershire, the English midlands and Yorkshire (Schubert 1957, 118-119). Indeed the siliceous ores of Shropshire (and other coal measures) were arguably better-suited to this method than the haematites of the Forest of Dean (Percy 1864, 211-218); however there is no evidence to suggest that this activity was taking place in either area before the late-fifteenth century.

Steel was produced by adding carbon to wrought iron in two ways. The first involved soaking wrought iron in a bath of molten cast iron. The process was first described by Biringuccio in 1540, at which time specialised centres of production existed in Flanders and in Brescia (Italy). The so-called Brescian process involved breaking up cast iron and melting it in a circular furnace; ‘saline marble, crushed slag, or other fusible and nonearthy stones’ were added during the melting process to inhibit oxidation (Biringuccio 1540, 68). Three or four wrought iron bars, each weighing 30-40lbs (14-18kg) were then put into this ‘milk of iron’ and left for up to six hours, during which time the whole mixture was stirred. A bar was withdrawn and tested; if the ‘subtle virtue’ of the melted iron had done its work, then all of the bars were removed, worked under the hammer, and quenched (Biringuccio 1540, 69). Agricola (1556, 323-326) also described this process, and provided an illustration of the forging element of these operations (**Fig. 7.01**).



Fig. 7.01. Forging processes associated with Brescian steelmaking.

Source: Agricola 1556, 425.

Two short-lived and ultimately unsuccessful attempts had been made to use the Brescian process or something similar in England during the sixteenth century. The first was part of a Wealden ironworking concern, which was begun by Sir William Sidney on the estate he had acquired at the dissolution – the former Cistercian Abbey of Robertsbridge – where in 1541/2 he had built blast furnaces and a forge (Crossley 1975, 5-6, 7-10). In August 1565 Sir Henry Sidney was granted a licence to ‘bring aliens to make steel and iron wire’ – no less than 55 ‘Dutch’ (perhaps Flemish or German) technicians were involved; iron ore was supplied both from the Weald and south Wales (Stone 1967, 169). The Robertsbridge steelworks was operational by November 1566, but had ceased operations by 1576 (Crossley 1975, 34, 211-214; Jenkins 1924, 28-32). The second Brescian-type steelworks in England had established by the Earl of Shrewsbury in the 1590s (Lambeth MS 695 ff.70-71; Peter King, *pers. comm.*; David Cranstone, *pers. comm.*). This was in south Herefordshire – possibly at Linton, where the place name ‘Steel Works Farm’ suggests a likely location, but possibly at Huntley or Bill Mill, near Weston-under-Penyard (Lambeth MS 695 f.69) – this location was probably chosen for access to low-phosphorous Forest of Dean feedstock. Although reported to have been producing between 35 and 45 tonnes per year, and at one stage returning profits of over £200 per year, this steelworks closed in c.1608 (Stone 1967, 169-170). The failure of both projects was probably down to the quality of the steel; imported steel was always preferred, well into the seventeenth century. Stone (1967, 169) suggests Sidney’s works struggled to compete against Baltic imports. Thomas Fuller (1662, 347-348) noted that English steel was not suitable for fine work, such as razors and lancets, and that steel for such items needed to be sourced from Damascus, Spain or Flanders.

The second method of carburisation was known as case-hardening. This involved heating wrought iron artefacts in a carbon-rich reducing atmosphere: the carbon would permeate the iron in a gas reaction through the production of carbon monoxide, and so produce steel. Successful carburisation is difficult to achieve in a charcoal fire, as a consistent high temperature and reducing atmosphere need to be maintained. Therefore in practice case-hardening was undertaken by placing the artefact in a carbonaceous environment – usually a mixture of soot, charcoal, ash and sometimes bone – sealing it in clay, and then heating it (Craddock and Wayman 2000a, 19). This clay case is the origin of the term ‘case-hardening’. The process is described in the context of file-making by Biringuccio (1540, 63-65), and was in use in specialised ferrous instrument trades until well into the eighteenth century – for example in the Redditch needle-making industry from the sixteenth to the eighteenth centuries (Rollins 1981, 11-12).

Case-hardening would have been introduced to England during the Roman period, and was subsequently improved in the early Middle Ages; the first written accounts appear in the fourteenth century (Schubert 1957, 120).

The principles of case-hardening were applied on a larger scale from the sixteenth century in what became known as the cementation process.¹⁴ Rather than treating individual artefacts, the process was applied to whole wrought iron bars. This enabled the mass production of steel as a raw material, on a larger scale and more easily than the Brescian process. An account by Lazarus Erker in 1574 was suggested by Barraclough (1984, 48) as being the earliest reference to cementation steelmaking. 'It is possible to make good steel out of iron, without any loss', he wrote, 'by heating it strongly and for a long while, hidden in the glow of beech charcoal' (Erker 1574, 287). However this description could equally apply to case hardening. Cementation is absent from Biringuccio's rather haphazard treatise, and more significantly so from Agricola's more comprehensive and systematically ordered *De Re Metallica*. The first firm reference to a process that is recognisably cementation is from Nuremburg in the early seventeenth century, where bars of wrought iron were packed in layers with beech charcoal and heated in a reverberatory for several days (Barraclough 1984, 48-49).

The details of cementation steel furnace design in the sixteenth and seventeenth centuries are not well known. The chemical and physical principles, however, would be the same in the seventeenth century as they were in the late-eighteenth and nineteenth centuries, when the process was first documented in detail. It is necessary to summarise this here in order to understand the reasons for the choices Basil Brooke made in developing his steelworks. The furnace consisted of a reverberatory chamber containing one or more sandstone chests. Below this, a subterranean structure contained a hearth, and heat from a coal or coke fire was transmitted up to and around the reverberatory chamber by a series of flues. The whole furnace was surmounted by a conical chimney. From the eighteenth century the process exclusively used Swedish wrought iron, which was carefully selected both for its low phosphorous content and its homogeneity. Bars of wrought iron, generally between 16mm and 20mm thick, were packed with charcoal dust into the cementation chests. The chests were sealed with a mixture of refractory

¹⁴ In Yorkshire the process was known as 'converting', and the furnaces were called 'converting furnaces'. Early sources in the Midlands simply refer to 'steel furnaces'. The term 'cementation' will be used consistently here. The product was also known by a number of names, including 'blister steel', 'converted steel' and 'cementation steel'. Again, the term 'cementation steel' will be applied consistently here.

clay and 'wheelswarf' (the debris from metal grinding), and were heated at a temperature of between 1000°C and 1100°C for between ten and fourteen days, during which time carbon from the charcoal was absorbed into the iron – thus 'converting' the iron into steel. The resulting product was then removed from the furnace and worked in the forge. The composition of the finished steel varied across the section of the solid bar, with more carbon absorbed by the outer layers. Therefore it was necessary to cut, pile and re-work the steel bar in the forge, to create a more homogenous product. A single forging produced 'shear steel', a second operation resulted in 'double shear steel' and so on. Historical accounts of this process are consistent, and excavations of nineteenth century furnaces in Sheffield have not found any significant exceptions (Andersson 1767, 366-367; Barraclough 1984, 39, 65-67; Belford 1997, 24-26; Cranstone 1997, 38; Jars 1774, 256-7). The basic requirements – a sealed container for iron and charcoal, a reverberatory chamber, the use of high-quality low-phosphorous iron, and the use of mineral fuel – would also have applied in the early-seventeenth century.

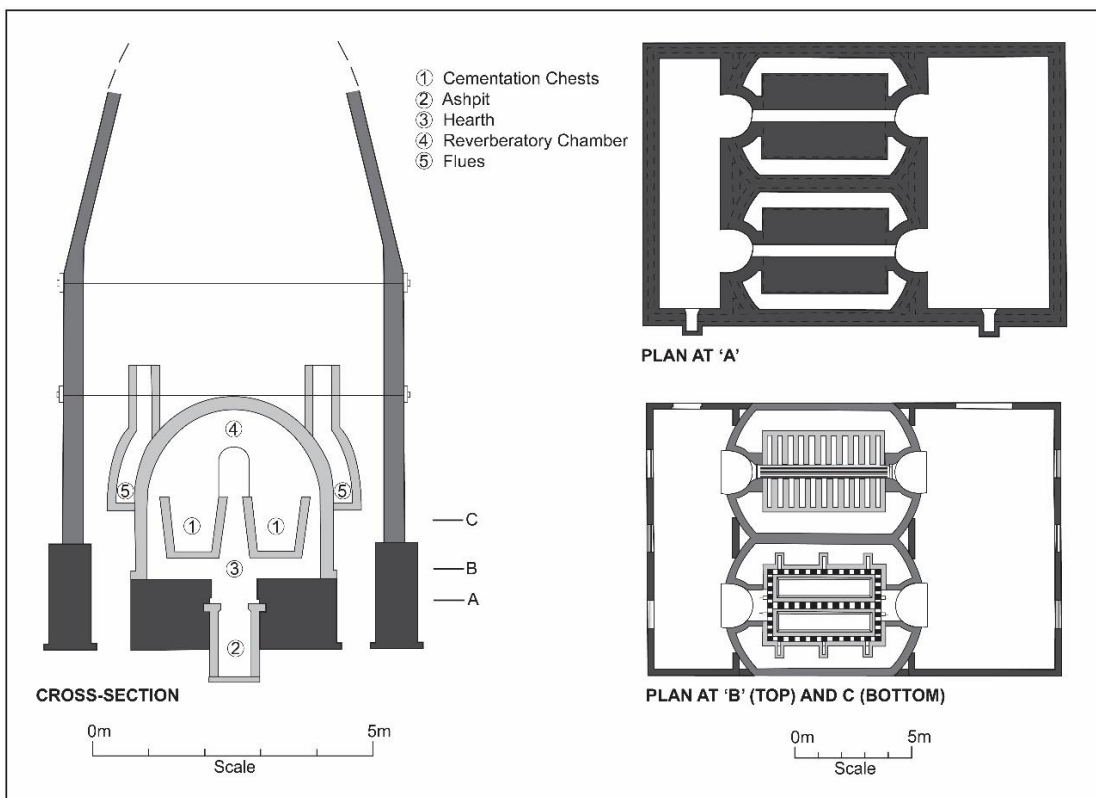


Fig. 7.02. A nineteenth-century Sheffield-type cementation furnace. Source: Belford and Ross 2007, Fig. 3.

The nature of Brooke's steelmaking process has been debated (Schubert 1957; Barraclough 1984; Wanklyn 1982), but excavations directed by the author have confirmed that it was cementation. It seems likely that Sir Basil Brooke had somehow learned about the cementation process during his overseas travels – either directly by visiting a steelworks or indirectly through his network of contacts – and used the information to replicate the process at his own works. Brooke's connections with the Earl of Shrewsbury have been noted elsewhere; he would have been aware of the Herefordshire steelworks and may even have visited it. Although using a different process, his attention would have been drawn to the potential profitability presented by the production of high quality steel in bulk. This potential had been made greater as the price of steel had risen sharply from c.1600 when monopolies for imported steel had been granted (Schubert 1957, 323). In response, several attempts were made to develop steelmaking in England; various patents were granted early in the reign of James VI/I, but all were soon withdrawn for lack of performance under testing (Jenkins 1923, 18; Brownlie and de Laveleye 1930, 457-470). In 1614 William Ellyott and Matthias Meysey were granted a patent for the production of steel:

'Performed by meanes of a reverberatory furnace with pots luted or closed to be put therein containing in them certaine quantities of iron, with other substances, mixtures and ingredients, which being in the said furnace brought to a proportion of heate doth make or converte the same iron into steele' (NA: Patent Rolls 12 James 1, 1/15).

Complaints were raised about the quality of Ellyott and Meysey's steel, but these may have been grounded more in frustration at the patent's ban on imported alternatives. It was suggested at the time that Basil Brooke was behind those complaints; presumably as a tactic by which he could gain control of the patent (Schubert 1957, 324). Whether this was the case or not, Brooke had the patent by 1615 (Hammersley 1972, 149-153).

To run a cementation steel furnace Brooke therefore needed four physical inputs: coal, charcoal, good-quality wrought iron that had been made from low-phosphorous ore, and well-powered up-to-date and extensive forging capacity. At Madeley he had good supplies of coal, and a reasonable supply of charcoal; however the local argillaceous ore was not a suitable feedstock for making bar iron suitable for the cementation process. Moreover the Coalbrookdale forges were limited in their capacity, and dated back nearly 80 years. Therefore in order to make a success of the hard-won steelmaking patent, Brooke needed to find a reliable and consistent source of low-phosphorous iron, and

significantly expand the capacity of his forges – or at least reliable gain access to existing forge infrastructure. However secrecy was essential to maximise the investment return: not only would the new process have required a degree of experimentation before a commercially-viable product could be consistently manufactured, but once the process had been mastered Brooke needed operatives who would not divulge its details.

7.2 Inputs: developing sources of supply

The lack of a key raw ingredient – suitable iron – meant that acquiring an interest in an ironworks in a geologically-suitable area was essential; however it was also essential to locate the steelworks somewhere which was under Brooke's direct ownership with a loyal workforce – a place which was also simultaneously hidden away but accessible to supplies and markets. The solution to these divergent obstacles provides the explanation for the subsequent trajectory of Basil Brooke's life and works – both as an industrialist, and as a man who became more embroiled in the increasingly radical and dangerous Catholic politics which provides the backdrop to the whole story. This section describes how Brooke put in place the framework which enabled him to embark on that trajectory.

Brooke had coal in abundance at Madeley – indeed this had been the mainstay of his father's wealth. There is little direct documentary evidence for coal mining on the estate in the early-seventeenth century, however one of the few references that does survive is intriguing. The 'Lee Pitt', which John Brooke had leased to William Smytheman in 1580, was let by Basil Brooke to 'John Chetwyne of Rudge' in the County of Stafford in 1605 (SA 4708 Microfilm 204/Frame No.123-125). This was probably John Chetwynd of Rugeley; a relative of Thomas Chetwynd who, with his father-in-law and fellow Catholic Walter Coleman, had recently taken up the lease of the Comberford/Whorwood-owned Wednesbury Forge (Ede 1962, 124-125; Hackwood 1902, 36). By this time the Chetwynd-Coleman partnership was becoming a significant industrial concern: they had built a blast furnace of their own at Cannock in c.1598, and in the first few years of the seventeenth century had leased or bought several forges in south Staffordshire; from 1610 they also leased the former Paget ironworks (King 1999, 68). By 1611 they had built a slitting mill – a form of water-powered rolling mill – at the eponymous village in Staffordshire (NA: C2/Charles I/C5/67; NA: C 21/C45/18). Coleman also had interests in ironworks in Ireland and Cumbria; his visits to Ireland may have been made 'partly to avoid recusancy fines' (King 1999, 69). This investment in Madeley evidently was a good

business proposition for both Chetwynd and Brooke, and also cemented relationships between a group of like-minded Catholic industrialists

A useful picture of the state of the Madeley collieries in the mid-seventeenth century emerges from the sequestration and compounding processes which took place under the Commonwealth. Royalist estates were sequestered (confiscated) from 1643 under the aegis of a county-based 'Sequestration Committee'; Royalists whose estates had been sequestered could then 'compound' (pay a fine and recover their estates if they pledged loyalty to parliament); this latter process was overseen by the London-based 'Committee for Compounding with Delinquents'. In the period between the two events the estate was let to tenants.

The Madeley estate was sequestered in February 1645, and the industrial assets were held briefly by a Captain Bowdler and a Captain Scott; Bowdler held the rest of the estate with a John Pallett (O'Riordan 1985, 25-26). The works were subsequently taken by the Stourbridge ironmaster Richard Foley early in 1646 (SP 23/105 ff. 187-223). On Basil Brooke's death the estate was inherited by his son Thomas, but the estate remained under Sequestration until 1650; a relative of Thomas Brooke, Edward Cludd had obtained tenancy of the estate in 1649. However the period between 1645 and 1649 had seen the upheaval of the pre-war social order in the parish and an effective asset-stripping of the whole estate by the various short-term tenants, which necessitated significant investment by Cludd (O'Riordan 1985, 27-29). The estate passed to Francis Wolfe I in 1651, and then to his son Francis Wolfe II (Baugh 1985, 46). One of the particular concerns of the Compounding Committee was the condition of the coal mines, and it is from these accounts that a good picture of mining operations in the first half of the seventeenth century can be obtained.

At Madeley Wood there were four 'insets': horizontal adits running northwards from the River Severn. Two of these were 1,000 yards [914m] long, the third was 700 yards [640m] and the fourth was 500 yards [457m]; pumping machinery was installed to drain the mines, more than half the length of which suffered from flooding (NA: SP 23/105 ff. 180-229). Each adit was run by 'master grubbers' with a team of 'ground colliers': the 'master grubbers' were usually a partnership of two or more, who in turn rented the mining rights from the leaseholder (NA: SP 23/105 ff. 196-203). Working conditions during the period of Sequestration were poor: the 500-yard and 700-yard adits were noted by the Compounding Committee as being almost unworkable (NA: SP 23/105 ff. 227-229). The

reasons for this are clear in the example of the 500-yard mine. From c.1647 to 1650 the inexperienced lessee Richard Clowes employed a bargeman, John Yate, as 'master grubber'; Yate made a substantial profit of £100 during this period, but failed to invest in the mine, which generated a loss of £40 for Clowes and subsequently required an additional investment of £90 from Cludd (NA: SP23/105 ff. 203-204, 228-230). A further dispute concerning Yate's dual role as bargeman and collier led to Yate's dismissal by Cludd in 1649 (O'Riordan 1985, 32). Other extractive industries on the estate were also badly managed at this time – three men were killed at the Lincoln Hill limeworks in 1547, for example (Brown 1979, 160).

Notwithstanding the asset stripping during the period of Sequestration, there had evidently also been a period of under-investment by Basil Brooke prior to the Civil War. In c.1644 the four mines were said to have been under-capitalised, presumably for some years (Hammersley 1972, 172). It has been suggested that Brooke was distracted by his 'involvements elsewhere' (Baugh 1985, 46), and this certainly seems to have been a factor. Problems with flooding were already evident in the 1640s (NA: SP 23/105 ff.177-178). Following Cludd's investment of £1,245 in repairs, by 1651 the mines were 'said to be in a better state than they had in Brooke's time' (NA: SP 23/237 f.69; Baugh 1985, 46). Despite the lack of investment for several years during the 1640s (and perhaps from the 1630s), there was no shortage of coal during this period. This is evident from two sources. The Gloucester Port Records show that a steady supply of Madeley coal made its way downriver throughout the early sixteenth century (Wanklyn 1982, 5-6). Later seventeenth-century records show that the Madeley collieries were producing 30,000 tonnes per year, approximately 25% of all coal production in Shropshire. (Nef 1932, 1:64-65, 1:360-361). In 1672 more than a quarter of the rental value of the Madeley estate was made up of its coal and ironstone mines, limeworks and ironworks (SA: 2280/6).

The other principal ingredient in the cementation process was iron. At first glance Basil Brooke's decision not to build a blast furnace seems at odds with developments by his contemporaries elsewhere – both regionally, as already noted, and locally. The six blast furnaces that were in existence in Shropshire by 1600 were joined by five more in the early-seventeenth century. At Wombridge a former bloomery was converted to a blast furnace in c.1634 (Baugh 1985, 293; Riden 1987, 63). In some cases the new blast furnaces were designed to make use of bloomery slag. Thus at Willey a blast furnace was built between 1609 and 1618 by the Lacon family; this was subsequently owned and operated by John Weld. This re-smelted 'iron-rich waste from a former bloomery' (Riden 1987,

62).¹⁵ Later blast furnaces were built on new sites: Leighton in 1632, Charlecote in c.1635, and Bouldon, on the west side of Brown Clee Hill, in c.1644 (Belford 2001; Time Team 2002; SA: 3320/108/1-2; Goodman 1978, 106). John Brooke had not built a blast furnace in Madeley because he was content with the income from the coal mines. Basil Brooke did not build a blast furnace because – unlike his father – he had an ambitious and coherent plan which meant that investment in a blast furnace at Madeley was pointless: he wanted to make steel, and he knew that the local ore was unsuitable. Instead, Brooke ruthlessly pursued a timely opportunity to acquire a controlling stake in a newly-built ironworks that produced iron which was perfect for the steelmaking process; moreover it was directly connected to the Madeley ironworks by the River Severn.

In 1611 a Royal grant had been obtained by William Herbert, Earl of Pembroke, which included the right to erect as many ironworks as he pleased in the Forest of Dean. He was also entitled to obtain wood and enclose woodland for charcoal, and to dig for iron ore and cinders (NA: C54/2103). Four furnaces and three forges – subsequently known as the ‘King’s Ironworks’ had been built under the terms of this grant by 1612 (NA: E178/3837; Schubert 1957, 185-186). There was considerable resentment towards this enterprise among both the Forest commoners and the Free Miners: the former perceived a threat to their long-established rights to timber and grazing, the latter to their mining rights. Consequently in 1612 and 1613 both groups brought cases against Pembroke in the Court of the Exchequer; these led to clarification of the Free Miners privileges and to the temporary cessation of woodcutting (NA: E112/82/300; NA: E112/83/411; NA: E124/14; NA: E178/3837). The ‘King’s Ironworks’ was also an irritant to established local ironmasters, such as Sir Edward Winter (d. 1619; actually the Earl of Pembroke’s uncle) and in particular his son Sir John Winter (1602-c.1686) (Hart 1995, 8-10).

The Earl of Pembroke surrendered his grant in 1615; it was immediately split equally between two separate partnerships (NA: LR 1/15/182). Basil Brooke and Robert Chaldecott operated the ironworks at Parkend and Soudley (both sites each containing a furnace and a forge); the partnership of Richard Tomlins and George Moore operated the furnace at Cannop and the furnace and forge at Lydbrook (Schubert 1957, 185-186) .

¹⁵ A similar operation was subsequently developed further down the Severn: Andrew Yarranton’s Astley (Worcestershire) furnace of c.1630 re-smelted Roman bloomery slag from the extensive deposits to the north of Worcester (Riden 1987, 62).

Despite initial mutual wariness, Brooke and Winter developed close links in the supply of timber and in metallurgical experimentation on the forge side. As a result of this Brooke was in a position to obtain good quality pig iron at advantageous rates. In the early 1630s Winter also had two other furnaces, at Lidney and Gunn's Mill (BL: Add. MSS 69909/II/42/57/7/16). When Brooke and Winter formed a partnership in 1634, they bought out George Mynn and this deal included agreements on the delivery of Osmund iron ('raw iron' from Sweden) – suggesting involvement in the Baltic trade as well (NA: E112/181/155; NA C99/36). The four furnaces of the Royal ironworks alone were said in 1637 to be capable of producing 2,800 tonnes of iron per annum: this would have represented 10% of national production, and almost 20% of non-Wealden production at that time (Hart 1995, 46; King 2005, 7).

As a result of these arrangements, Basil Brooke had ensured reliable supplies of high quality iron for most of the 1620s and 1630s; this continued even during the litigation of 1634-1637, and probably afterwards (Hart 1995, 52-53). His income from the Forest of Dean ironworks was considerable: Brooke made £24,000 clear profit in the 1620s and 1630s (Hammersley 1972, 392). This profit must have been used to support the development and early operations of the steelworks; it also enabled investments in other industries, as well as providing resources for enhancements on the estate – such as the gatehouse, gardens and sundial at Madeley Court, and The Lodge. The fact that Brooke acquired the steelmaking patent at the same time as he gained his first foothold in the Forest of Dean complex is unlikely to be a coincidence. Of course the steelmaking patent could have been a fortuitous addition to an investment in the King's Ironworks that Brooke had already decided upon. However if he was simply interested in increasing his own iron production it would have made more sense to build a blast furnace on the Madeley estate – as so many of his neighbours had done – and process the iron through the new Upper Forge. That he did not do this suggests that steelmaking was the primary interest. The argillaceous ores of the Coalbrookdale area were not suitable for producing the low-phosphorous iron that was needed as a feedstock for Brooke's steelmaking operations. Brooke's strategy was therefore to ensure a reliable source of haematite from an established and efficient operation in the Forest of Dean, and to invest in the steelworks and forges at Coalbrookdale. This is why so much energy was expended on retaining the Forest of Dean; not because of a desire for expansion, as suggested or implied by previous writers (Mott 1957a, 74-79; Schubert 1957, 371; Hammersley 1972, 154-156), but to sustain this highly specialised niche business.

7.3 The Madeley steelworks

It is argued in this study that the Upper Forge was constructed as one with the steel furnaces to provide a single, entirely new, integrated steelworks. Previous work – including that by the author – has tended to see the steelworks as an addition to an already-extant forge; having re-appraised a wide range of archaeological, historical and biographical evidence it is now clear that this was not the case. This section will further elaborate on that hypothesis, having introduced the notion in Chapter 6. However it is first necessary to consider the evidence of the steel furnaces themselves. A technical report on the excavations has been published (Belford and Ross 2007); the account in this section is more discursive, examining inputs, process and products as well as the construction of the furnaces themselves. The relationships between Brooke's other business interests, and the role of his Catholic networks in developing the steelworks, are also considered.

Excavations undertaken on the Upper Forge site between 2001 and 2005 (Belford 2003; Belford 2004; Belford and Ross 2007) revealed the remains of two steel furnaces, along with ancillary plant and buildings, and recovered dating and archaeometallurgical evidence which confirmed their function and identity as Brooke's furnaces. Three phases of construction were identified (**Fig. 7.03**). The northern furnace (**Fig. 7.04**) was built first, was later enlarged, and then the southern furnace was built as a copy of the modified northern furnace. The ancillary building was extended southwards at the same time as the southern furnace was built. The first phase of the northern furnace measured 4.57m (15 feet) in diameter; the second phase, and the single-phase construction of the southern furnace, both had a diameter of 5.48m (18 feet). The archaeological phasing can be related to the documentary evidence. The Gloucester Port Records show that steel was being shipped down the River Severn from Madeley by 1619 (GPR 1247/08/02/20). It seems reasonable to conclude that, after some experimentation, the new process had been mastered. The scale of shipments was initially small (two to five tonnes at a time), suggesting that only a single furnace was operational; however these increased during the 1630s (GPR 1247/08/02/21-22). A lease of 1645 refers to the 'old' and 'new' steel furnaces as part of the extensive Upper Forge complex (Clark and Alfrey 1986, 31; Wanklyn 1973, 4-5).



Fig. 7.03. The Madeley steelworks: overall plan of the 2005 excavations. The furnaces and ancillary buildings are shaded. Source: Belford and Ross 2007, Fig. 4.



Fig. 7.04. The Madeley steelworks: fragment of furnace lining, consisting of refractory sandstone (above) and brick (below), prior to analysis. Source: Historic England.

The furnace foundations were constructed of sandstone blocks set in lime mortar; additional reinforcement was provided with brickwork in places. Both refractory bricks and sandstone fragments were recovered from the ashpit fills, and these were identified as parts of the lining or interior of the reverberatory chamber (**Fig. 7.04**). Analysis showed that the sandstone was high in silica and was therefore a good refractory material, and confirmed that the furnace had been coal-fired and not wood-fired. It is probable that sandstone was used for the whole structure. The most convincing evidence for this were impressions in the mortar on the northern furnace, which seem to indicate the base of a stone facing around a rubble and mortar core. It is also suggestive, although far from conclusive, that some very similar heat-reddened and softened sandstone blocks were re-used in the construction of post-seventeenth century buildings on the site. A sandstone superstructure would be consistent with the surviving evidence for eighteenth-century furnaces elsewhere. This was the case at Derwentcote (County Durham), built in 1733 – and until the discovery of the Coalbrookdale furnaces

the oldest known cementation steel furnace (**Fig. 7.05**); photographs of eighteenth-century Sheffield furnaces – such as Huntsman’s first cementation furnace at Attercliffe (1743) – suggest that these too were built of sandstone, although later furnaces were entirely brick-built (Hadfield 1894, plate XV; Cranstone 1997, 29-30).



Fig. 7.05. Derwentcote steel furnace: the stone-built cementation furnace and ancillary buildings of 1733, echoing the earlier arrangement at Madeley. Source: author.

Each of the Madeley steelworks furnaces had two brick-lined ash pits on the same axis of the furnace, not quite meeting in the middle (**Fig. 7.06**). The ash pits in the southern furnace were almost completely destroyed by later insertions, but the ash pits in the northern furnace (**Fig. 7.07**) survived to a height of 610 mm. It was presumed that these ash pits had also been part of the arrangement by which the furnace was stoked. Each pit could be accessed from a paved space on either side of the furnace; these were below the original seventeenth century ground level, and were accessed by stairs. The ash pits were separated by a substantial central pillar, brick in the northern furnace, and stone in the southern one. Whilst not entirely consistent with late-eighteenth and nineteenth

century examples excavated in Sheffield; the separation of ashpits below ground level is also evident at Derwentcote (Cranstone 1997, 52-53) (Fig. 7.08). The fact that the ash pits were divided into two suggests that the firebox above was also divided into two. This would have allowed stoking from either end, or indeed from both ends, as was common practice known from later examples (Barraclough 1984; Cranstone 1997).

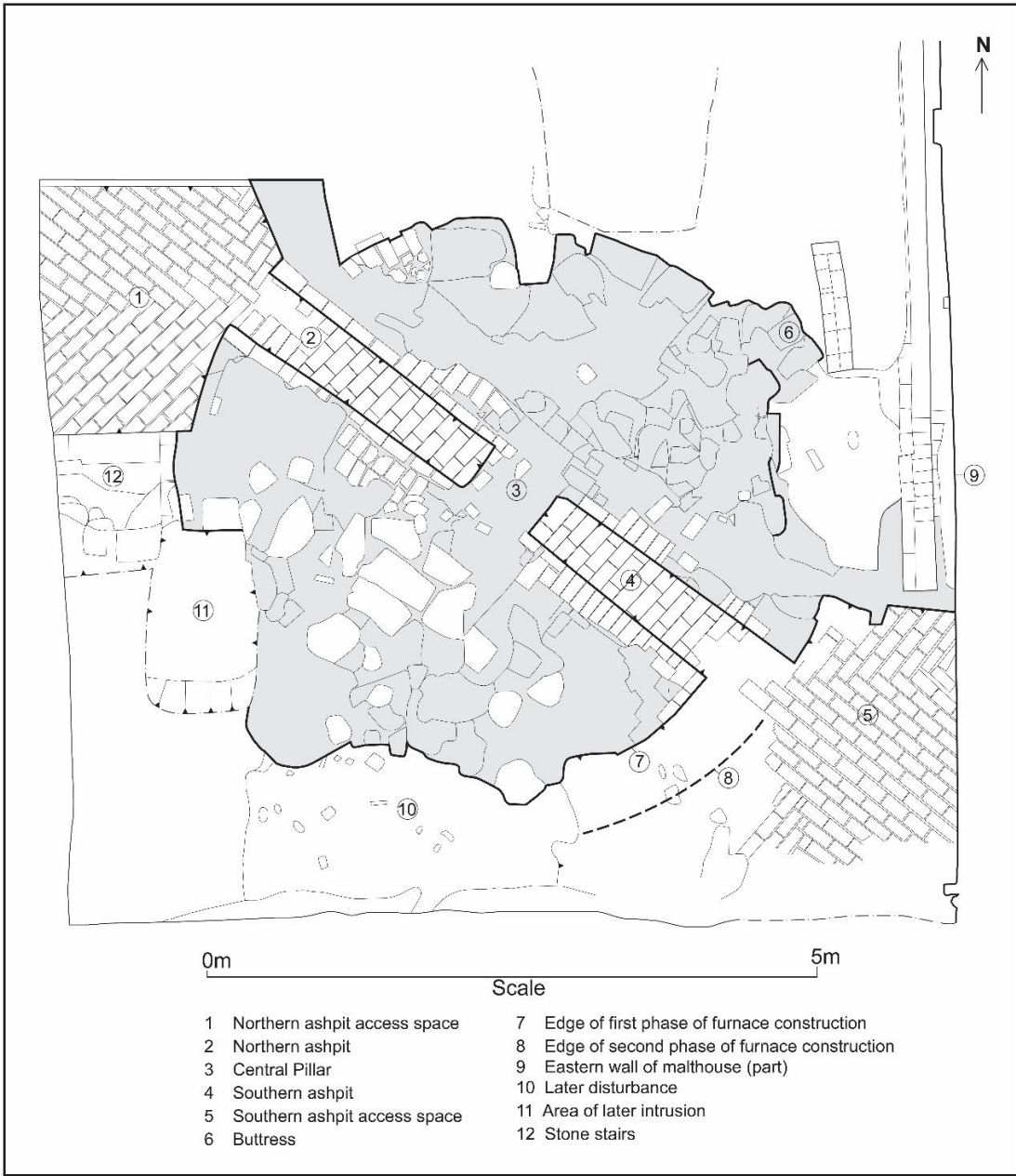


Fig. 7.06. The Madeley steelworks: plan of the northern furnace. Source: Belford and Ross 2007, Fig. 7.



Fig. 7.07. The Madeley steelworks: the brick-lined ashpits of the northern furnace. This represents the very bottom of a structure that would have been similar to the surviving later example at Derwentcote shown opposite. Source: author.



Fig. 7.08. Derwentcote steel furnace: the entrance to the reverberatory chamber, with the stokehole below and the ashpit beneath that. Source: author.

Interestingly – and unusually in respect of other known twin-furnace installations, albeit significantly later ones – the northern furnace ash pit was oriented northwest-southeast, whereas the southern furnace ash pit was oriented northeast-southwest (Fig. 7.03). This arrangement is unlikely to relate to the need for draft: the ashpits were enclosed and their orientation would not have been significantly influenced by wind direction since the primary force was the updraught from the chimney superstructure. There are several practical reasons why the different layouts might have been adopted; issues may have arisen with the first furnace in the period before the second furnace was built. One possible explanation is that stoking was located at one end, with the loading and unloading of the iron and steel at the other end. It might have been intended to align the stoking arrangements so that they converged on a single fuel store, suggesting that the furnaces were fired and loaded from the east end. Later practice was to run a ‘heat’ in one furnace whilst the other was cooling, being unloaded and then reloaded; this ensured a steady production rate. Certainly this layout would make that sort of operation possible; however it is not known whether this was a consideration in the

operation of the Coalbrookdale furnaces: given the variable regularity of seventeenth-century river transport it may have been preferable to run both furnaces at the same time to ensure a large batch for a single shipment. If the furnaces were operated alternately then his design may also have resulted from visual or aesthetic considerations – ensuring that activity and flames were always potentially visible to visitors.

The ancillary buildings only survived in fragmentary form, although it was clear that rectangular buildings abutted at least the east and west sides of both furnaces, and may have extended north and south to link the two furnaces together. These buildings would have provided sufficient cover for short-term storage of materials during the furnace operations, principally a fuel store for coal, but also for loading and unloading charcoal and iron/steel. It seems likely that other structures were destroyed by later uses of the site, and may also have been located outside the excavation area; At Derwentcote, the southern ‘feasing house’ is some 12.7m by 7.8m, and the northern is 6.3m by 4.3m (Cranstone 1997, 43-45) (Fig. 7.05). At Winlaton Mill, the overall length of the ancillary buildings surrounding Nos. 2 and 3 furnaces (built before c.1718) is approximately 38m (Cranstone 2011, 42-44). However a seventeenth-century Swedish description states that ‘a building for 2 such steel furnaces must be 18 ells [10.69m] long and 8 ells [4.75m] wide’ (Bjorkenstam *et al.* 1982, 181). The Madeley steelworks falls somewhere in between.

The forge was an essential element of the cementation steelmaking process. The furnaces of the steelworks only served to increase the carbon content in an inefficient and heterogeneous manner. Forging the steel bar to improve its homogeneity and add value in the market was as important as sourcing and forging the wrought iron feedstock. There were two forges in Coalbrookdale when Basil Brooke inherited the estate in 1598 – the Lower Forge and the Middle Forge. One of these was nearing the end of a long-term lease to Hugh Morral; the legal status of the other one is not known. Both were long-established and relatively small, and although maintenance of the forges would have been a requirement of any lease, John Brooke’s focus was not on ironmaking and so it is not clear how much attention would have been paid to these installations. Evidence from Wednesbury and elsewhere suggests that even a relatively new forge required considerable repairs at the end of conventional 21-year lease. The likely extent of early-seventeenth century development at what subsequently became the Upper Furnace and New Furnace sites has already been discussed in Chapter 6: there was possibly a forge at the Upper Furnace site at some point during the seventeenth century,

but nothing can be firmly attributed to that site before 1658, and nothing on the New Furnace site before c.1704.

The earliest evidence for the Upper Forge, also known as the Great Forge, and, occasionally during the eighteenth century, the Middle Forge, is a graffito of 1668 described in 1801 (Trinder 1979, 8). However the forge was self-evidently in existence before 1615. It must have been built before the steelworks, since the steel furnaces could not have been constructed without the Upper Forge dam and associated water-power systems being in place – they are located with respect to the headrace of the Middle Forge, which forms the tailrace of the Upper Forge. The cross-valley arrangement at the Upper Forge required two sets of sluices on the dam itself, the water supply to the forge on the eastern end and the overflow sluices on the western end. The fact that this is a cross-valley dam and not a side-valley system suggests that the construction of this was the work of a very different mind-set from that of the two lower forges. A forge can be erected relatively quickly, but the water-power arrangements can be more complex, particularly on a system with multiple water-powered sites. At Coalbrookdale it was possible to minimise disruption to the existing Lower and Middle Forges by building the new forge upstream. Indeed its addition to the watercourse system may also have been intended to enhance the supply of water to the lower pools. These relatively small and shallow side-valley ponds may be considered ‘more as a buffer against short-term variations in flow ... rather than a reservoir capable of providing for a whole working day’ (Crossley 1989, xi). A cross-valley dam was a simpler – if bolder – engineering solution and could have been expedited relatively quickly. The impact on the hydrology and landscape of the construction of an integrated steelworks is shown in a single episode is shown in **Figures 7.09** and **7.10** on the following pages.

The name ‘Great Forge’ reflects the site’s importance during the later seventeenth century, at which time the site included finery and chafery forges, a stamper mill, another forge, two furnaces, two steel furnaces, charcoal stores, house and stables (Belford 2003, 59-63). This represents a logical arrangement for a forge serving the steelworks. The finery and chafery forges were conventional forges for processing pig iron into iron bar. An additional forge and two unspecified furnaces is less conventional, and could imply a specialist area for reheating and forging the steel bars. The scale of this site suggests an ambitious approach to bar iron production, and the manufacture of steel, by the Brooke enterprise.

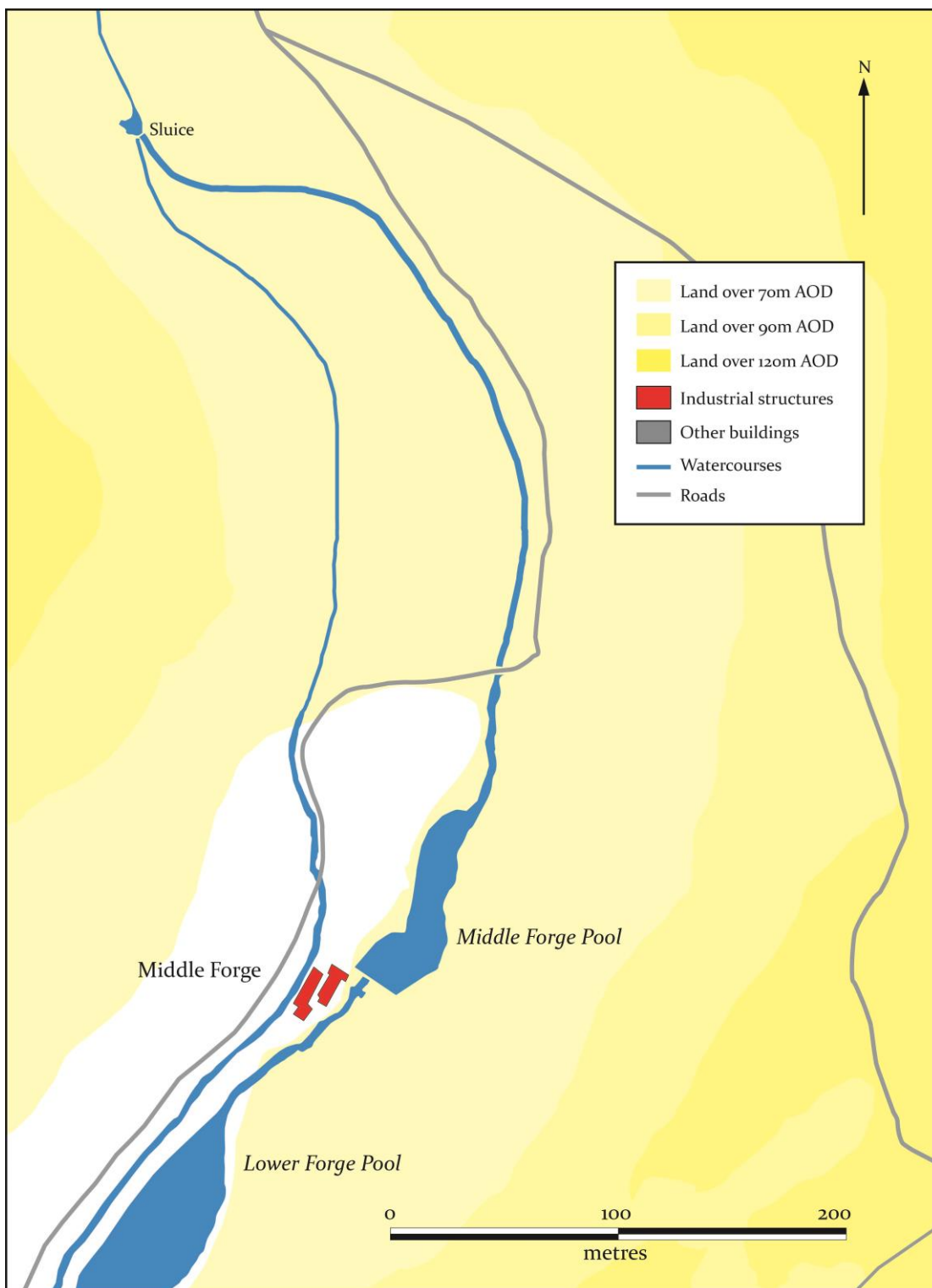


Fig. 7.09. Upper Forge: the arrangement of watercourses and the extent of industrial infrastructure before the creation of the Madeley steelworks. Source: author.

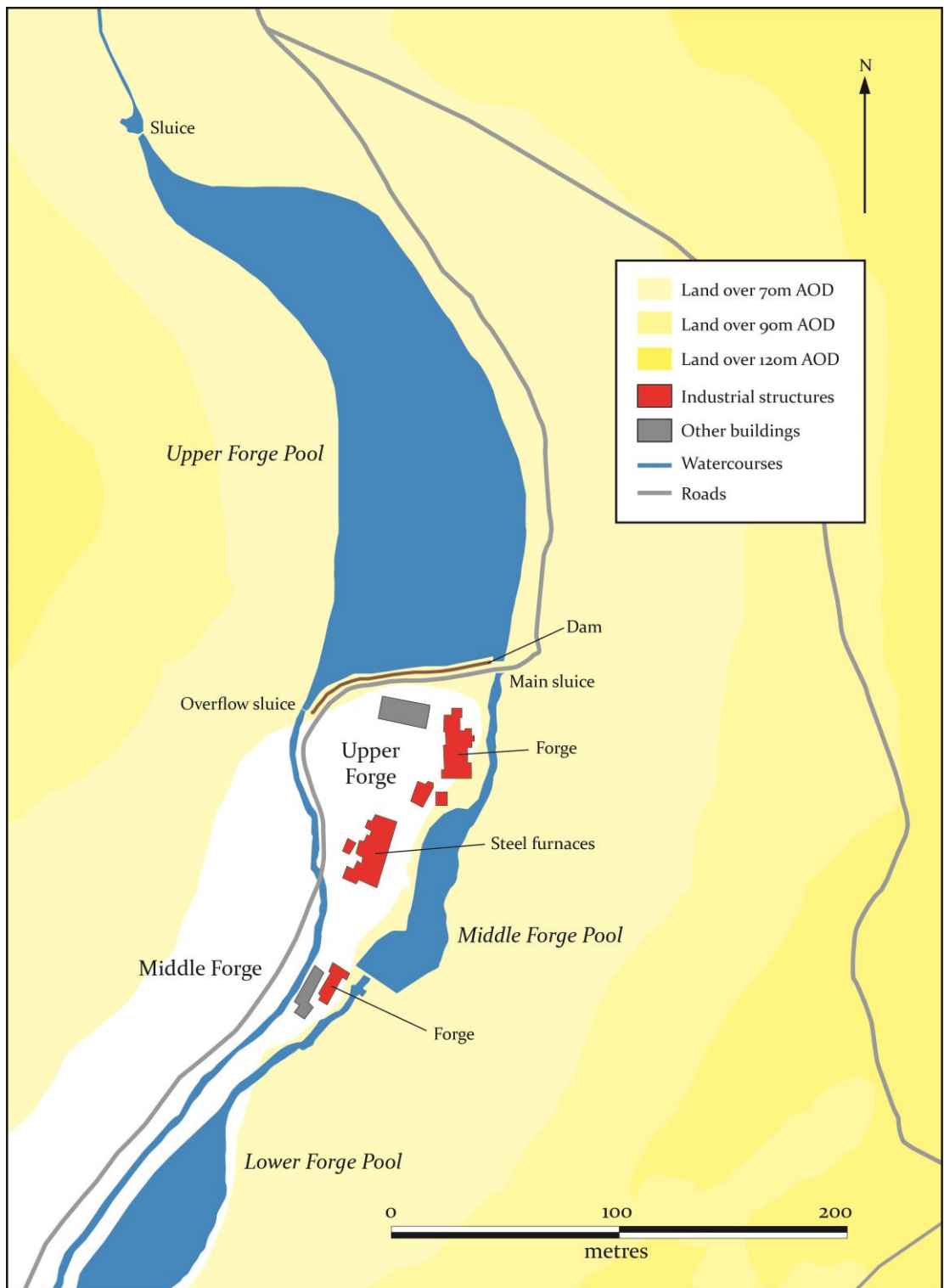


Fig. 7.10. Upper Forge: the arrangement of watercourses and the extent of industrial infrastructure after the creation of the Madeley steelworks. Source: author



Fig. 7.11. Rose Cottage, dated 1642, on the site of the Middle Forge. Source: author.

It seems likely that the construction of the Upper Forge also provided an opportunity to refit and re-purpose the Lower and Middle Forges. This may have involved a reduction in capacity on those two sites: both are associated with extant seventeenth century non-industrial buildings: Ivy Cottage, just south of the Lower Forge buildings, is a mid-seventeenth century timber-framed house; timber-framed ‘Rose Cottage’ (Fig. 7.11), on the site of the middle forge complex, has inscribed dates of 1642 (on plasterwork now removed) and 1676 (on a later stone extension). It has been suggested that Rose Cottage was converted from a former industrial building (Clark and Alfrey 1986, 163), although the evidence is equivocal.

Basil Brooke also invested in forges beyond Madeley. By 1637 Brooke had spent over £14,000 enlarging, updating and improving the Royal ironworks in the Forest of Dean. By this date there were five forges, which had the potential to produce up to 700 tons of bar iron per year, although it is not clear that they ever did so (Hart 1995, 46). At the second surrender of his Forest of Dean lease in 1629, Brooke was also recorded as one of a partnership who owned a forge at Shelsley Walsh, Worcestershire (Hart 1973, 12-14; NA E214/523; NA E214/459). He was also one of the ‘farmers’ of the Company of Mineral and Battery Works wireworks at Tintern, and was probably involved in the ironworks there (Paar and Tucker 1975). At some stage during the 1630s he also had another Shropshire

forge at the confluence of the River Perry with the Severn, probably near Mytton, north of Shrewsbury (NA: C2/JamesI/W5/47). It may have been that the forging capacity at Coalbrookdale was entirely consumed by the demands from the steelmaking side of the business at this time; alternatively Brooke may simply have spotted particular business opportunities in these areas. Perhaps it is most likely that his heavy commitments in the Forest of Dean, together with his close involvement in the perfection of the cementation steelmaking process at Coalbrookdale, meant that it was easier to develop additional capacity by buying into partnerships in existing works rather than investing more heavily (and with more risk) in his own properties.

The success of the steelworks, and Brooke's broader portfolio of ferrous industrial undertakings, is evident from its continuing expansion and profitability during the 1620s and 1630s. However the operation of the business was not without its difficulties. Just as Brooke had petitioned against Ellyott and Meysey's steel, so others petitioned against him. A complaint of 1618 was dismissed as a conspiracy by the Attorney General; but in 1619 Brooke's product failed to gain the approval of the Royal Armouries (Schubert 1957, 324). Meanwhile, complaints were being made against Basil Brooke and George Mynn for over-exploitation of charcoal in the Forest of Dean – complaints that were supported by one Robert Fludd, a German alchemist (CSPD JamesI/98; NA: C99/22; NA: C99/36; NA: SP16/266/69; CSPD CharlesI/262/6). In 1620 Fludd, and John du Rochier – a French steelmaker – were successful in obtaining a patent for steelmaking; neither name appears subsequently in steelmaking history, and it is not clear that anything came of this project (Barraclough 1984, 54; Schubert 1957, 324). However it is worth noting a tenuous connection between 'Rochier' and Saloman de Caus, the celebrated engineer of ornamental waterworks: in a letter of c.1615, Saloman de Caus wrote to Thomas Wilson, Secretary to the Lord Treasurer, if 'Rochier' had yet arrived in London (CSPD James I, 129). The context is ambiguous, but it is interesting that the 'Engineer to the Prince' may have been connected with the contested steel patent.

Brooke continued to face shortages of charcoal and competition from other steelmakers. In 1617 Brooke and a partner Sir Richard Farmer took out an eight-year lease on a parcel of woodland at Baschurch (Shropshire), for example, although restrictions were placed on the amount of wood they could take (SA: 1514/376). Although Fludd's efforts had apparently come to nothing (Rochier had died in 1625), a 'privilege for making steel for 14 years' was granted to Richard Lord Dacre, Thomas Letsome and Nicholas Page in March 1626. The method was said to have been first invented by Page, and 'invented and

improved' by Letsome (CPSD Charles I, 563). A Thomas Ledsham (probably Letsome) entered into a contract with Richard Boyle in 1629, in which Ledsham agreed to convert bar iron into steel and Boyle supplied the raw materials. Subsequently the partnership built a cementation steelworks at Ballintree (County Cork) which was in operation until 1634 (Schubert 1957, 325). At around the same time the Herefordshire steelworks was reopened under John Kirle, which ran until c.1640. It is not clear whether this continued the decarburisation project abandoned in c.1608, or whether a new cementation furnace was built (Herefordshire HER 23764).

It has been suggested that the opposition to Brooke's steel by the Royal Armouries and others was motivated by political manoeuvrings more than the actual quality of Brooke's steel (Schubert 1957, 324). Nevertheless despite the efforts of rival concerns, it is evident that the Madeley steelworks continued to produce steel, so it must have found a market; moreover capacity was doubled at some point in the 1630s. Kirle's Herefordshire furnace and the Ledsham-Boyle furnace in Ireland were the only other steelmaking facilities in the kingdom, so Brooke was effectively able to dominate the market. The quality of Brooke's steel was remembered in the 1660s. Thomas Fuller, who had been generally critical of all English steel for its use in finer applications, stated that:

'[Steel is the] Eldest Brother of Iron, extracted from the same Oare, differing from it not in kind, but degree of purity, as being the first running thereof. It is more hard and brittle (whilst Iron is softer and tougher) useful for the making of English Knives, Sithes, Sisers, Shears, &c. but fine edges cannot be made thereof, as Lancets for letting of blood, Incision Knives, Dissecting Knives, Razors, &c. I have been informed that Sir Basil Brooke (the great Steele-maker in this County)¹⁶ his Patent to prohibit the importing of Forraign Steele, was revoked on this account, because that no Artist could make the aforesaid Instruments of English Steele, but must have it from Damascus, Spain, Flanders, &c.' (Fuller 1662, 347-348).

In Hallamshire – which was known in the Middle Ages for its fine cutlery, and was to become the centre of English steelmaking from the eighteenth century onwards – the steel made by Basil Brooke in the 1620s was said to have been 'as good if not better' than

¹⁶ The county being Gloucestershire, due to Brooke's association with the Forest of Dean. Until the existence of the Madeley steelworks was confirmed by excavation, this and other references had led previous researchers to assume that the steelworks was in Forest of Dean (*cf.* Schubert 1957).

steel being made there forty years later (Schubert 1957, 325). Certainly steel production at Madeley appears to have continued through to the 1660s, as suggested by shipments down the Severn (eg. GPR 1249/04/02/24). However by this time the disruption of the Civil War and the deregulation of the patent system meant that the dominance of the Coalbrookdale steelworks had faded: there were steel furnaces operational in Bristol by the 1660s and Birmingham by the 1670s – respectively closer to sources of iron (either from the Forest of Dean or imported from Sweden) and to markets for the finished product (Barraclough 1984, 39, 65-67; Evans 2006). A ‘steelhouse’ was still part of the Upper Forge complex when the Coalbrookdale ironworks was leased to Shadrach Fox in 1695, but probably out of use; it was demolished in the summer of 1726 (Belford and Ross 2007, 138).

7.4 Brooke’s ferrous industries in context

From 1615 and the late 1630s – in addition to the steelworks and three forges in Madeley which he owned and operated on his own account – Brooke was in various partnerships which gave him control of four blast furnaces in the Forest of Dean, five forges there and two elsewhere, and the Tintern wireworks. Even without the steelworks this is an impressive portfolio. The potential output of the Forest of Dean ironworks was at least 2,800 tons of pig iron, and 700 tons of bar iron per year (Hart 1995, 46); this alone would have been 10% of national pig iron production at the time. Brooke stated that he had made made £24,000 in profits in the Forest of Dean during the 1620s and 1630s (Hammersley 1972, 392). There were no enterprises on a comparable scale in Shropshire, nor elsewhere along the Severn. South Staffordshire was emerging as a significant regional centre of iron production, but even by the 1610s were were only ‘three significant ironmasters’ businesses’ there (King 2001, 23). Brooke’s achievement would be remarkable under any circumstances, but this was an increasingly challenging time in which to be a Catholic gentry ironmaster, for three reasons.

Firstly the economy of the iron trade was under considerable strain during this period. In national terms the early-seventeenth century did not see the same dramatic increase in overall production of pig iron and bar iron as the later sixteenth century. However the trend of a shift away from the Weald to the midlands and elsewhere, and the absolute decline of the bloomsmithy, did continue. In 1600 nearly 44% of all pig iron, and over 42% of all bar iron, was being produced outside the Weald; by the 1650s these figures were 69% and 68% respectively (Fig. 5.20) (King 2005, 7-9). Overall production in 1650

was actually lower than it had been at the beginning of the century; however there had been a substantial increase before the 1620s, all of which was the result of increased capacity outside the Weald. There was a recession in the British iron industry in the 1620s, which may have been part of a wider European recession prompted by an agricultural crisis in northern Europe and difficulties in the Spanish colonies of South America. Recovery from the 1630s was steady, but the Civil War also affected iron production, and the availability of reliable figures from which to calculate it (King 2005, 5-7). The decline of the Wealden industry is apparent from the evidence of the once-prosperous Darell concern in Sussex, for example, continued until at least 1637, but by this time consisted only of forges at Scotney, Chingley and Chingley Wood; the Chingley blast furnace had been recorded as 'fallen downe and utterlie decayed' in 1588, and pig iron was sourced from another furnace at Snape (Crossley 1973,4).

The second (and related) reason was the continuation of the trend noted in the previous chapter away from gentry and aristocratic control of industrial installations towards partnerships of entrepreneurs from other social classes. Instead, landowners were increasingly leasing ironworks, and selling charcoal to ironmasters; in turn the ironmasters sought to gain control of as many ironworks as possible in an area and so control the supply (and price) of wood; it has been suggested that this was one of the main reasons for the small number of relatively large ironmaking concerns (King 1999, 75-76). Many of the groupings that had been established in the sixteenth century continued during the first 20 years of the seventeenth century, but subsequently faltered under difficult market conditions and intense competition. By 1610 the Paget ironworks had been reduced to one furnace and two forges (King 1999, 60). Whorwood appears to have discontinued his involvement in the iron trade in c.1600, and the Comberford family were no longer active after the 1620s (Ede 1962, 124-125). The Coleman-Chetwynd partnership remained significant in Staffordshire during the first decade of the seventeenth century. As noted earlier in this chapter, between them they owned or operated forges at Hulton, Saredon, Bromley, Langdon and Worseley, with furnaces at Worseley and Hulton – although not all of these were in operation at the same time and the extent of partnership working is not clear (King 1999, 68-69). Expansion continued into the 1620s, with two blast furnaces, two forges and a slitting mill added to the portfolio; from the 1630s this partnership also declined (King 1999, 69-70; Peacock 2011, 18).

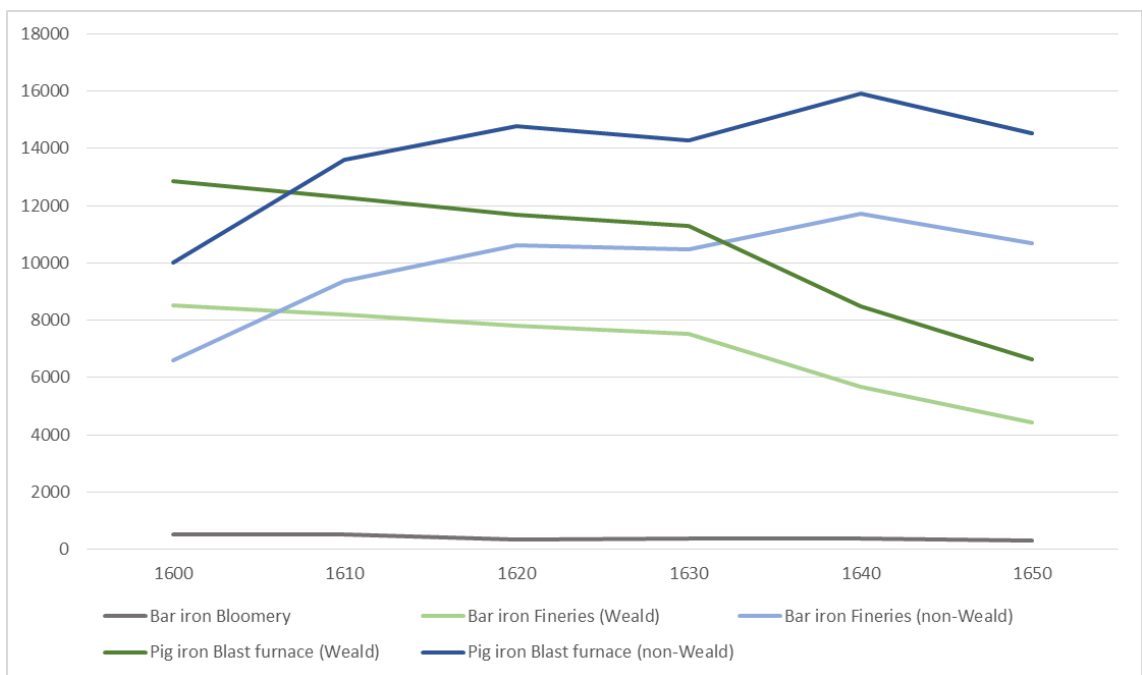
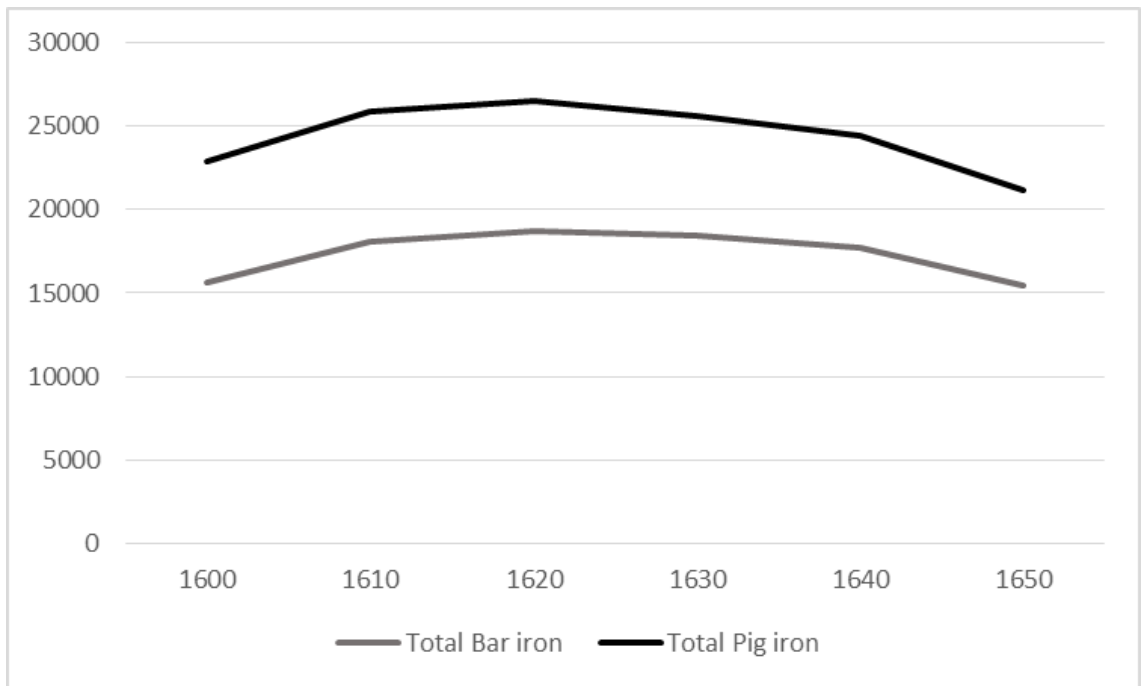


Fig. 7.12. British iron production in the first half of the seventeenth century. Top: overall production of pig iron and bar iron. Bottom: production of bar iron by process and location, and production of pig iron by location (x-axis = years, y-axis = tonnes per year).

The trend is one of stagnating production overall, with a steady decline in Wealden production and a gradual rise in production outside the Weald. Bloomery production continues, but is insignificant. The impact of the Civil War is also evident.

Source: author, from data presented in King 2005, 8.

Two of the 'significant ironmasters' businesses' in south Staffordshire in the 1610s were those belonging to Richard Parkes and Lord Dudley (King 2001, 23). Parkes' father Thomas had built or acquired a furnace and forge at Perry Barr, and forges at Wednesbury Bridge and West Bromwich; in c.1612 Richard Parkes bought Stone Furnace and Chebsey Forge, and by 1618 also owned or operated furnaces at Aston (Birmingham), Bromwich and Rushall, and forges at Little Aston and Bromford (Warwickshire). He may also have had an interest in an ironworks at Lilleshall. (King 1999, 64-65). This might have been Levenson's works, abandoned in the 1590s (Chapter 4). Parkes' son sold six blast furnaces and six forges to a partnership of Wealden ironmasters in 1618: four of these Sussex men - Thomas Nye, Richard Middleton, John Middleton junior, and Henry Goreinge - actively managed these and their Wealden ironworks until about 1622 (King 2001, 23-24). The partnership began to fragment during the 1620s, in part because of difficult market conditions: Nye left and 'took over four furnaces and five forges within the later Black Country', with the remaining partners in possession of ironworks at Chartley, Oakamoor, Ellastone, Norton and Stone (King 2001, 24).

The ironworking operations of Lord Dudley were on a smaller scale, since they were - at least during the early seventeenth century - very much a footnote to the primary interest, which was coal mining. Edward, Lord Dudley (1567-1643) had an interesting life; he had only one legitimate child, but eleven by his mistress Elizabeth Tomlinson. One of these Dud Dudley, later claimed to have invented a method for smelting iron with coal - this was disputed at the time, and subsequently, with the consensus being that he probably did achieve successful smelting but the properties of the coal were such that the iron produced was technically and commercially unviable (King 2002a; King 2002b). Dudley's account of those events was published in 1665; it is useful in providing information about ironworking operations in the first half of the century. The Dudley estate had five blast furnaces by the 1630s, with seven forges and at least two slitting mills (Dudley 1665, 7-12). Dud Dudley had been engaged by his father to operate the furnace and forges at Pensnett Chase; he subsequently developed a furnace and forges at Cradeley, and, later Swindon, Greensforge and Himley (Schubert 1957, 374-377).

The Dudley concern was very much the exception to the social trend noted above. The later seventeenth century saw this situation solidify, with the main protagonists being the Foley family, best described as a set of 'three major inter-related partnerships', which at its height toward the end of the seventeenth century controlled 14 blast

furnaces, 27 forges, nine slitting mills and two wireworks (Johnson 1952, 324-325). This business began in the 1620s with Richard Foley, who took on Dudley's Greensforge site in 1624, and the Himley furnace the following year. In 1626 he acquired another forge near Kinver, and in 1627 converted an old fulling mill about a mile upstream – at Hyde – into a slitting mill (Peacock 2011, 17-18). At around the same time Foley took advantage of the Sussex partnership's difficulties, and brought most of the former Parkes' ironworks into the group. Another slitting mill was built at Bustlehome (West Bromwich) in 1629, and another blast furnace at Hales in 1636 (Peacock 2011, 18). This remarkable rise ruffled the feathers of older-established ironmasters, such as the Chetwynd-Coleman partnership, who repeatedly took the Richard Foley and his son Thomas to court (King 1999, 63-66). However the Civil War, which effectively ended Catholic industrial enterprises, presented a significant opportunity for Thomas Foley, and later for his son Philip.

The third difficulty was increasingly Brooke's Catholicism. It is noteworthy that the ironworking businesses which declined in this period – Paget, Whorwood, Comberford, Coleman and Chetwynd – were all Catholic enterprises, whereas those which prospered – Parkes later the Foleys, and even Dudley – were Protestants. This was due to a combination of economic and political circumstances; many of the Catholic businessmen were precisely that section of gentry whose pattern of involvement was following that of the aristocracy a generation earlier: trying, in Lawrence Stone's words, to maintain 'the rural pomp of the feudal nobleman whilst at the same time cultivating the urban tastes of the Renaissance courtier and giving expensive and unrequited service to the Prince' (Stone 1967, 87). Certainly this description characterises some of Brooke's activities – and his involvement with the Jesuits and with Henrietta Maria and her circles was increasing as the political dangers of doing so were growing.

7.5 Silver, lead and soap

It may have been for economic reasons that Basil Brooke initially developed other industrial interests outside the iron and steel trade. This certainly seems to be the case with the first. Brooke's investment in silver- and lead-mining in Ireland during the first half of the seventeenth century is not well-recorded; information is only available through later-seventeenth century secondary sources. The mine was in Kilmore (Kilnamanagh), County Tipperary, and had been established as a lead mine sometime after 1617; it was subsequently 'found, that with the Lead of this Mine there was mixed

some Silver' (Boate 1657, 142). This was a Royal mine, with the rights to and responsibilities for extraction leased out to 'Farmers', in a similar system to that of the lead mines of Derbyshire (Kiernan 1989, 6-10). The date when Basil Brooke took over the lease is not known. 'Sir Basill Brook' was recorded by Gerard Boate (1657, 143) as the second of 'three persons [who] successively had this Mine in farm from the King' before the Civil War. In Derbyshire the lead mining farming concessions 'usually ran for 21 years in the sixteenth and seventeenth centuries' (Kiernan 1989, 9). If the same was true in Ireland then Brooke would have been the Farmer by the late 1630s, and possibly earlier if the previous incumbent had not retained the lease for the full term. If Brooke did speculate in Irish silver mining in the 1630s, then that could go some way towards explaining his more precarious financial situation in the following decade.

Boate's account of the works (1657, 143-144) notes its destruction 'in the beginning of this present Rebellion ... by the Irish'; as well as the demolition of mine buildings and the workings themselves, the rebels also 'put to the sword' most of the 'poor workmen' who were principally English and 'Dutch' (the latter group probably German, if similar undertakings in Derbyshire and Cumbria were comparable). The mine appears to have been sophisticated: the pits were 'many fathoms deep, yea Castle-deep', yet access was via adits so that 'people might go in and out with Wheel-barrows'; drainage was good. The silver content of the ore was about 'three pound weight of Silver out of each Tun' (ie. 0.13%). This argillaceous orebody is defined by the Geological Survey of Ireland as a 'silver ore' rather than a lead ore, and is the greatest value in the twenty-first century is in the silver content, rather than the lead. However it was the 'great quantity of Lead' in the ore which gave the 'best profit to the Farmer' in the seventeenth century – estimated to be around £2,000 per annum, even after the 17% tax on silver and the 10% tax on lead taken by the King (Boate 1657, 143). At its height the mine comprised a series of adits, drainage channels and other infrastructure, along with a complex of 'conveniently and sufficiently built' mills, melting-houses, refining-houses within 'one quarter of a mile at the furthest from the place where the Mine was digged' (Boate 1657, 143).

At the time this was one of only three lead/silver mines in Ireland – but the most profitable (Paul Rondelez, *pers. comm.*) – and clearly the three Farmers had invested considerably in the works in the 1620s and 1630s. Its destruction took place after Basil Brooke had surrendered his lease. Boate's condemnation of the 'barbarousness' of the destruction notes that the Irish, 'having no skill at all in any of those things, had never been employed in this Mine otherwise than to digg it, and to doe other labours' (Boate

1657, 144). If taken at face value, this statement firmly places the venture in a context of colonial appropriation of native resources; on the other hand this must be read in the context of the agenda running through Boate's *Naturall history*, which is to emphasise the rich resources of Ireland and the inability of its indigenous population to make the best use of those riches. The absence of a wider range of historical (and indeed archaeological) information about this site is frustrating, since Brooke's investments in the infrastructure there would have been taking place at around the same time as his Shropshire steelmaking enterprise was at its peak. It is likely that he was using his new-found wealth to speculate further on metallurgical fortunes, in the same enthusiastic application of humanistic scientific enquiry that had motivated the steelmaking venture.



Fig. 7.13. A sixteenth-century illustration of a furnace for separating silver from lead. The original caption reads: 'A - Furnace. B - Sticks of wood. C - Litharge. D - Plate. E - The Foreman when hungry eats butter, the the poison which the crucible exhales may not harm him, for this is a special remedy against that poison'. Source: Agricola 1556, 474.

However the second non-ferrous business partnership which Brooke entered into may have resulted from other, less generous, considerations. From the late-1620s, Basil Brooke became involved in a contentious soap-making monopoly. This is not consistent with the predominantly metallurgical trajectory of his undertakings, but is entirely understandable in the context of his Catholic business networks – and his frustration with aspects of the apparatus of state. It provides an interesting example of a pragmatic, if not ruthless, business response to legislation: in this case the 1624 Act which forbade the issue of State monopolies to individuals, but permitted their issue to Corporations. At this time there were three methods of making soap: a ‘coarse soap’ could be made from whale oil (‘train-oil’), ‘sweet soap’ was made using olive oil, and ‘speckled soap’ was made from tallow (Gibbs 1939, 174). The manufacture of ‘speckled soap’ had been banned at the end of the sixteenth century, despite its popularity resulting from its attractive appearance; this was partly because of its smell, but primarily because its production ‘would so waste in short time the tallow of the realm’ that candles would become unaffordable for the poor (BL: Lansdowne MSS 18, f.135). Soapmaking was concentrated in Bristol and London in the early seventeenth century, using potash imported from Denmark and whale-oil procured by the Bristol whaling fleet (Gibbs 1939, 175).

The consortium which gained a monopoly for soap manufacture included several notable Catholics as well as Brooke: Sir Richard Weston (Chancellor of the Exchequer and Lord Treasurer of England under James VI/I and Charles I), Sir William Russell (later commander of Royalist forces at Worcester), Sir William Stradling (a descendant of the St. Donat’s Stradlings who had been prominent in Catholic affairs in the sixteenth century), and Thomas Bushell (Francis Bacon’s secretary) were among those named in the grant of 1631 (CPSD Charles I, 301). The whole enterprise was an audacious attempt to control all soap-making in the country; although it claimed that the process of ‘burning and preparing of Pot-ashes, and other Ashes of Bean-straw, Pease-straw, Fern, Kelp and other Vegetables’ had been ‘newly invented’, it does not appear to have involved any new technology, rather the principal argument in its favour was that all the materials would be sourced from ‘his Majesty’s own Dominions’ (Rushworth 1639-40, 109-115). The monopoly forbade the import of potash, and banned the use of ‘fish-oil’ (ie. whale oil) – the two basic ingredients mainstay of the London and Bristol industries – and gave the consortium powers to prevent anyone else from making soap. As a result sixteen London soap-makers were imprisoned and their works confiscated (Gibbs 1939, 176).

The Society of Soapmakers of Westminster was formally incorporated in 1635, and in the same year the Society licenced Robert Carver of Wendover (Buckinghamshire) for the manufacture of potash there, and presumably the rest of the manufacturing process also took place in Buckinghamshire (CSPD Charles 1, 301; NA: SP 17/C/14). This was a potentially very profitable enterprise: the monopoly allowed the soap to be sold at up to 3d. per pound (454g) as against the usual price of 2d. per pound; this was a net price of £28 per tonne, of which only £4 per tonne was payable to the Crown as a fee for the monopoly (Gibbs 1939, 176). In addition, on the granting of the patent, the Society received £43,000 towards the establishment of the industry. Unsurprisingly the monopoly was fiercely contested, and the broader political situation of the early 1640s meant that it effectively collapsed long before the 14-year term. In any case soapmakers outside the Society continued to operate, and to develop new processes. As early as 1636, for example, David Ramsey had taken out a patent for fuel-saving soap-making apparatus involving larger boiling pans, and the following year Sir Richard Weston – apparently independently of his involvement with the Society – took out a patent for ‘making Castile or Venice soap’ (Patents 1857, 686; Gibbs 1939, 176-177).

7.6 Discussion

Basil Brooke was a technological innovator and entrepreneur. His industrial portfolio included the largest Catholic-owned ironworking business in the country at the time, and indeed was one of the most important ironworking concerns regardless of religious affiliation. He also had interests in silver- and lead-mining and soap production. His principal innovation – the successful application of cementation steelmaking – appears to have been a central consideration in the business decisions which he made during the first two decades of the seventeenth century. His investment in the Forest of Dean ironworks was made mainly to secure good domestic supplies of iron with which to supply the steelmaking operation. The relatively isolated Coalbrookdale tributary, was a perfect location away from his partners and rivals in the Forest of Dean to develop new technology – and moreover to enhance the industrial capacity on his own estate (Fig. 7.14). The steelmaking process clearly worked, as the steelworks was enlarged in the 1630s, and steel continued to be sent down the River Severn until the later seventeenth century. His commercial success enabled Brooke to promote himself in aristocratic and Royal circles, and embellish his house and estate landscape.

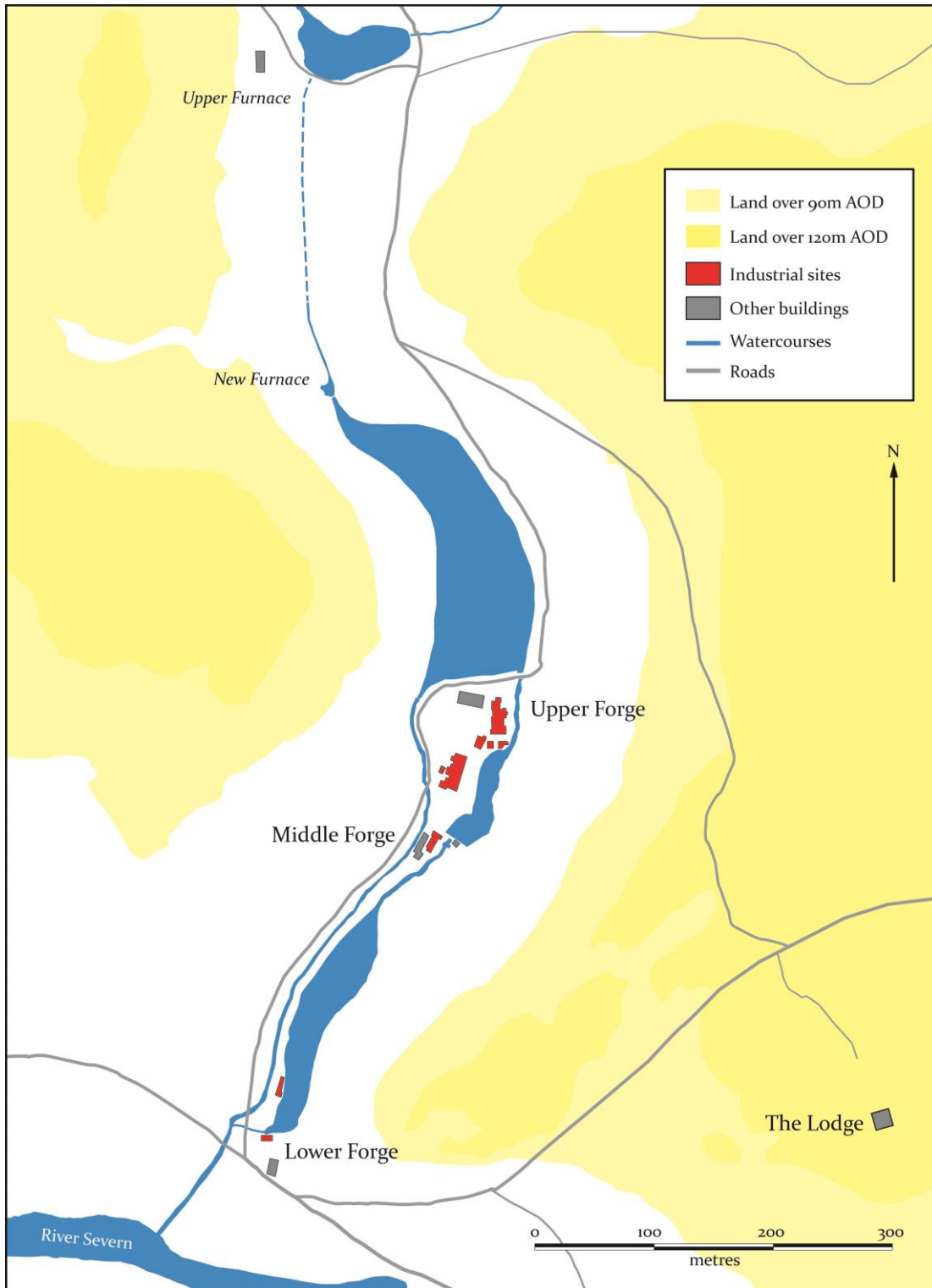


Fig. 7.14. Coalbrookdale watercourses and ironworking sites in the sixteenth century. Sites in use during the period are shown in normal type, other locations are in italics. Compare with Fig. 6.06 on p.214. Source: author.

From the perspective of a young Basil Brooke, recent inheritor of the Madeley estate in 1598 – and also the inheritor of a proud tradition of Catholic Royalism that had served his father and grandfather well, this was a sensible trajectory to follow. The relative religious toleration of the later reign of Elizabeth I was followed by the pragmatic equivocation of James VI/I, who knighted Sir Basil at a masque redolent with Catholic associations. However the world of the 1630s was a very different place. Friendship with a Queen might have been an astute social move, but friendship with the contentious Catholic Queen Henrietta Maria was potentially dangerous. It was made all the more so by the manner of its making: namely Brooke's close association with prominent Jesuits, and his increasing outspoken-ness in matters of faith and politics. The loss of the Forest of Dean concession certainly marked a turning point in Basil Brooke's personal and political fortunes. However, on the eve of the English Civil War, it was his Royalism – for so long the aspect of the Brookes' identity which had shielded their Catholicism from persecution – that was ultimately to be his undoing.

Sequestration and imprisonment

On 27th January 1641 the House of Commons made an order requiring ‘Sir Jo. Wintour, and Sir Basil Brooke, Knights, forthwith to attend this House; and to bring in all such Papers, Acquittances, or Books of Account, as are in either of their Custodies, concerning the Collection of Monies raised among Recusants’ (JHC, 2:75). Brooke did not comply with the request, and on 26th April the House heard that he ‘hath withdrawn himself, and not appeared; it is now ordered by the House, that if he come not in before the Tenth Day of May next, that then Course shall be taken that ... a Proclamation may issue forth for the Apprehending of him’ (JHC, 2:127-128).

After a year of evasion, Brooke was eventually apprehended at York in January 1642 and after a spell in prison there was brought back to London for trial. The deputation to collect him being warned by the House to ‘have a special Care in the safe Bringing of him up to London, and to be assisted with a good Guard’ (JHC, 2:392-396). A year later evidence against Sir Basil, including correspondence between him, Lord Digby and the king were presented in a report to Parliament. The House decided that the report demonstrated ‘seditious and Jesuitical Practice’ intended to provoke division and thus advance the cause of ‘our Popish and common Enemy’ (JHC, 3:358-360). After further investigation it was resolved that Sir Basil Brooke ‘be forthwith committed Prisoner to the Tower; and there kept close Prisoner, till the House take further Order’ (JHC, 3:358-360). Brooke was subsequently joined in the Tower by his brother-in-law Sir Thomas Brudenell.

By this time the tensions between King and parliament, and Protestants and Catholics, had developed into the English Civil War. Parliamentary troops had gained control of most of Shropshire by 1645. The Brooke estates were formally sequestered in June that year, and the clerk of Sir Basil’s iron and steel works, was ‘carried away prisoner’ to Benthall garrison (NA: SP23/105/199).

Sir Basil Brooke was exempted by name from pardon as a papist active against Parliament in 1646 (Gardiner 1906, 298-299). However he remained a prisoner in the Tower of London, where he died on New Year’s Eve 1646.

8. Discussion and conclusions

In the course of three generations the Brooke family rose from being minor gentry landowners in rural Shropshire to large-scale industrialists involved in international politics and diplomacy. In so doing they negotiated a range of identities, on the whole managing to balance the conflicts and tensions which necessarily arose. This thesis set out to examine how those identities were expressed, and in particular the significance of the Brookes' Catholicism in shaping those expressions. The lack of tangible evidence for many of those expressions is partly a reflection of the damaged palimpsest of the landscape, buildings and industrial remains with which they were associated; in places it has been necessary to foreground the biographical narrative as a means of joining together small fragments of historical and archaeological information. At times this has meant almost framing the story of the Brooke family in the very paradigm that this thesis was intended to overcome: a narrative of dynastic ambition, technological innovation and resistance to a suspicious, and at times hostile, hegemony. Certainly there were several common threads running through the actions of all three generations of the Brooke family: a strong sense of gentry identity and even entitlement; an unwavering Catholicism that was not always well-tempered to suit the prevailing political winds; intelligence, curiosity and ingenuity. Yet the three generations of the Brooke family responded in very different ways to the circumstances in which they found themselves.

8.1 Industrialisation and identity

Among other things, this thesis set out to find out how exceptional the 'Brooke industrial dynasty' was in terms of its entrepreneurship and application of technology. A simple answer, and not an incorrect one, is given in the first sentence of this chapter. However the reality was inevitably more complex, and the question itself – rather like the poor quality English knives that Thomas Fuller was bemoaning in the seventeenth century – was too blunt to make much headway against the stringy sinews of multiple voices, places, experiences and mind-sets.

Only two of the three generations were engaged in any industrial activity, and only one of those was able to develop new technology and use their entrepreneurial skills to benefit in a way that no-one else was able to do. John Brooke seems to have done well

out of the coal industry – he was able to considerably enlarge Madeley Court in some style, for example, and pass on a substantial legacy to his children. However he was not primarily an industrialist. His involvement in coal mining was distant; he engaged managers to run it for him – not unreasonably, nor indeed out of keeping with what the majority of gentry and aristocratic landowners were doing. It certainly minimised his exposure to risk (albeit at the expense of some potential income). Certainly he showed entrepreneurial ability by being among the first to sell coal in Worcester; yet he was not a technological innovator himself, and does not appear to have encouraged any particular innovation on his own coalfields. This contrasts with James Clifford on the other side of the river, pioneering the use of railways by the early 1600s, for example. Nor did John Brooke show any interest in the ironworks: he was increasingly surrounded by new blast furnaces as the sixteenth century went on, yet failed to invest in one himself; and he appears not to have done anything much with the existing ironmaking infrastructure.

John Brooke did not have an identity as ‘industrialist’, even though in a different age he might well have done. It is not clear what identity he preferred to express, such is the paucity of historical evidence. He did not practice law, he travelled – sometimes in company that was perhaps unwisely chosen; his Catholicism was important, but he was able to maintain his gentry status and make substantial improvements to his gentry seat. And perhaps that was his primary identity.

There is no doubt that Basil Brooke was an exceptional entrepreneur, industrialist and technological innovator – but one generation does not make a ‘dynasty’. His son, Thomas, when he eventually regained the estates later in the 1640s, showed little of the personal enthusiasm that had clearly characterised his father; under Thomas the industrial side of the estate only prospered when others were running it. There is no doubt about Basil Brooke’s personal involvement in many aspects of the iron and steel business – he seems to have been on the fringes of Ellyot and Maysey’s patent before he formally acquired it, and must have been making enquiries about the King’s Ironworks in order to have secured a stake in it at the perfect moment to successfully develop the steelworks. Enough has been said in this thesis about Basil Brooke’s exceptional industrial empire. It was certainly the largest ironworking business in the country for a period in the 1620s and early 1630s, apparently bucking the national recessionary trend. How much of this was down to the steelworks specifically, and how much was due to the profitable Forest of Dean venture, is not clear.

In a sense it doesn't matter. An essential element of its success was Brooke's own personal enthusiasm for industrial technology. His venture into Irish silver and lead was taking place at the same time as the steelworks was taking off, and appears to have been motivated by the same genuine interest. Although his motives in the later chemical enterprise may have been less pure – that consortium seemed to have been formed to make the most of a change in the law which would have temporarily disadvantaged the existing soapmakers – as late as 1638 Brooke was part of another group who petitioned the King for a patent to 'make perfect bar-iron without the use of Scotch coal, charcoal, pit-coal, or wood, out of raw-iron or bloom-iron, and being in hope also to make sow-iron or bloom-iron without the said materials' (CSPD Charles I, 389/10). This remarkable claim would appear to be technically impossible, and certainly nothing came of this petition – however it illustrates Brooke's continuing interest in new industrial technology and processes.

In spite of this personal interest, and undoubted aptitude, it is unlikely that Brooke would have seen himself as an 'industrialist'. His industrial enterprises were a means to several ends. The first was to make money. As part of a class of upwardly-mobile gentry Brooke was one of many who were not reluctant to move outside the familiar space of land-ownership and estate management. But making money was not an end in itself, it was a means of sustaining the inherited gentry legacy – and also offered the potential for further upward mobility by making connections among the aristocracy and at court. In this both Robert Brooke and Basil Brooke were extremely successful.

At the same time this class of entrepreneurial established gentry were quick to limit social mobility further down the social hierarchy in order to protect their own interests. There was for example an outcry among Shropshire gentry in 1622, when Sir Thomas Harris of Boreatton was created a Baronet – the son of a yeoman, he was a successful lawyer but he had 'no pedigree' (Baugh and Elrington 1989, 154-164). There was support for both sides of the argument. Sir John Ferne voiced the opinion of most, who felt that higher social status was about more than money: the whole social system was at risk if 'pirates and thieves, bankers and brothels' were able to buy their way into the nobility. In contrast Sir Thomas Smith had articulated the minority view: the ability to create wealth should be equally valid as land and lineage, and saw social mobility and the replenishment of the ruling classes as essential (Heal and Holmes 1994, 30). By their actions, Basil Brooke and Robert Brooke at least appear to have seen both sides of this argument.



Fig. 8.01. God and action. Thirteenth century wall paintings at Claverley Church. Source: author.

8.2 The many facets of humanism

Involvement in industry was the means to a different end, which was perhaps the most important. It was not about Ferne's concept of social status, nor was it about Smith's notion of wealth-creation. It was more concerned with negotiating humanity's relationship with God and the world. A significant element in the identity of all three generations of the Brooke family was their engagement with the latest developments in natural philosophy, or what post-Enlightenment scholarship would call 'scientific enquiry'. This is explicit in the memorials: Etheldreda was 'well skilled' in a variety of languages and music, for example (Randall 1880, 375-376). To a greater or lesser extent engagement with philosophy and scientific discovery were also present in their circles of gentry neighbours and friends, and among their wider aristocratic acquaintances. Basil Brooke took this a step further by applying it to the real world in the form of industrial enterprise. His actions were entirely informed by, and consistent with, their particular trajectory of post-humanist Renaissance philosophy. It is possible, by close scrutiny of the interstices between archaeological, historical and literary evidence, to arrive at some sort of understanding of how the Brookes saw the world; and thus how what at first appear to be competing social, political, religious and industrial impulses were in fact entirely consistent and harmonious.

In this context, therefore, the industrial activities of Basil Brooke can be seen as having a significant symbolic role as markers being used to set out a particular religious, political and social philosophy and identity. The sixteenth and early-seventeenth centuries were a significant period in terms of the emergence of new ways of understanding geography and 'natural history'. Thinking in these areas was influenced by Copernicus, Agricola, Brahe, Bacon, Galileo, Kepler and Descartes. These names are often cited as the originators of modern science, in a narrative that sees this period as a transition in scientific understanding was part of a broader philosophical trajectory which had departed from humanist neo-Platonism in the fifteenth century, and was eventually to arrive at post-Enlightenment Darwinianism in the nineteenth century. Yet the actions of Basil Brooke, and the resulting impacts on him, demonstrate precisely that this was not a trajectory but a complex multi-nodal web which could have taken humanity in any direction. The story of Agricola and Mathesius shows how different notions of the origin of metals were not simply a matter of proto-scientific enquiry, but were very deeply rooted in particular world views which themselves sprang from religious and moral philosophy. Moreover, articulating metallurgical theory was, in that instance, also making a very strong statement about religious and political identity.

This brings us back to the sundial, which is the most remarkable feature of the Madeley Court precinct. The sundial was a key component in Basil Brooke's statement about how he saw the structure of the world, and his place within it. The sundial doesn't reveal any Catholic symbolism. It didn't need to, for any religious symbolism present in nature could reveal itself through the application of Hawkins' practical theology. The sundial was a much greater symbol of the world order, which existed entirely with reference to humanist philosophy, and was part of a long trajectory of Catholic enquiry going back to Thomas Aquinas.

8.3 The view from The Lodge

The connection between Brooke and Hawkins through the *Partheneia Sacra* is the only evidence of Brooke's awareness of the Catholic symbolism of nature. What emerges clearly from that volume is the ability for worship to take place in any surroundings – the gardens shown in the illustrations are non-sectarian. The shapes of the gardens are varied: there is a circular walled garden, a rectangular walled garden, and an irregularly-shaped walled garden. The buildings depicted are square and conventional – there is no triangular lodge, for example, and there are no rabbits. The surviving material evidence

of the Madeley Court garden also shows no particular deviation from the standard gentry garden: a rectangular walled garden, probably divided into four plots, with various typical structures such as a loggia or ambulatory, and perhaps a viewing platform (although perhaps not a banqueting house). There is nothing specifically Catholic about the Madeley garden. Indeed that would be the point – as the *Partheneia Sacra* makes clear, it is possible for worship in nature to be hidden in plain sight, even more so than at the Wine Tower. That made it possible for the buildings and landscapes of the Madeley estate to be used to display other aspects of their identity.

At Madeley there was certainly a solid Catholic inheritance of buildings from the Monastic grange, but this would have been common to all dissolved estates. Brooke's equivocation elsewhere suggests that any manifestations of Catholicism in the landscape of the Manor of Madeley would not have been a significant factor in his decision to acquire the estate. Rather, the continuity of the spatial arrangement of Madeley Court with respect to the settlement and the wider landscape was probably part of a general desire to reinforce status and power relations by emphasising continuity. In this sense, Robert Brooke conformed to the broad trend of emerging post-dissolution gentry, regardless of religious affiliation. The successive rebuilding of Madeley Court by John and Basil Brooke was generally in accordance with the fashionable developments of the time; its lack of ostentation perhaps a pragmatic response to cash flow. However it could also be sending a message about the reinforcement of inheritance: by retaining the fabric of the monastic grange, and indeed by drawing attention to this precursor building by the retention of a number of peculiar alignments and orientations in the later additions, it is possible that the Brookes were projecting a sense of continuity with the past. This message can also be discerned in the memorials. It is however also the case that Basil Brooke was spending money on new, and sometimes rather flamboyant, showpieces which seem to have been intended to display precisely the opposite message. Prudent management was only one side of the story; there was also at times reckless speculation in the exciting new world which was emerging – the silver-mining and soap-making episodes, for example.

The shortcomings of some phenomenological approaches to archaeological landscapes have been noted elsewhere. Nevertheless the resonances between these post-processualist approaches of the twenty-first century and the chorographical approaches of the sixteenth and seventeenth centuries are apparent in many places and at many levels throughout this study. There is a detailed mid-seventeenth century account of a

peculiar progress through precisely this landscape, featuring in its *dramatis personae* many of the actors and locales which have emerged in this study. This is of course the story of King Charles' escape from the Battle of Worcester, told in a dramatic eyewitness account published only nine years later (Blount 1660). Brooke himself is mentioned in the context of the brief architectural history of Boscobel which provides background to the principal narrative. The overriding impression Blount's account leaves is that of a very solid network of Catholic gentry and their neighbours, working closely together to protect the King and thus maintain some sense of established order. The solidity of this network was forged in long-standing relationships that in many cases transcended politics and religion – but which was united in fealty to the King and, perhaps, in a hope that a Catholic strain could endure in the effective management of the Kingdom. The evidence of the present study supports this perspective.

Certainly some of these activities would have taken place at Madeley Court – where Brooke's identities as upwardly-mobile gentry and scientific enthusiast would have been at the forefront. But there would have been other situations where the tacit bond of mutual Catholicism would have needed to have been re-stated and reinforced. For this, the resources of the whole estate could be deployed, and the logical central place from which to do this would have been The Lodge. Too near to Madeley Court and too small to be a proper hunting lodge, and too far from Madeley Court to be a banqueting house – where did The Lodge sit in Basil Brooke's world view? Worship need not have taken place in a building, and the location and environs of The Lodge need to be considered.

The Lodge is the only building within the suite of Brooke-related structures in the Manor of Madeley which was clearly designed with views in mind (**Fig. 8.02**). Although the theoretical long-distance views would have been impressive, they were restricted by the frame of the Severn Gorge. The view of the immediate landscape was the primary purpose of The Lodge. In this sense The Lodge formed a natural extension of the 'scientific garden'; it could be seen as a companion to the sundial, a mechanism to display Brooke's technological knowledge and achievements.

There appear therefore to be two aspects of the view from The Lodge which were the motivation behind Basil Brooke's creation of the place. One is the industrial landscape, which, even if it is not directly visible from the Lodge, is nevertheless all around. It would have been audible, and smoke from the furnaces would have been risen above the gorge; a number of routes to The Lodge could have been taken, all of which would have

passed through a variety of industrial scenes including mining, quarrying, iron forging and steelmaking. As well as emphasising progress through advancement in learning, these scenes could also echo those perceived in more formal Renaissance gardens: the permeability of boundaries – mine adits as hell-mouths, quarries as grottoes, the flames of Vulcan, cascades of water powering the furnaces. Such perceptions (if they existed) were complemented by, and contrasted with, something more spiritual. The Lodge enabled views of sacred places: the ancient Wrekin with its memories of countless battles, the Severn – a timeless watery boundary – looking upstream and perhaps back in time towards the bare ruined choirs of Buildwas Abbey. Basil Brooke’s Lodge did not need to be triangular, or have particular measurements or proportions. His world view was more nuanced and complex. The landscape itself embodied philosophical ideas about the relationships between nature and art, nature and God, nature and man, and man and God – a reflection of Brooke’s humanist Catholic identity.



Fig. 8.02. The view from The Lodge, looking north-west towards Buildwas Abbey.

Source: author.

8.4 Conclusion

The framework and approach adopted in this study has meant that it has been possible to develop some understanding of how the various generations of the Brooke family acted, and what this might mean in terms of how they thought. This is surely one of the aims of historical archaeology – to engage meaningfully with past lives and so be able to tell stories about people. However, as noted above, tangible archaeological evidence for many aspects of the Brookes' identities is slight; it says very little about the Brookes other than they were a slightly conservative rural gentry family. Even the closest scrutiny of The Lodge, undertaken with a determination to reveal the slightest hint of anything out of the ordinary, reveals only a moth-eaten book, a tatty wall painting and some enigmatic and probably meaningless graffiti. On the face of it the historical record, for the most part, is also dull and worthy – a legal and parliamentary career, various local appointments and offices, occasional parties.

An appropriate analogy is that of a masque. The two key elements in a masque were the painted backdrop and the actions of the characters. In terms of the tangible evidence, the Brooke family backdrop consisted of a slightly random country house and gardens, a scruffy landscape being gradually consumed by the exploitation of the geology which had created it, and a solid gentry inheritance of worthy actions. Yet scratching around in the interdisciplinary interstices brings the actors to life. Three very different lives, lived at very different times – living through the English Reformation and the dissolution; living through the oscillations of later Elizabethan paranoia and toleration; and living through an increasingly tumultuous trajectory towards Civil War, regicide and martyrdom. In spite of the differences in the evidence base, mind-set and political background of the three principal actors, a consistent strand of enlightened humanist Catholicism emerges across all three generations.

Appendices

Appendix 1

Viewshed analysis: methodology and results

A significant corpus of archaeological literature has been devoted to the intervisibility of sites in the landscape. Although originating in studies of prehistoric monuments in generally upland areas, it has also been applied variously to medieval monastic landscapes, early industrial landscapes in rural areas, estate landscapes, later industrial urban landscapes, and colonial landscapes (Cummings and Whittle 2004; Tilley 1994; Thomas 1996; see Chapter 2 for a more detailed discussion of the relevant literature). The study area comprises elements of all of these landscape types. Moreover the fragmentary nature of the landscape ‘palimpsest’ was such that more detailed understanding of the nature of the relationships between different sites during the sixteenth and seventeenth centuries could not be arrived at through more conventional methods – such as map regression analysis. Therefore an examination of the intervisibility of the various industrial and non-industrial landscape elements was undertaken. Analysis was undertaken in September 2012 using free online software which generates panoramas and viewsheds: <http://www.heywhatsthat.com/>. Screenshots from the analysis are included below.



Fig. A1.01. Screenshot from ‘HeyWhatsThat’ showing the altitude, latitude and longitude of the start point for the analysis of theoretical visibility from The Lodge.

Madeley Court

Views from Madeley Court were extremely restricted; this site is situated on low-lying ground beside the Mad Brook, at an elevation of 106mAOD. Restricted long-distance views are to be expected: the site's location was chosen in the thirteenth century using criteria among which presumably the primary concerns would have been proximity to the embryonic settlement of Madeley and a watercourse; the site has a close relationship with the immediate environs of the park; any longer-distance views in the sixteenth and seventeenth centuries have been truncated by numerous pit-mounds of eighteenth and nineteenth century origin the height of which has been augmented by twentieth century tree growth. Views towards the Severn Gorge would in any case have been restricted by the relatively high land to the south (128mAOD) on which the settlement of Madeley was located.

Upper House

The prominence of Upper House within the settlement of Madeley has been noted in Chapter 5, and this local visibility and presence is likely to have been the most significant factor in its location. Views of the church are indirect, there is no view of Madeley Court, and wider prospects – particularly towards the Severn Gorge to the south and west are curtailed by natural topography. In short, Upper House works well as a statement of urban spatial control, but lacks wider landscape intervisibility. This accords with what is known about the origins, ownership and role of this building during the study period.

The Lodge

The Lodge is self-evidently the only building within the suite of Brooke-related structures in the Manor of Madeley which was clearly designed with views in mind. The Lodge is situated on a rocky promontory at an elevation of 140mAOD. It has spectacular views in all directions, but particularly across and along the Severn Gorge. The Lodge is situated approximately 1.5km from Madeley Court, and some 1.5km from the steel furnaces and other industrial infrastructure in Coalbrookdale. In its original early-seventeenth century incarnation it would have comprised a free-standing three-storey stone-built square tower, with a single room on each floor. The elaborate wall paintings

at first-floor level, and possible Catholic symbolism in the arrangement of the roof framing at second-floor, have been noted in Chapter 5.

The near view is dominated by the Severn Gorge, with fields in the foreground. It is worth considering to what extent Brooke intended the viewpoint of The Lodge to incorporate more distant views, which may have held symbolic or other meanings, to frame the more immediate vista. Views from The Lodge are restricted by the frame of the Severn Gorge; however it is worth noting the maximum extent of the viewsheds to the north-west and south-east – in other words out along the valley of the River Severn (**Figs. A1.02, A1.03 and A1.04**). To the west, the theoretical viewshed extends over 80km. The Aran Fawddwy ridge (Gwynedd, 905mAOD, at SH 86275 22390) is just about visible on a clear day; it lies 83km away at a bearing of 285 degrees. A more realistic distant prospect is of Lyth Hill (Shropshire, 162mAOD, at SJ 46995 06846), a locally prominent escarpment to the south of Shrewsbury. To the south-east, the theoretical viewshed extends over 40km. The most prominent distant landmark in this direction, at a bearing of 130 degrees and a distance of 40km from the Lodge, is the ridge between Frankley Beeches (256mAOD) and Frankley Hill (242mAOD), in the Worcestershire parish of Frankley (SO 91784 87153). Brierley Hill (162mAOD, at SO 91784 87153) is also visible in this general direction, 30km away at a bearing of 126 degrees. Closer still, and the most obviously visible distant feature from The Lodge in this direction, is a locally prominent hill between Halfpenny Green and Swindon (both in Staffordshire), at SO 84624 90813. This stands at 146mAOD and is 22km away at a bearing of 129 degrees.

None of these hills appear to be of particular significance, other than as local landmarks in their respective districts; there are certainly no obvious biographical, spiritual or industrial connections with the Brookes and their circles. However two hills that are at least theoretically visible from The Lodge were beacons, and were certainly in use by the time of the Armada. The furthest of these, at a distance of 42km and a bearing of 136 degrees, is Beacon Hill at Lickey (Worcestershire, 297mAOD, at SO 99303 75442), part of the Lickey Hills. As can be seen in Figure **A1.05** this hill is at the maximum theoretical visibility and is unlikely to have been clearly distinguishable. However a more convincing case can be made for Sedgley Beacon (Staffordshire, 237mAOD, at SO 92346 94447), which is clearly visible at a bearing of 112 degrees from The Lodge and some 27km away (**Fig. A1.06**). This is located at the high point of a ridge running roughly north-south immediately to the east of the settlement Sedgley (Staffordshire), and, like

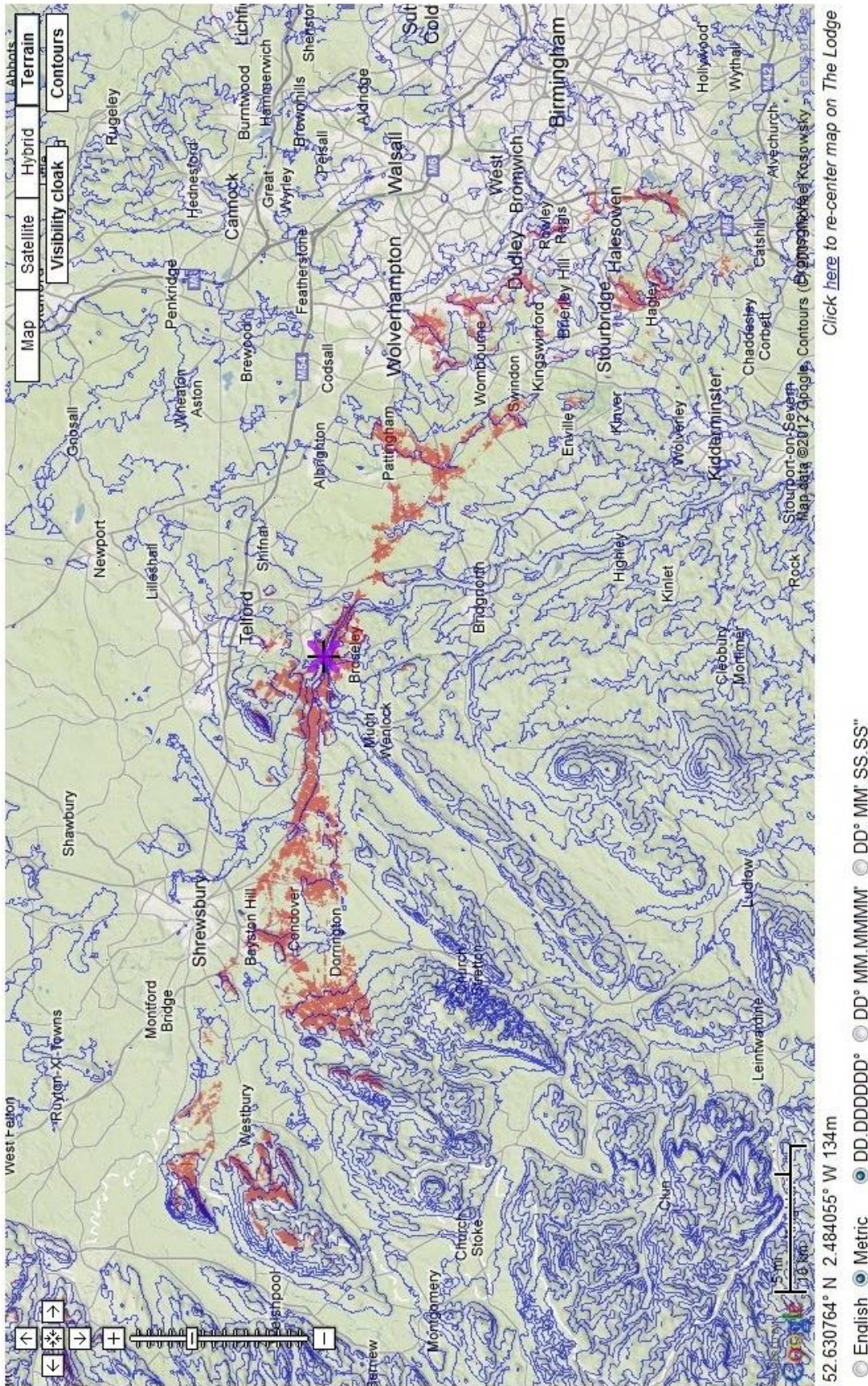


Fig. A1.02. The extent of theoretical long-range visibility from The Lodge. Red shading shows areas that would be visible from the chosen vantage point.

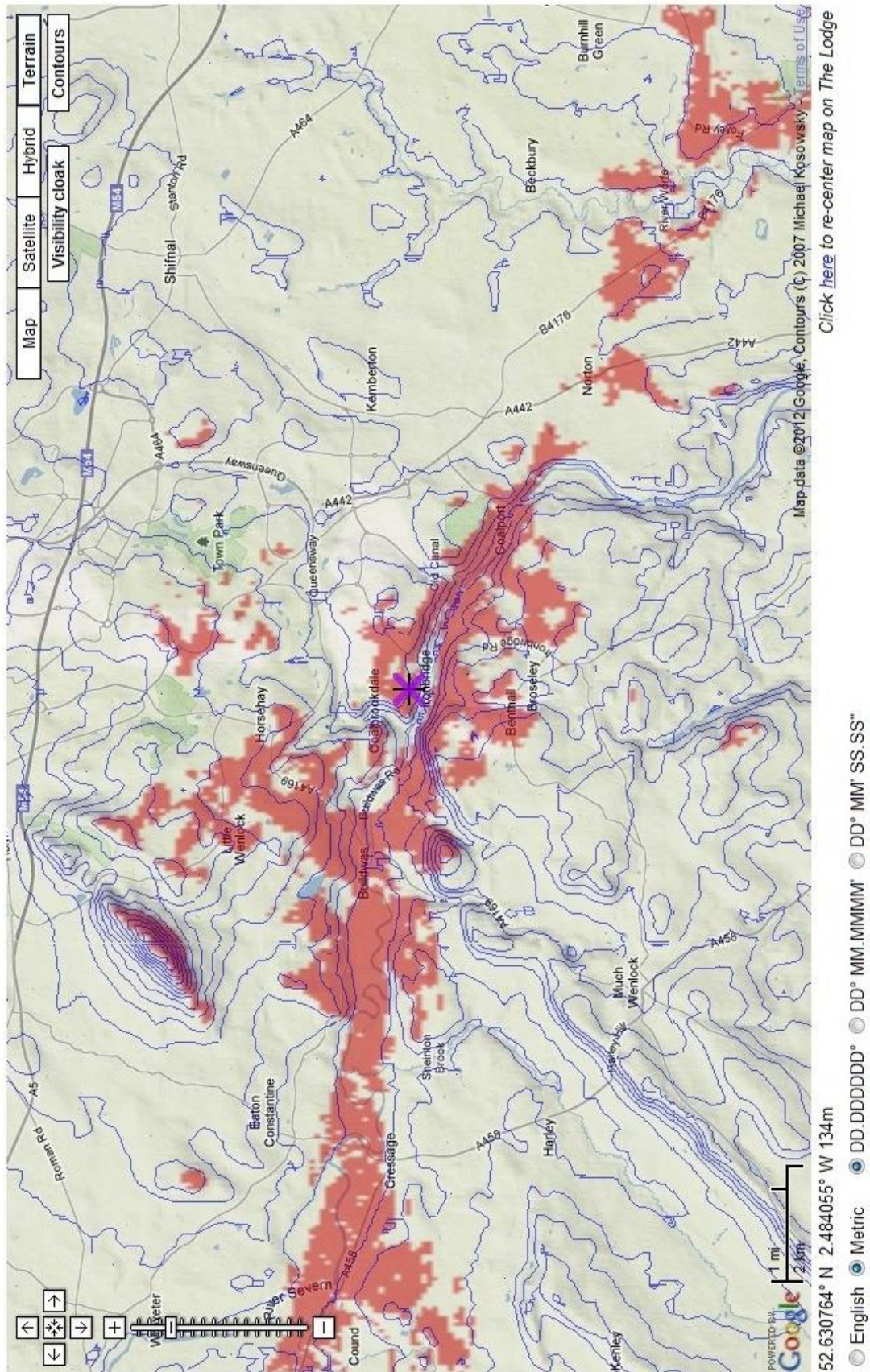


Fig. A1.03. The extent of theoretical medium-range visibility from The Lodge. Red shading shows areas that would be visible from the chosen vantage point.

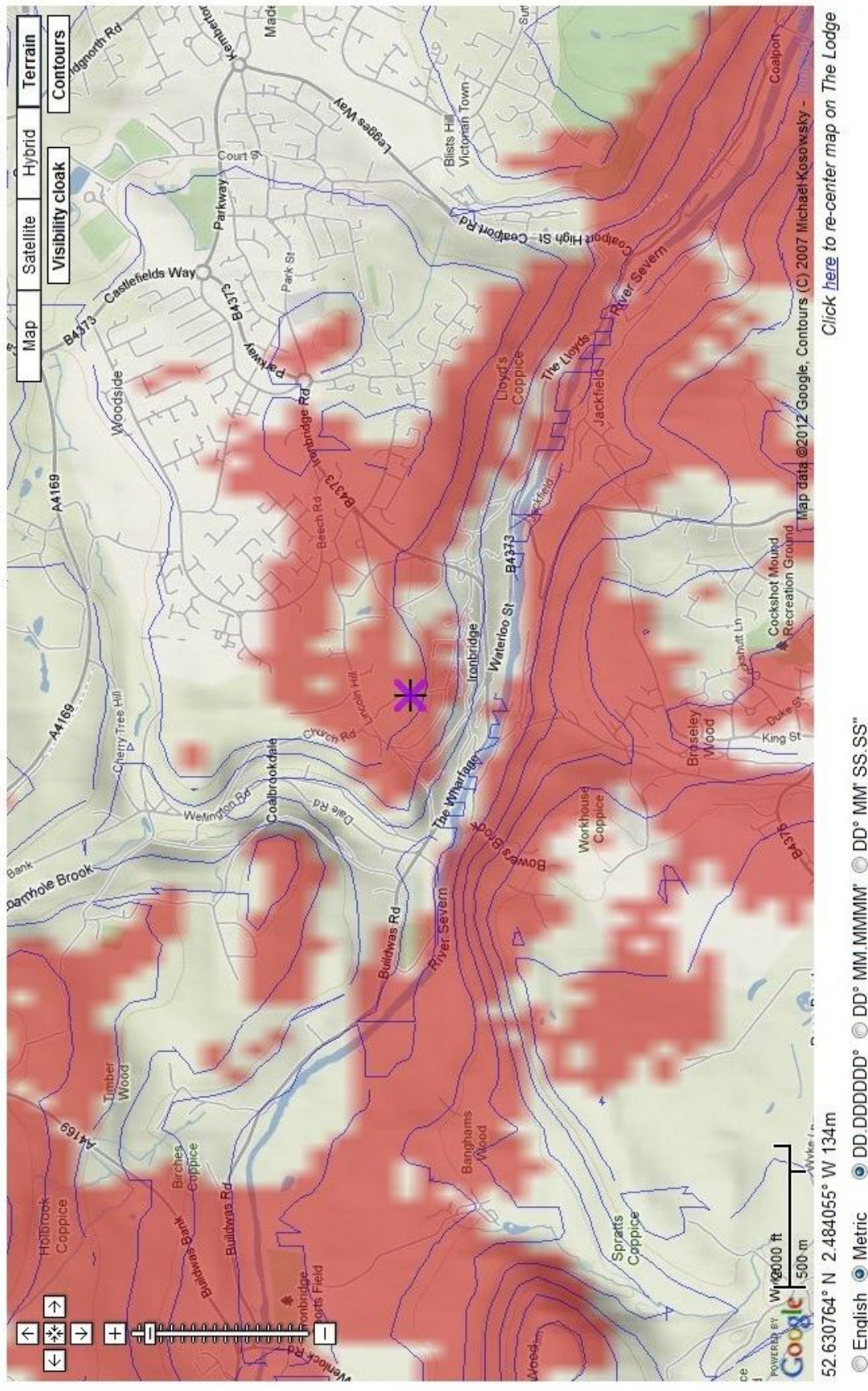


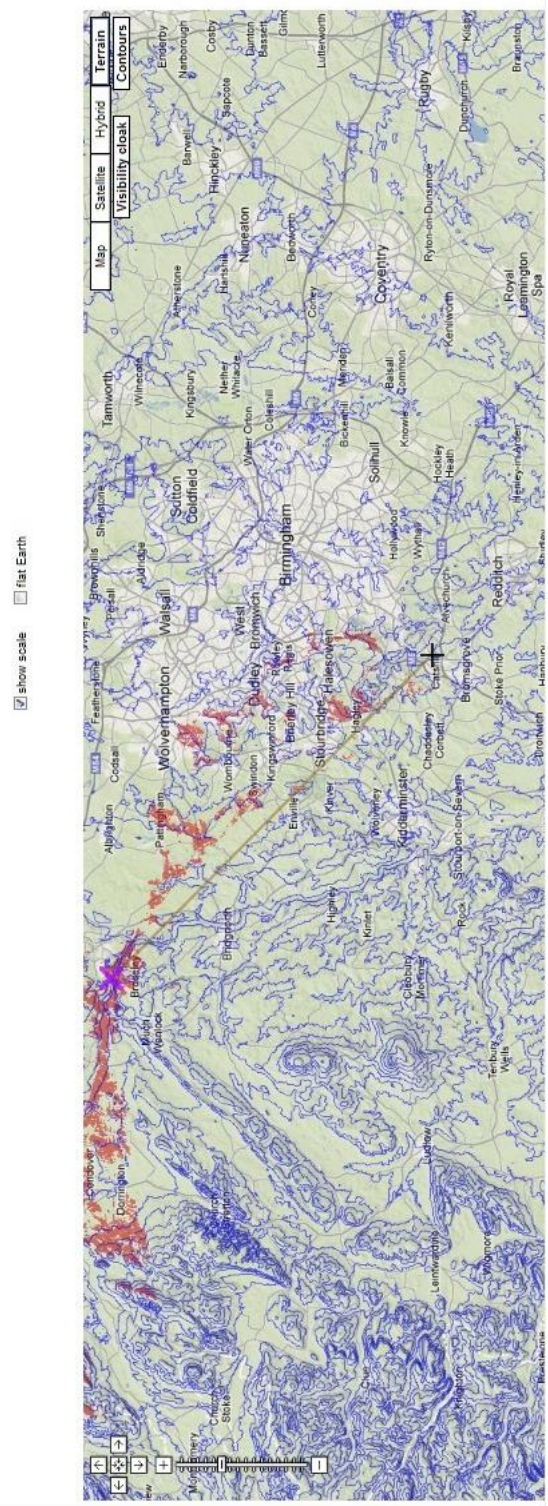
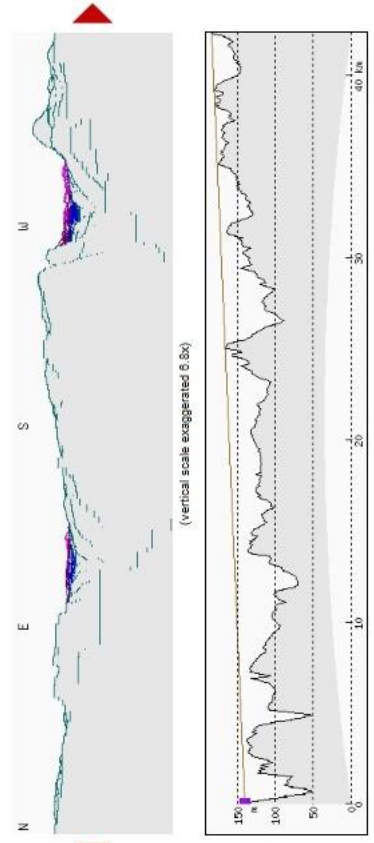
Fig. A1.04. The extent of theoretical short-range visibility from The Lodge. Red shading shows areas that would be visible from the chosen vantage point.

Brierley Hill, was historically part of the forest of Pensnett Chase, which was enclosed in the post-medieval period. The Wrekin – the possible spiritual significance of which has been discussed in Chapters 3, 4 and 8 – is another historic beacon site which is of course clearly visible from The Lodge. It is located only 6km away, at a bearing of 316 degrees; its summit is at 407mAOD.

There is unlikely to be much significance in the visibility of these beacons. It could be suggested that Basil Brooke, with his extensive political and business interests, wished to be alerted at the earliest opportunity of any threat of invasion; however it is difficult to imagine – precisely because of those extensive interests – that he would have waited (either in person or by proxy) in the attic of The Lodge waiting for a spark from distant Sedgley. His other networks would have kept him much better informed of such matters. Moreover several other prominent regional beacons were not visible from The Lodge – such as at Cannock Chase (Staffordshire, 236mAOD, SJ 987146), Barr Hill Beacon near Walsall (Staffordshire, 236mAOD, at SP 060973) and Beacon Ring near Welshpool (Powys, 547mAOD, at SO 176767). It would have been possible for Brooke to have constructed a building within the Manor of Madeley which would have had views of these particular locations had he so desired. Therefore it is reasonable to conclude that the visibility of beacons – and indeed particular distant landmarks – was not a consideration in the location of The Lodge.

Finally this analysis also confirmed the invisibility of either Madeley Church or Madeley Court from The Lodge, and vice versa. This is clearly shown in Figures **A1.07** and **A1.08**.

The Lodge
 latitude 52.530764° N longitude 2.484655° W
 elevation 140m above sea level (fm above ground)

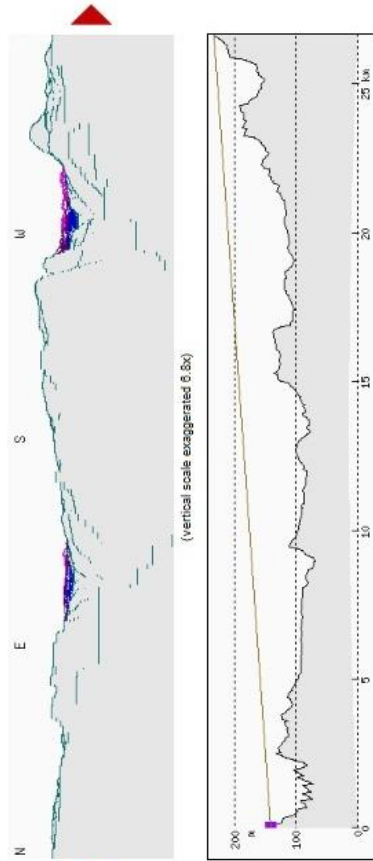


(Bearings are magnetic, for true & subtract 2° or click [here](#))

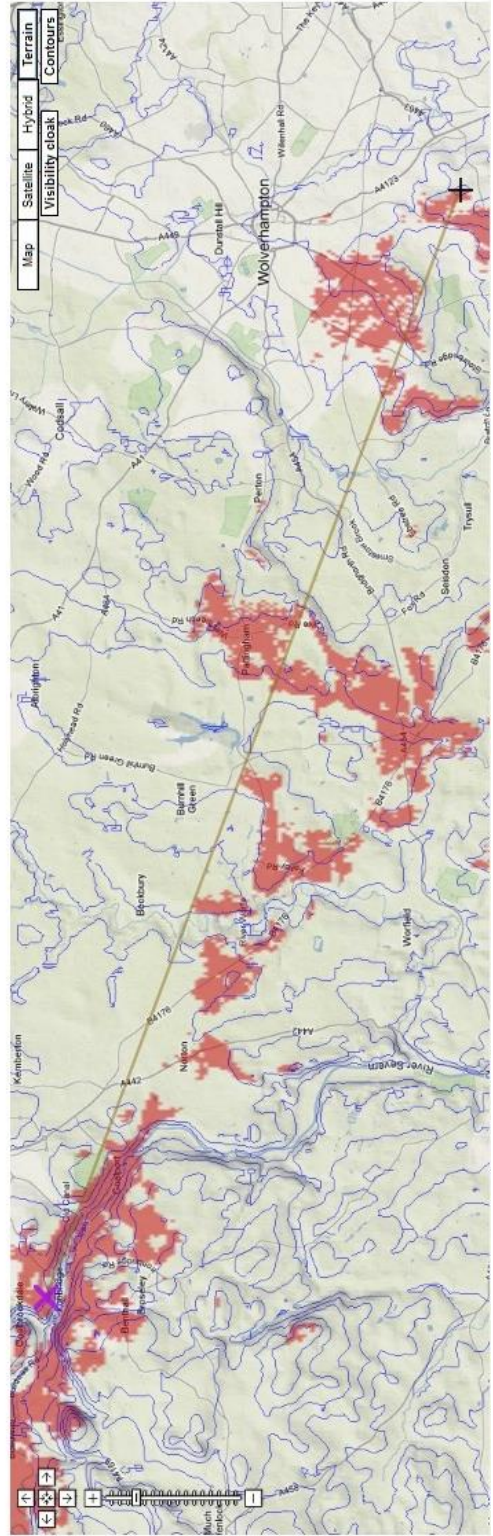
Fig. A1.05. View from The Lodge towards Beacon Hill, Lickey (Worcestershire).

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The Lodge
 latitude 52.830784° N longitude 2.484056° W
 elevation 140m above sea level (5m above ground)



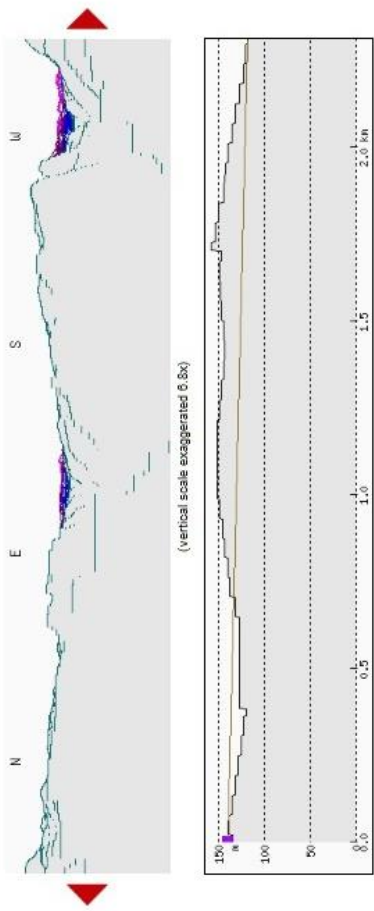
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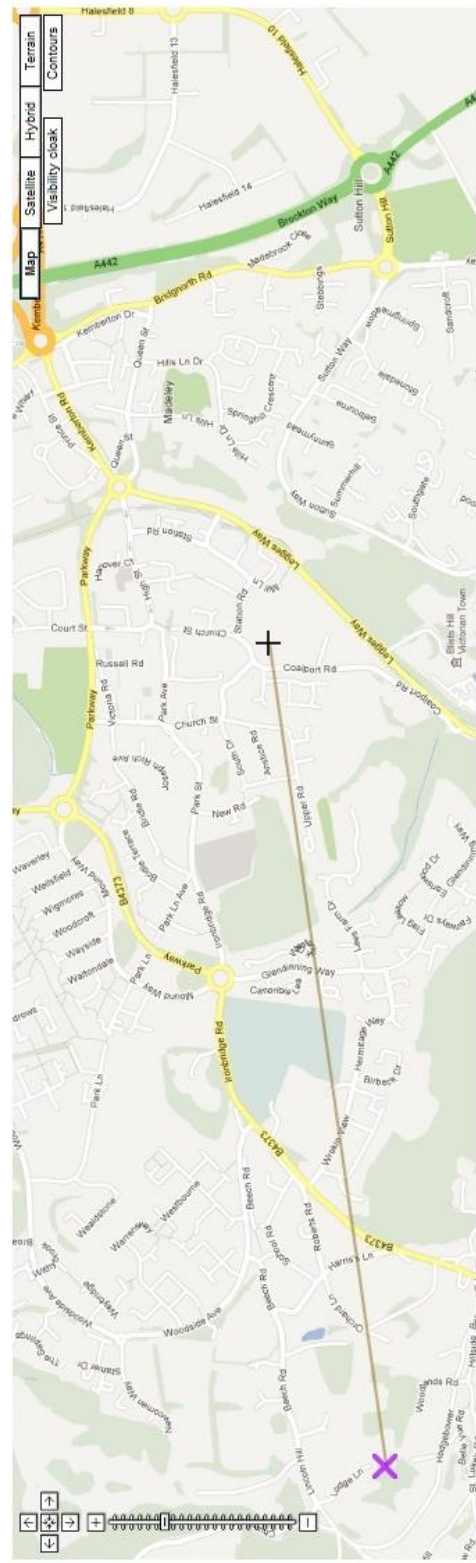
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Fig. A1.06. View from The Lodge towards Sedgeley Beacon (Staffordshire).

The Lodge
 latitude 52.630784° N longitude 2.484056° W
 elevation 140m above sea level (8m above ground)



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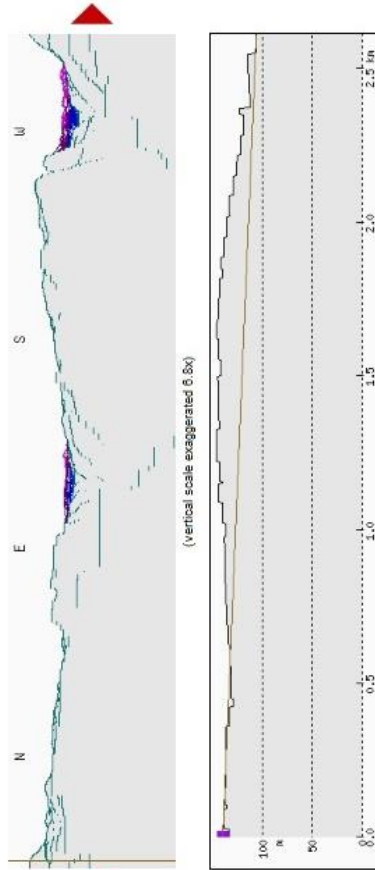


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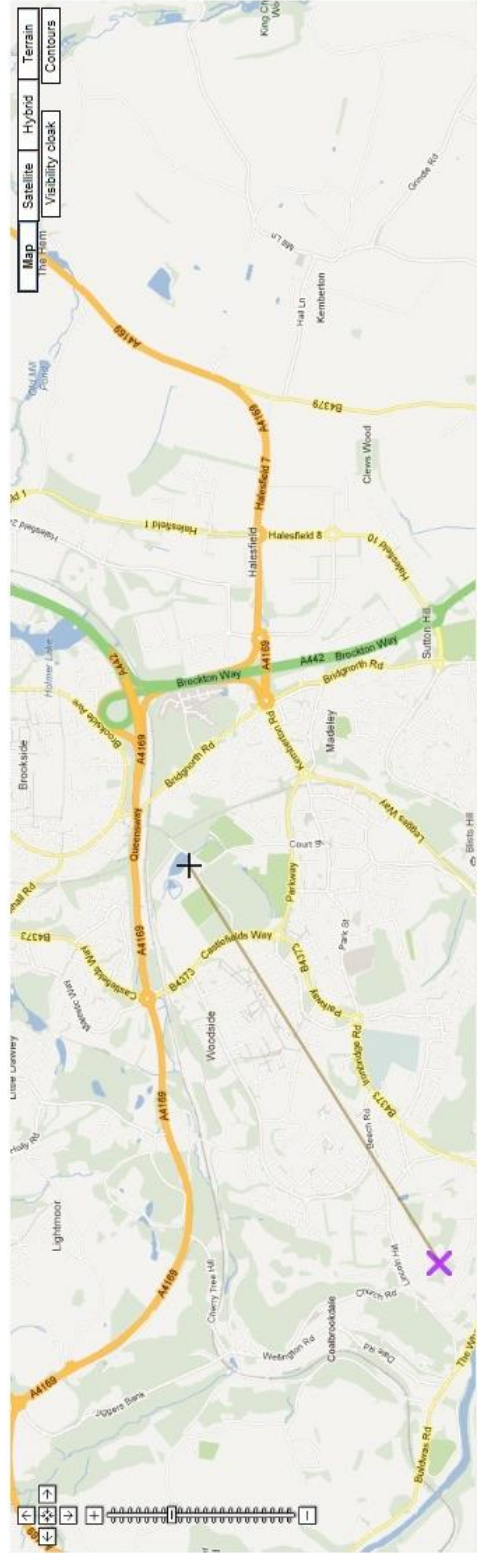
Fig. A1.07. Intervisibility between The Lodge (purple) and Madeley Church (black)

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The Lodge
 latitude 52.630784° N longitude 2.484056° W
 elevation 140m above sea level (6m above ground)



show scale Flat Earth



(Bearings are magnetic; for true & subtract 2° or click [here](#))

Fig. A1.o8. Intervisibility between The Lodge (purple) and Madeley Court (black).

Appendix 2

Historic building recording and analysis

As noted in Chapter 2, two buildings – The Lodge and Upper House – were investigated for the first time as part of this study. The principal findings of this work are presented in Chapter 5, and discussed further in Chapter 8. This appendix summarises the circumstances and extent of the survey; relevant drawings and photographs are provided in the main text.

Methodology

Historic building recording was undertaken on both buildings as a targeted Level 2 survey. A Level 2 survey is a descriptive record, as defined by English Heritage *Understanding Historic Buildings: a guide to good recording practice*: ‘Both the exterior and the interior will be viewed, described and photographed. The record will present conclusions regarding the building’s development and use, but will not discuss in detail the evidence on which these conclusions are based. A plan and sometimes other drawings may be made but the drawn record will normally not be comprehensive and may be tailored to the scope of a wider project’ (English Heritage 2006, 14). In neither case was it possible to engage in any sort of intrusive investigation. Nevertheless it was possible to undertake reasonably comprehensive internal and external inspections, which enabled some measured plans to be produced, along with sketch plans of individual components and sketch elevations. The purpose of both surveys was to understand the form of the house as it had been during the period of this study (that is, the first part of the seventeenth century); therefore more attention was paid to structures and features associated with that period than to later aspects of the house’s development.

The Lodge was surveyed on three separate visits: 23rd October 2008, 15th March 2009 and 21st November 2012. The author is grateful to James Lea for allowing access to the Phase 1 and 5 structures in 2012; regrettably the author has mislaid his information about the previous owners – who facilitated the visits in 2008 and 2009 to the Phase 1, 2, 4 and 5 structures. Upper House was surveyed on two separate visits: 2nd April 2010 and 19th October 2012. On the first visit the building was occupied by Telford and Wrekin Council Mental Health Services Team, on the second visit the building was empty and

for sale. The author is grateful to the Facilities Services Manager at Telford and Wrekin Council, and to the Senior Sales Advisor from Nick Tart Estate Agents respectively; again he has completely forgotten their names.

The Lodge

The Lodge is located at SJ 674 038, at an elevation of 140m AOD. It is listed Grade II (LBS 362182); the listing description was compiled in 1983 and was based on an external inspection only. The Lodge comprises eight phases of construction, plus numerous sub-phases. However only the first two of these are directly relevant to the time-frame of the present study and so later phases are only described inasmuch as they impact on the understanding of the previous ones. Note that the house has been divided into four separate homes since at least the early nineteenth century; Phases 1 and 2 are now separate dwellings and are the only two that have been inspected internally in detail.

Phase 1 comprises a square structure oriented north-south, measuring 5.2m east-west by 5.1m north-south in plan. The walls are constructed entirely of local ashlar sandstone, although the ground floor is rendered externally on the south and east sides. The south and eastern elevations appear to have retained the original layout of fenestration – each floor is lit by a single window; on the ground and first floor these are two-light stone-mullions, and on the second floor (attic) they are small roundels. The stone-mullioned windows on the south and east elevations are modern replacements made some time between c.1974 and the arrival of the last-but-one owners in 1998. A photograph of c.1974 (Muter 1979, pl.34) shows that the original openings on the first and ground floors were large apertures with chamfered stone surrounds; they were glazed with six-light wooden casements in a locally-traditional style broadly datable to the first half of the nineteenth century. The external doorway in the eastern elevation is a later insertion. On the north elevation there was a doorway at ground floor level, now somewhat modified, but originally a square-headed arch with plain chamfered moulding. This was set slightly off-centre to the west). To the east of this was a small stone-framed window, later blocked but presumably also an original feature. The original form of the fenestration on the upper floors has been largely obscured by the later addition of the Phase 3 extension; however the remains of a possible window-jamb survive on the west side of what is now the first-floor bedroom door. The west elevation was almost entirely consumed by the fireplace, although the small staircase was lit by two stone-mullioned windows, and there was a single round window at second-floor level.

In plan, Phase 1 was very simple, consisting of a single room on each floor. Access between the ground floor and first floor was provided by the staircase noted above, a stone-built semi-spiral inserted into the alcove to the north of the chimney-breast. There was no evidence for a door separating this staircase from the ground floor room. At first floor level this staircase emerged into the first floor room, again in the alcove to the north of the chimney-breast. Here there is a door, a relatively plain oak door of seven panels which is convincingly early seventeenth century in date (Hall and Alcock 1994, 34). The stone-built staircase does not continue to the second floor. The present access is from a new staircase 'external' to the original Phase 1; this rises from the Phase 3 extension to the north, and its construction knocked through the original outer wall. In the process it largely removed the original round window; however the vestiges of the Phase 1 window surround are still evident incorporated into the later doorway. The original staircase between the first and second floors departed from the north-west corner of the first floor: this is evinced by the complex arrangement of ceiling beams in this part of the room, which incorporate chamfering suggesting a narrow timber spiral staircase. There may have been a partition to create a vestibule here; but there is no trace of that in the present structure.

The ground floor room measures 4.5m by 4.3m internally. The principal feature is the fireplace. This is formed of substantial stone ashlar blocks. The lintel is formed of two large blocks cantilevered from two springer blocks incorporated into the side walls; the vertical sides each principally consist of a large stone upright, with a smaller stone at the top. The edges of the surround are chamfered. The weight of the superstructure of the chimney is taken by an oak beam – in effect the beam acts as a relieving arch. The present beam is a later replacement; the location of the original beam is indicated by later brick infilling. A hemispherical brick oven was later inserted into the southern side of the hearth. The alcove to the south of the fireplace was partly blocked in Phase 4 and a doorway inserted in to create a cupboard. It is not clear what the original form of this space would have been; however in Phase 2 it must have been the only access between the new west wing and this room. The ground floor room is presently stone-flagged; there is no cellar. The original finish to the walls in this room must have been a light plaster surface, as in the first floor room since there is no substantial scoring of the interior stonework. Wooden panelling could have been deployed here; however the proximity of the north side of the fireplace to the jamb of the staircase suggests that this would have been unlikely – at least on this wall.

The first floor room contains a smaller but essentially similar fireplace, albeit with a brick hearth lining which appears to be contemporary; the bricks here are identical to those used in the Phase 4 ancillary building and walled garden at Madeley Court. The most important feature of this room is, however the wall painting, which survives in a very fragmentary form on the east wall. The wall painting is executed on a light plaster skim across the wall, and survives in a very fragmentary condition. The attic room has an unusual roof structure to accommodate the design of a square building with four gables. The principal purlins are chamfered. This room would have originally contained four small circular windows on each of the elevations, although only two of these survive intact today. There is no fireplace, nor was there one originally. There is no trace of any original decoration, and no carving was noted on any of the stone or woodwork.

Phase 2 was added at some point around the middle of the seventeenth century; this date has been arrived at on the basis of rather limited stylistic evidence, and it could well be later. It consists of a two-bay projection to the west, extending the east-west roofline and adding an additional chimney abutting the original Phase 1 chimney. Although currently rendered, a photograph of c.1974 (Muter 1979, pl.34) shows it unrendered, revealing that the underlying masonry is extremely rough – possibly intended to be rendered, and certainly not up to the standards of either the Phase 1 part of The Lodge or indeed the later additions at Madeley Court. The addition of this range more than doubled the extent of accommodation at The Lodge, and the Phase 2 extension presumably indicates a change from it being a place for a day visit or short overnight stay to a more permanent residence. During the survey visit in 2008 the author's attention was drawn to a so-called 'priest hole' on the first floor. This was an unlined void where there was a change in levels between the Phase 2 structure and a Phase 4 extension to the north. The stratigraphic evidence of the building suggests that this feature can only have come into existence as a result of an eighteenth century extension; moreover access was very difficult and it was quite an obvious feature – therefore it is safe to conclude that it was not, in fact, a priest hole.

Upper House

Upper House is located at SJ 694042, at an elevation of 128mAOD; it is situated on Church Street, approximately 500m from the Church itself and some 1.2km from Madeley Court. It is listed Grade II; the listing description was compiled in 1983 and was based on an external inspection only. The house and barns were built by Francis Woolf I

in c.1621. The barns – locally known as ‘King Charles’ Barns’ – were reputedly the hiding-place of King Charles II on 5th September 1651 (LBS 362324).

Seven broad phases of construction and alteration were identified for the house and four for the barns. Only the first two phases of the house, and the first phase of the barns, are described in detail here. The later history of the building is relevant only insofar as subsequent alterations have obscured earlier features, or the reading of them. In summary: the Phase 2 east wing was extended in the later seventeenth century (Phase 3), two wings were added in the late eighteenth century (Phase 4); two further sets of alterations were made in the nineteenth century (Phases 5 and 6), and there were further modifications in the twentieth century (Phase 7). The Phase 3 extension of the east wing appears to belong to the late seventeenth century, but is stylistically similar to the earlier Phase 2 wing to which it was added. This therefore seems most likely to have been added during the occupation of Francis Woolf II. Francis Woolf II died in 1690 and the lease on the complex was taken over by his son-in-law Francis Heatherley, so it is also possible that the Phase 3 additions date to this period. Due to later internal alterations it has not been possible to arrive at a closer date for Phase 3.

The earliest part of the house is the north-west wing. This three-storey structure was roughly square in plan, oriented north-south. It appears to be a timber-framed building on an ashlar sandstone plinth. Timber-framing is evident externally on the western gable on the second floor, and internally on the southern, western, eastern and northern walls on the first and second floors. No evidence was found for the original form of construction on the ground floor; this is likely to have been timber-framed but original construction (or later rebuilding) may well have been in stone or brick. Windows survived in the second storey external elevations on the west and north sides; that in the west side appeared to occupy more or less its original form and location, but the northern window had been later enlarged and its surrounds obscured by later render inside and out. Internal evidence existed for an original window in the eastern gable end. This shows that the Phase 1 block was originally free-standing and the Phase 2 east wing was a later addition. The Phase 1 block was served by an external brick chimney on the north-eastern corner. A very early internal door, arguably datable to the first part of the seventeenth century (Hall and Alcock 1994, 34) survives in the eastern wall at ground floor level – however it has clearly been relocated as the wall in which it is situated (along with the architrave surrounding the door itself) is early nineteenth century in date. The original location of any staircase was not discernible.

The house remained in the occupation of the Heatherley family into the 1770s (Baugh 1985). In 1765 Heatherley used the property as security against a loan from the then landowner John Smitheman (Orchard 1986); at least part of this loan appears to have been used for refurbishment of the property, as evinced by a datestone in the eastern end gable of the barns. It seems likely that the Phase 4 additions to the house (two wings to the south) were also made during this period; although the western of these may well have stood on earlier foundations. The listing description also notes that the stone-built boundary wall is 'probably eighteenth century' (LBS 362325), although the style of construction cannot be accurately dated; nevertheless it seems reasonable to conclude that it was constructed – or at least substantially rebuilt – during the alterations of 1765. At some point in the 1770s the Heatherley family appear to have run into financial difficulties and the property – consisting of 'house, four stables, one dove-house, 50 acres of land, 50 acres of meadow, 50 acres of pasture and 3 acres of land covered with water' - was let to William Ferriday and his wife Mary in 1774, passing to his son, also William, in 1816. For a time 'during the eighteenth century' the barns were used as the town market (LBS 362326); it is not clear whether the 1765 alterations were to accommodate this, or whether they represent a reversion to agricultural use.

During the nineteenth and early twentieth centuries the house and property was occupied by a variety of locally-important figures. These included William Anstice (owner of local coal mines and ironworks) between 1822 and c.1875, and George Legge (owner of a local clay mine and brick and tile works) between c.1875 and 1937. These owners were probably responsible for the Phase 5 and Phase 6 alterations respectively. In Phase 5 several Venetian windows were added, as well as a new staircase; new panelling and fireplaces were also inserted in the first floor; in Phase 6 the ground floor had new tiled flooring and fireplaces, as well as new doors and plasterwork. From 1941 to 1961 the complex was owned by the Coventry Gauge and Tool Company; the manager lived in the house and the barns were used for manufacturing (Orchard 1986). The property was acquired by the Telford Development Corporation (TDC) in 1966; the house was used for various office functions (including a period in the 1970s as a Magistrates Court), the barns were unoccupied and part of the former farmland was redeveloped for housing. TDC undertook a substantial refurbishment of the house during the mid-1980s: this involved the removal of outbuildings, much refenestration and generous applications of cement mortar and rendering, as well as the demolition of the former kitchen chimney and various other works (Phase 7). The barns were sold into separate ownership in the 1990s and subsequently converted into flats.

Appendix 3: The blast furnace that wasn't

The possibility of a smelting furnace of some sort in Coalbrookdale during the study period cannot be ruled out completely. However there is no convincing evidence for one, and in this case the absence of evidence quite likely points to its non-existence. This has not stopped the orthodox interpretation persistently allocating the Coalbrookdale blast furnace to the period of this study. Consequently this issue is worth exploring further, partly to draw a line under the continuing and dangerous historiographical confusion, but principally to understand the reasons why Brooke did not make that investment. Those reasons cast important light on his metallurgical awareness and his industrial strategy, and therefore those aspects of his identity.

As noted in the main text, the Old Furnace is located at the most hydrologically advantageous position in the Coalbrookdale watercourses complex. It is at the confluence of two streams, and the (admittedly limited) geotechnical evidence suggests that the Old Furnace Pool is an artificial augmentation of a natural pool. This is the only reason to suggest that there may have been a smelting operation before the construction of the Old Furnace. However, there is no documentary reference to a precursor furnace; only an 'Old Forge' was mentioned in 1718. It seems extremely unlikely that the Parliamentary Sequestration and Compounding Committees of the 1640s would have omitted such a significant asset from their detailed assessments of the estate. Moreover, in 1656, when the Coalbrookdale complex was leased for thirteen years to Silvanus Boycott of Buildwas, the agreement states that Boycott was to pay £80 rent, but would pay an extra £5 if he diverted water from the mill, and a further £20 if he 'should have occasion and think fit' to build a furnace (HRO: E12/VI/KBc/65). This suggests that there was no furnace at that date.

However, for much of the twentieth century, a date of 1638 was firmly attached to the Old Furnace in Coalbrookdale (also known as the 'Darby Furnace'). Many intellectual convolutions have been made to try and get this date to concur with desired historical narratives, which are mis-informed by a failure to understand the nature of the Brooke concern specifically and early-seventeenth century ironmaking generally. Arthur Raistrick's influential *Dynasty of Ironfounders* (1953) referred both to 1638 and 1658. The 1638 date was reiterated by Mott (1957) and, later, by Raistrick himself, whose errata in the 1989 edition of his book 'corrected' the date to 1638 (Raistrick 1953, 30; 102-104; Mott

1957a, 71). This was based on the evidence of the cast-iron lintel (**Fig. A3.01**). This lintel was exposed to the elements between c.1930 and 1982, and corroded extensively (indeed this corrosion was the principal argument in favour of the erection of 1982 cover building). It had also been painted, so that Raistrick's 1638 date was permanently sealed to the monument. The detail of the original inscription has been lost. Unsuccessful attempts to reveal the original inscription were made using infra-red photography by the author in 2007, and a laser scan was undertaken by the University of Birmingham in 2008. Older photographs, taken when the beam formed part of the interior wall of a pattern shop, clearly show the date as 1658 (**Fig. A3.02**). This is supported by pre-1953 references, which consistently refer to 1658 (*British Mercantile Gazette* 1878; Randall 1880; Jenkins 1924; *Shrewsbury Chronicle*, 8 July 1932; Vanns 1989).

Other elements of the inscription on the lintel have also been obscured by corrosion and subverted by repainting to accord with the orthodox narrative. The late-twentieth century reading of the markings on either side of the date is that the 'LB' monogram is a 'rebus' for the Brooke family, with the 'crown' a symbol of the Brooke's Royalism, and the 'E' stands for Etheldreda, his first wife. In the absence of any similarly-overt Royalist symbolism on any other of the structures known to have been built by Basil Brooke (see Chapter 6, and Appendix 2), the presence of a crown on the beam of a blast furnace seems highly unlikely. In any case by 1638 Etheldreda was dead and Brooke had remarried. A close study of the earlier photographs however gives rise to an analysis that fits much more comfortably with a 1658 date. The 'LB' device could reasonably represent the partnership of Silvanus Boycott of Buildwas and James Lacon of West Coppice; they had possession of the works by Lady Day 1657, and, as noted above, the lease suggests that the potential for a blast furnace was a consideration for both landlord and tenant (HRO: E12/VI/KBc/65). The crown is actually a 'W', which probably represents either generation of Francis Woolfe, who managed the industrial elements of the estate during this period (but not in 1638). The 'E' could be an 'F', in which case the 'FW' would also stand for Francis Wolfe. It is not clear what an E could otherwise represent.

Potential archaeological evidence for an earlier furnace on the 1658 furnace site has been destroyed or is otherwise inaccessible. The 1658 furnace was substantially rebuilt by Abraham Darby I in 1708, and again by Abraham Darby III in 1777. It went out of use during the 1820s and was incorporated into a turning shop; it was later a pattern shop, and later again a store. The surrounding buildings were demolished in the

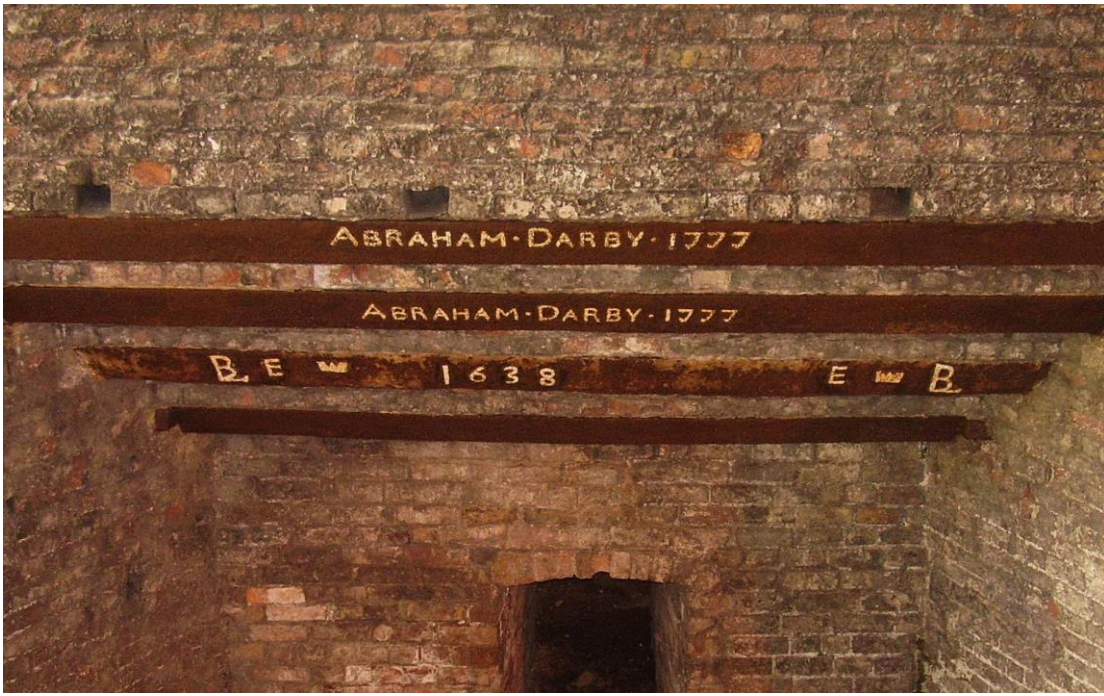


Fig. A3.01. Lintels on the Old Furnace at Coalbrookdale in 2008. Source: author.

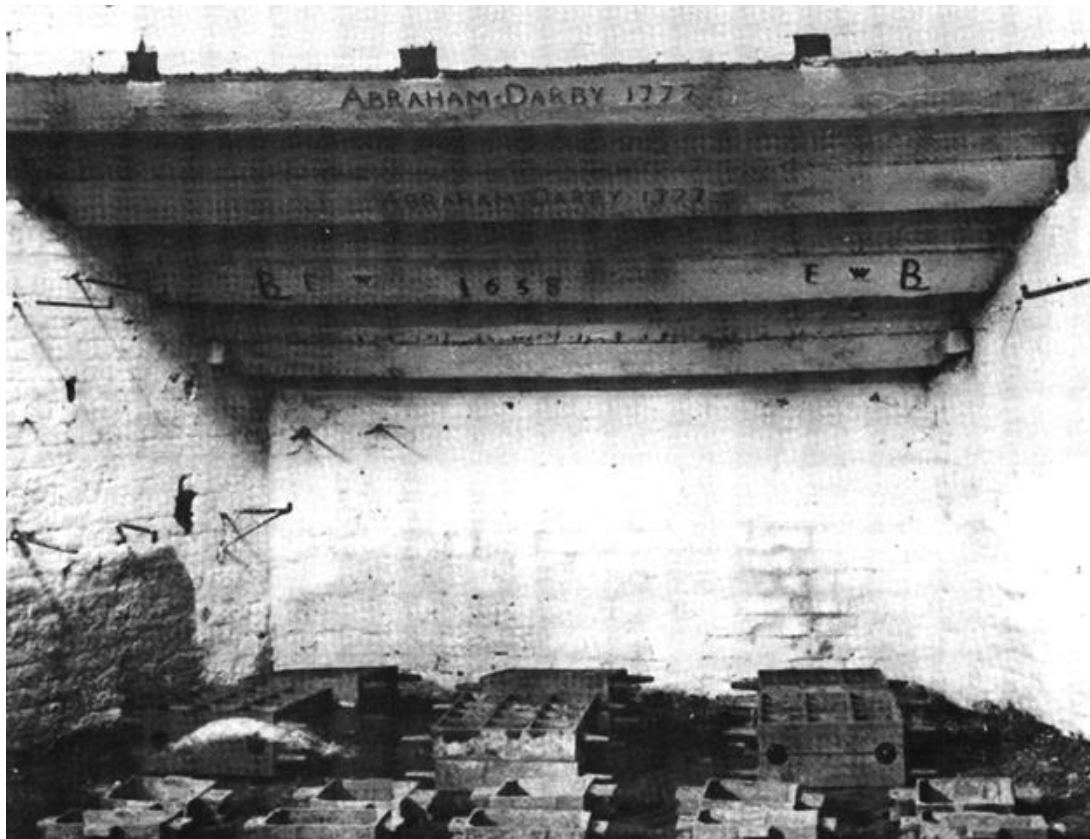


Fig. A3.02. Lintels on the Old Furnace at Coalbrookdale in 1922. Source: IGMT.

1930s, leaving just the furnace stack. The whole area was buried, and then brutally re-excavated in the 1950s – a film of this episode clearly shows foundation walls of associated structures being removed (IGMT, not catalogued). Finally the construction of the cover building in 1981-1982 (**Fig. A3.03**) further compromised the archaeological evidence; some (but not all) of the archaeological deposits disturbed by the construction of the cover building were recorded, and further recording was undertaken during improvements to drainage to the east of the charging ramp extension six years later (Malam 1982; Richardson 1993). The standing structure was recorded in 1993-1996, but no excavation works were undertaken (Ironbridge Archaeology 1995; Ironbridge Archaeology 1996).

The author undertook further excavation during the course of conservation works in 2008-2009, when a series of evaluation trenches were excavated as part of the renovation of the cover building. This opportunity was restricted by the terms of the Scheduled Monument Consent: the excavation was required to ‘go down to the uppermost layers of archaeological sensitivity before cleaning, recording and consideration for recommendations of future work, if any’ (EH 2008). In practice this meant a maximum depth of 0.40m in most trenches, which was the upper horizon of the 1959 clearance levels. In places, pre-1959 levels were uncovered and cleaned to determine the nature, extent and state of preservation of historic features and structures. Only six of the fourteen trenches were in locations that might reasonably have been expected to have encountered some evidence of seventeenth century arrangements and possible precursor features; only two of these actually did so (**Fig. A3.05**). Trench 2 investigated the original furnace wheelpit, reopening excavations undertaken in 1979 and 1993, and revealing further information about the masonry walls of the 1658 furnace but indicating no previous structure. Similarly Trench 4 showed that the 1658 structure extended at least 0.8m below the modern ground surface and was not resting on earlier foundations (**Fig. A3.04**).

Given the lack of evidence for a pre-1658 furnace, the depth of conviction and persistence of the suggestion that there was one requires some explanation. A 1638 date would certainly fit the well into a certain perception of the trajectory of Basil Brooke’s business history and ambitions. It would be a logical next step, coming at the end of his association with the Forest of Dean and before the vicissitudes of the Civil War period. However, Brooke’s situation was such that he appears unable to finance day-to-day maintenance and repairs of the lucrative coal-mining operation, let alone to have made

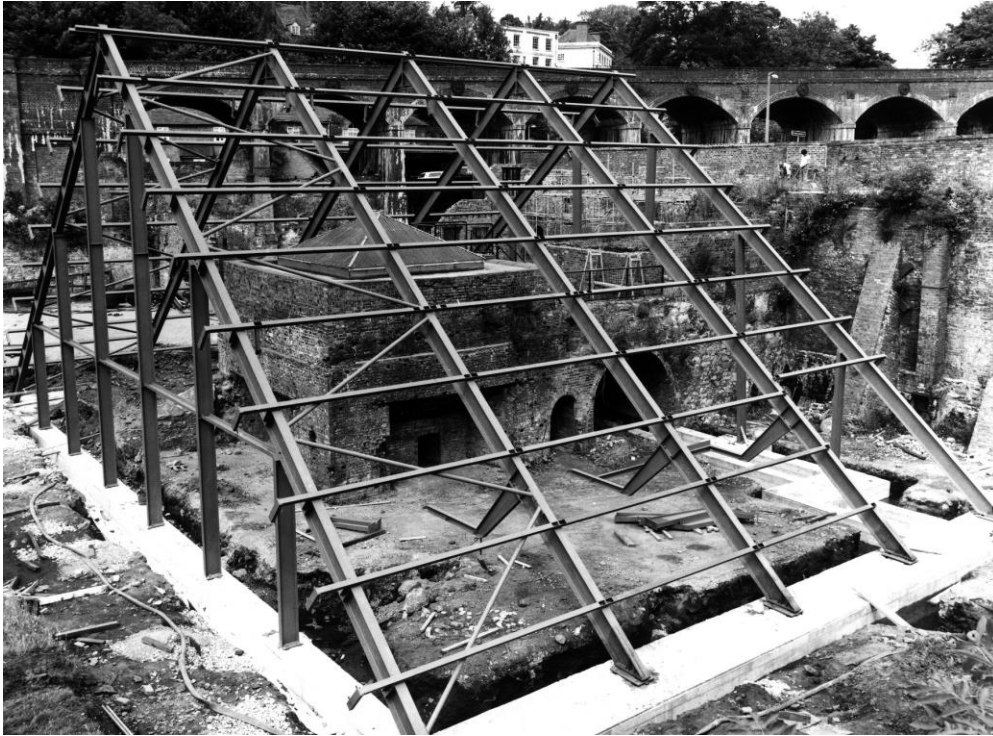


Fig. A3.03. The construction of the Coalbrookdale Old Furnace cover building in 1981.

Source: IGMT 1981.2660.



Fig. A3.04. Archaeological excavations at the Coalbrookdale Old Furnace in 2009. Trench 4, showing the below-ground foundation of the 1658 furnace structure. For location see Fig. A1.05 on the following page.

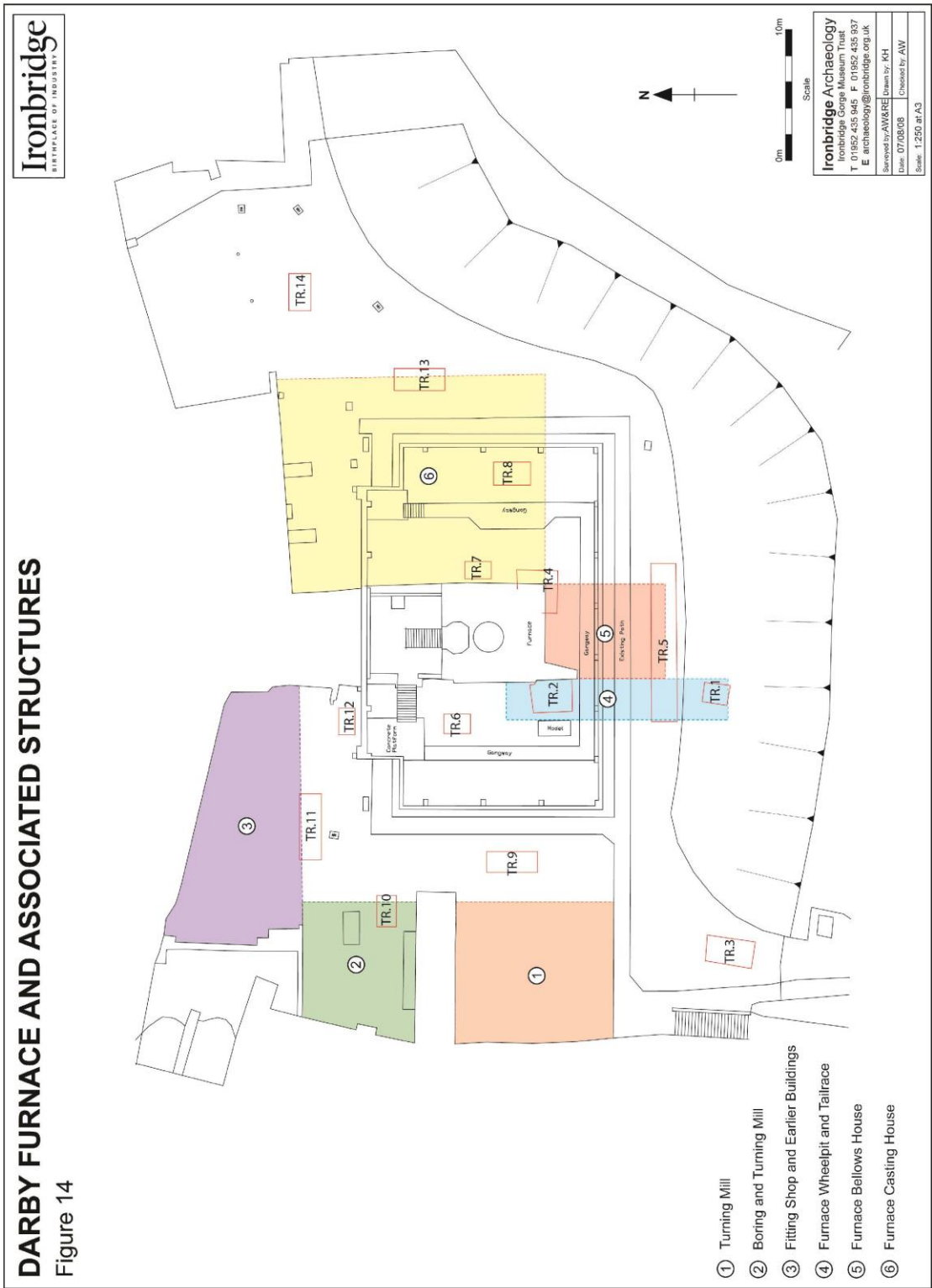


Fig. A3.05. Archaeological excavations at the Coalbrookdale Old Furnace in 2009. Plan showing trench locations and the features the excavations were intended to investigate.

Source: Belford 2009, Fig. 14.

the substantial capital investment that would be required for a new blast furnace. The idea that a blast furnace was needed at all in the early seventeenth century was really the result of the mid-twentieth century nostalgia of those pioneers of 'industrial archaeology'. They had seen the decline of the vertically-integrated ironworks in their lifetimes, this was the absolutely the business model of the nineteenth century, and had emerged from the developments of the Darbys in the eighteenth century. Therefore, the logic ran, it must be a 'natural' model for any successful business.

However Brooke was not primarily focussed on running a vertically-integrated industrial monopoly. Rather, in common with many other contemporary industrialists (see below), he was seeking to maximise the profitability of a niche. In Brooke's case, this was steelmaking – the production of a highly sought-after and potentially lucrative specialist material with considerable added value. The argillaceous ores of the Coalbrookdale area were not suitable for producing the low-phosphorous iron that was needed as a feedstock for Brooke's steelmaking operations. Brooke's strategy was therefore to ensure a reliable source of haematite from an established and efficient operation in the Forest of Dean, and to invest in the steelworks and forges at Coalbrookdale. This is why so much energy was expended on retaining the Forest of Dean; not because of a desire for expansion, as suggested or implied by previous writers (Mott 1957a, 74-79; Schubert 1957, 371; Hammersley 1972, 154-156), but to sustain this highly specialised niche business.

List of abbreviations

AIA	Association for Industrial Archaeology
BL	British Library
BGS	British Geological Survey
CBS	Centre for Buckinghamshire Studies
CCALS	Chester and Cheshire Archives and Local Studies Service
CPAT	Clwyd-Powys Archaeological Trust
CSPD	Calendar of State Papers Domestic
CSPF	Calendar of State Papers Foreign
EH	English Heritage
GRO	Gloucestershire Record Office
GSi	Geological Survey of Ireland
HE	Historic England
HER	Historic Environment Record
HES	Historic Environment Scotland
HLC	Historic Landscape Characterisation
HRO	Herefordshire Record Office
HS	Historic Scotland
IGMT	Ironbridge Gorge Museums Trust
IGMTAU	Ironbridge Gorge Museum Trust Archaeology Unit
JHC	Journal of the House of Commons
LPFD	Letters and Papers Foreign and Domestic
LJRO	Lichfield Joint Record Office
LRO	Leicestershire Record Office
NA	National Archives
NGR	National Grid Reference
NMRE	National Monuments Record (England) [now English Heritage Archive]
NMRW	National Monuments Record (Wales)
NTE&W	National Trust (England and Wales)
NTS	National Trust (Scotland)
RCHME	Royal Commission on Historical Monuments England
RCAHMS	Royal Commission on Ancient and Historical Monuments Scotland
RCAHMW	Royal Commission on Ancient and Historical Monuments Wales
SA	Shropshire Archives

SAL	Society of Antiquaries of London
SC	Shropshire Council
SCCAS	Shropshire County Council Archaeology Service
SCMC	Shropshire Caving and Mining Club
SPMA	Society for Post-Medieval Archaeology
SRO	Staffordshire Record Office
TDC	Telford Development Corporation
TWC	Telford and Wrekin Council
WLSL	Worcester Local Studies Library
WRO	Worcestershire Record Office
WSL	William Salt Library, Stafford

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- Ironbridge Gorge Museum Trust Library and Archive, Telford
- Lichfield Joint Record Office, Lichfield
- Leicestershire Record Office, Leicester
- Middle Temple Archives, London
- National Archives, Kew
- National Monuments Record, Swindon
- National Monuments Record, Aberystwyth
- Shropshire Archives, Shrewsbury
- Society of Antiquaries of London
- Staffordshire Record Office, Stafford
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