ARCHAEOLOGY AND DEVELOPMENT IN BIRMINGHAM CITY CENTRE AD 1100 – 1900

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Appendix 1 is supplied as a separate download.

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1 INTRODUCTION

1.1 History and evolution of development archaeology

It has been a long-held assumption that Birmingham does not have much of a past; there is no highly-visible castle or impressive circuit of town walls like many of its Midland neighbours, such as Warwick or Stafford, nor is there a great cathedral as at Worcester or Lichfield. Less imposing structures are also largely absent with the majority of the building stock within the city relating to its 18th- and 19th-century commercial and industrial past.

Archaeological investigations have done little to dispel this notion. Prior to the 1990s there is a single record of an archaeological investigation being undertaken in Birmingham, on the manor house below St Martin's church. Compared with the vast number of archaeological rescue excavations which were undertaken within historic towns across the country in the 1960s and 1970s, this absence has had a profound effect on the public perception of Birmingham – that it is modern and industrial – and also more importantly upon the archaeological remains which have been removed during the unmonitored development of the city centre from the mid-20th century onwards.

The advent of developer-funded archaeological investigation, embedded within the planning process following National Planning Policy Guidance Note 16 (1990) did much to rectify the lack of archaeological work within Birmingham. Despite being a planning requirement, developer-funded archaeological investigation does not appear to have taken place in the city until 1994, with the implementation of a programme of archaeological evaluation by trial trenching at the rear of The Old Crown, Deritend. This particular investigation (27) immediately proved the value of archaeological evaluation ahead of development, as significant quantities of locally-produced 14th-century pottery were revealed indicating the location of a nearby kiln. The results of this investigation began the process of the revaluation of Birmingham as a medieval settlement and justified further archaeological works in advance of development proposals in Digbeth, Deritend and throughout the historic centre of Birmingham.

The implementation of archaeological evaluation at The Old Crown coincided with, and was a direct consequence of, the appointment by Birmingham City Council (with part funding by English Heritage) of Mike Hodder as the Birmingham City Council Archaeological Advisor. With an officer within the Planning Department, archaeology and heritage began to take a central role in the planning system and whereas in the past only designated assets would have merited consideration in regeneration schemes, the archaeological potential of development proposals was considered alongside other environmental and planning factors.

One of the first examples of this was the production of the Digbeth Economic Regeneration Area and Cheapside Industrial Area Archaeological Assessment (1995). This highlighted areas of archaeological potential and was instrumental in shaping strategies for assessing the archaeological potential of future development.

The importance of archaeology and the historic environment within planning was further consolidated with the production of Birmingham City Council's Regeneration through Conservation (1999). This document provided commentary on the significance of the historic environment, including archaeology, to the overall regeneration of Birmingham. It embedded the requirement for the consideration and understanding of the historic environment and the benefits to successful regeneration of the urban environment which heritage assets can make. This ran parallel to, and supported, local plan policies within the Unitary Development Plan, which consolidated the national requirement for developments to be informed by archaeological investigations where appropriate, at a local level.

In February 2004, Birmingham City Council produced a Supplementary Planning Guide (SPG) specifically for archaeological issues within the planning process. The document explained the process behind determining whether a development site had archaeological potential and the process involved in investigating and establishing that potential, as well as providing guidance for understanding the implications upon archaeological remains as a consequence of development proposals. Whilst the SPG did not cover new ground, the recognition of archaeology as a significant element in the determination of a planning application, requiring specific planning guidance, firmly placed archaeological issues at the centre of planning applications.

Changes to national planning policy since 1990 have resulted in an increase in the number of desk-based assessments and field investigations of archaeological sites across the city. These investigations led to a wealth of archaeological information being produced as part of the planning process. In only a limited number of cases, where archaeological remains were of sufficient significance to require large excavations, were these sites published for the public. In the majority of cases, the reports went unpublished, available for consultation as 'grey literature' and held within the Sites and Monuments Record [now Historic Environment Record]. Whilst individually, each site which was not published did not alter the way people considered the evolution of Birmingham, cumulatively the information that they hold is a significant contribution to understanding the development of the settlement, the nature, date and zoning of activity across the city and the range of artefacts recovered as well.

1.2 Project history

1.2.1 Life, Work and Death in Birmingham City Centre 1100–1900 (2007–2008)

The Life, Work and Death in Birmingham City Centre 1100–1900 (referred to as LWD) project ran from 2007–2008 (English Heritage project 1611). It aimed to bring together information on archaeological remains investigated within the city centre, synthesise the results and disseminate the information via a published monograph. This was considered necessary due to the discrepancy between the relatively large body of evidence collected through development-led archaeological investigations and the general lack of published information available to the wider general public. A broad audience was identified, constituted from developers, planners, and urban designers, as well as academic professionals and the interested general public. The work was to focus upon the interpretation of the material remains, rather than written sources.

A brief for the project was produced on behalf of the funding bodies, English Heritage and Birmingham City Council. This established an 11 stage task list which included mapping and GIS, town plan analysis, analysis of a pottery assemblage from an unpublished site in Digbeth and a synthesis of the archaeological remains to be structured into a monograph which followed the broad themes of Life, Work and Death within Birmingham City Centre spanning the 800 year history of the settlement.

The project was undertaken by Birmingham Archaeology and a draft manuscript was submitted in 2008 for review; the year 2007 was determined as the end date for the inclusion of information within the assessment. For a variety of reasons, most critically the closure of Birmingham University Field Archaeology Unit in 2011, a final version of this report was never published (but see 1.2.3). However, an extended project summary was produced for *Medieval Archaeology* (Forster and Rátkai 2009, *Medieval Archaeology*, 53, pp 363-371).

1.2.2 Archaeology and Development in Birmingham City Centre AD 1100-1900 (2014–2016)

The LWD project was effectively put on hold until 2014. Following a review of the submitted report it was noted that there had been significant events which had taken place in the intervening period which required the report to be subject to a review and update.

Of these events, the publication of a number of archaeological reports of major archaeological investigations within the city of Birmingham has done much to publicise the archaeological and historic development of Birmingham to both an academic and general readership. The most obvious of these publications is that of Mike Hodder, Birmingham City Council Archaeologist, whose volume *Birmingham: The Hidden History* (2011) did much to popularise the archaeology of Birmingham to a broad audience. Other works included large monographs on the excavations undertaken at the Bull Ring between 1997–2001 and published by Birmingham Archaeology in 2009 (Patrick and Rátkai 2009).

Further investigations had also been undertaken in the intervening period: a total of 18 additional programmes of archaeological investigation were undertaken, a number of which applied new techniques to archaeological investigations and which have had an illuminating effect upon the very early occupation and exploitation of the Birmingham city centre. In addition, the finalisation and publication of the West Midlands Archaeological Research Framework (Watt 2011) provided a comprehensive context within which to place the archaeological discoveries and within which to target future investigations. This has shaped the understanding of the early development of the medieval settlement and has provided focus for further investigative work.

Access to archaeological information has significantly improved through the availability of the Historic Environment Record on the Birmingham City Council website and a further, more recent, development of the Birmingham Historic Landscape Characterisation Study (September 2015) completed during the review of the LWD project.

The scope of the works was therefore modified in response to these changes in circumstances, and project 3851 was commissioned by English Heritage from Wardell Armstrong. The revised scope was to edit the Birmingham Archaeology report, removing information which would be better served through publication elsewhere (principally the pottery analysis of the Digbeth assemblage), providing a more discursive discussion regarding the archaeological remains of Birmingham following the original theme of the project with the exception of Death. It was felt that the information presented in this section was unrepresentative of the majority of planning led archaeological investigations and has been reported upon elsewhere and would also be better served through publication elsewhere. It was then to provide advice on appropriate archaeological responses to development proposals dependent upon where they are located within the city, what is proposed for the development and what specific questions or research aims should be addressed in any Project Design for the works.

This shorter report and gazetteer, authored by David Hodgkinson (then at Wardell Armstrong), is the response to the new brief: the report is derived from the work originally undertaken by Birmingham Archaeology 2006 – 2008 and funded by English Heritage (project 1611: *Life, Work and Death in Birmingham, AD 1100-1900*), with additional information included up until 2016.

1.2.3 **Summary of situation in 2020**

The draft report by Hodgkinson was submitted to Historic England for review in 2016, but for various reasons, a final version was never produced or published. Meanwhile, in 2017, the original authors placed the 2008 draft LWD manuscript and dataset on the Archaeology Data Service (Rátkai and Forster 2008 and Ramsey 2008, ADS Collection 2857, https://doi.org/10.5284/1046277).

In 2020, it was agreed that producing a monograph from either draft version was no longer feasible or appropriate, particularly given recent and forthcoming archaeological investigation in Birmingham. However, it was decided that producing a version of Hodgkinson's 2016 report for online publication would ensure that the additional work undertaken in this phase of the project would be made available.

An edit of the 2016 report was conducted by Jenni Butterworth on behalf of Historic England, and this document is the result. This edit was of limited scope to address structural and copyediting issues. It has not been updated to include recent archaeological work or to update the bibliography and referencing. The reader is advised that the fuller specialist contributions from which this short, edited report is in part derived can be found in the 1611 project archive on ADS (Rátkai and Forster 2008 and Ramsey 2008, ADS Collection 2857, https://doi.org/10.5284/1046277).

1.2.4 Note on authorship and specialist contributors

David Hodgkinson is acknowledged as the author of this report. The project team brought together as part of Birmingham Archaeology project 1611 are acknowledged as joint authors of the original work, and also as contributors to the present report. Project 1611 was managed by Stephanie Rátkai and Amanda K Forster, who also compiled and edited the 2008 report. Project contributors included: Josephine Adams (documentary research), Nigel Baker (town plan analysis), Stephanie Rátkai (pottery), Ian Baxter (review of faunal evidence), Megan Brickley (review of osteoarchaeological evidence), Ben Gearey (paleoenvironmental review), Andrew Howard (paleoenvironmental review), David Higgins (Birmingham pipemakers research), Tom Hill (paleoenvironmental review), Mike Hodder (Gazetteer of sites), Shane Kelleher (review of historic buildings), Quita Mould (review of artefacts), Eleanor Ramsey (desk based research, site gazetteer and GIS), and Martin Smith (review of osteoarchaeological evidence).

1.2.5 Study area and gazetteer

The study area referred to in the text is the same one defined during the LWD project (Figure 1.1). Its western boundary follows the Birmingham and Worcester canal from Commercial Street to the junction with the Birmingham and Fazeley canal. The latter forms the northern boundary, to the junction with the Digbeth Branch canal. The eastern boundary is defined by the latter and the Grand Union Canal to the Coventry Road.. The southern boundary of the study area follows Coventry Road and Warner Street, to Bradford Street up to the street block which includes the River Rea. Further to the south the boundary is formed by Cheapside, to Barford Street, following Hurst Street to its junction with Thorp Street. This boundary then follows a line to the Birmingham and Worcester canal to the north of Commercial Street.

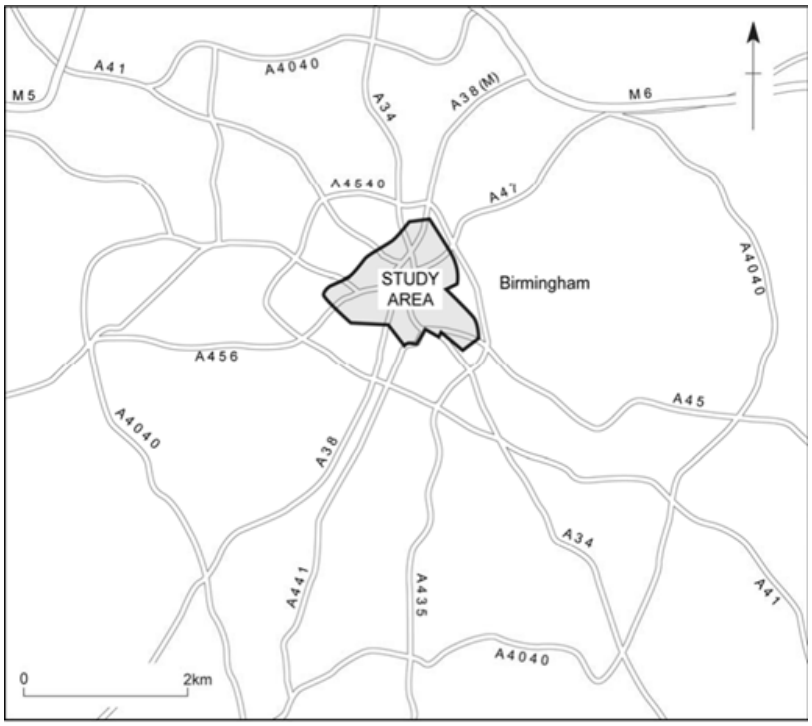

Figure 1.1 Study area (Rátkai and Forster 2008)

Numbers provided within the text when referring to archaeological events [e.g. (74)] refer to the gazetteer in Appendix 1. This is the gazetteer assembled during the original LWD project, with additional entries up to November 2015.

1.2.6 **Contents of this report**

Chapter 2 of the report provides an updated overview of archaeology and settlement of Birmingham city centre before it was ever Birmingham. Evidence for human exploitation of the area, obtained from environmental sampling and geoarchaeological analysis of former land forms has proved to be a very exciting and profitable source of study on recent archaeological projects and in the majority of cases this data source is the only one available to shed light on the pre-Birmingham period.

Chapter 3 provides a topographical description of early Birmingham through a description of the core of the earliest settlement from St Martin's Church, the moated manor house and the marketplace through to the industrial suburb of Digbeth and the river crossing at Deritend.

Chapters 4 and 5 are thematic and cover the Life and Work of the title; they provide an overview of the archaeological discoveries which have informed upon the daily lives of the inhabitants of Birmingham over the study period. As discussed above, this element of the study has been largely replicated in a number of recent academic and popular publications and therefore they are not comprehensive, exhaustive or totally representative of all that the grey literature holds. They do however give an impression of the nature of what evidence may be present within a development site and how important that evidence would be: these chapters are, therefore largely illustrative.

Chapter 6 covers built heritage, an area of study which is often not considered as being within the remit of archaeologists but is often the sole remnant of a particular period, industrial process or commercial operation. The study of buildings archaeologically can inform upon the origin, adaption and decline of structures or areas of the city which may not be present in the archaeological record. In numerous cases, the construction of the building, particularly if cellared, will have removed archaeological remains from previous periods and therefore remains the only tangible link to the past. The understanding of the significance of the built historic environment, especially non-listed, commonplace structures has the potential to feed into urban design which can sustain the character of distinctive areas of the city.

Chapter 7 provides a guide to shaping archaeological responses to planning applications within the city centre. In light of the level of change proposed within Birmingham, through regeneration and major infrastructure works, it is essential that an informed and considered approach to the treatment of archaeology is possible. Through the application of traditional archaeological evaluation techniques (such as desk based assessment and trial trenching) alongside more recent and in some instances more sophisticated techniques as well as through the implementation of a wider source of complimentary studies, such as Historic Landscape Characterisation, the archaeological potential will be identified, assessed and considered in an appropriate manner.

2 LANDSCAPE AND DEVELOPMENT OF THE CITY OF BIRMINGHAM

In the 21st century, it is difficult to visualise the landscape of the West Midlands without the city of Birmingham and the wider West Midlands conurbation. This chapter aims to contextualise the setting of the city in its wider landscape during the last Ice Age up to the present day. Data which can be used to undertake palaeoecological studies and reconstruct these past environments is rare within the study area and the West Midlands as whole. In order to characterise the landscape and environment, datasets from the immediate environs of Birmingham have also been used to provide greater palaeoenvironmental context.

2.1 The geology of Birmingham

Integral to the development of the city is its solid geology. The city is located on an area of upland known as the Midland Plateau which rises to 200m above sea level. The Midland Plateau has three subdivisions with the central Birmingham Plateau at its core. This nestles between the South Staffordshire and Wyre Forest Coalfields, with emergent seams nearby in Oldbury. The city centre is bisected by the Birmingham Fault which trends south west–north east: the historic parish church of St Martin's in the Bull Ring straddles the feature. To the west of the fault, the solid geology consists of early Triassic sandstones of the Bromsgrove group which rise and form the Birmingham Ridge, to the east of the fault lies the Mercia mudstone group.

The fault has played a considerable role in the development of the study area. The fault is likely to have been enhanced by glacial meltwater exploiting a natural weakness in the geology. Today, the fault forms the channel of the River Rea as it flows northwards from Longbridge through Edgbaston, past the cricket ground, and into the study area. The Rea ultimately merges with the Tame north of the city centre at Gravelly Hill.

2.2 Landscape development during the Ice Age: 482,000 to 10,000 BC

The solid geology is covered by unconsolidated Quaternary sediments associated with the various glacial episodes which have affected the English Midlands. At present, the age of the oldest deposits is unclear but is likely to be Anglian (480,000–430,000 years ago). The provenance of this material is a mix of subglacial till from the base of the glacier and glaciofluvial outwash which was emitted and deposited by waterborne activity when the glacier began to melt.

In the wider West Midlands, deposits that predate the Anglian glaciation (Marine Isotope Stage 12: 478,000–424,000 years ago) have been identified at Bray's Pit, Mathon (Herefordshire) and Waverley Wood, Bubbenhall (Warwickshire). Both of these sites have been productive for the recovery of palaeoenvironmental remains associated with the pre-Anglian river systems of the Mathon and Bytham respectively, dated to Marine Isotope Stage 15 to Marine Isotope Stage 13 (621,000–478,000 years ago). Of particular interest is the recovery of several hand axes and quartzite tools from the Waverley Wood site which are likely to be pre-Anglian in date. This would make them the earliest tools in the West Midlands, suggesting that there is potential for material of this date from the region.

The potential for material of this date being found in the Birmingham area is somewhat supported by the recovery of the Saltley handaxe to the northeast of the present study area near Adderley Park, although its rounded edges and manufacture from non-local material suggest that it was not found in situ, but was transported by glaciofluvial action.

Given the severity of the Anglian glaciation, with ice advancing as far south as London, destroying the Bytham and Mathon systems and diverting the Thames to its present course, preservation of in situ pre-Anglian deposits is unlikely on the Birmingham Plateau. Preservation of these deposits is seemingly limited to the deeper river valleys where they became buried beneath significant quantities of Anglian till: although the Saltley handaxe does illustrate the potential for residual material in the study area and its immediate environs.

Evidence for the Anglian glaciation is present in the form of the Nurseries Glacigenic Formation, consisting of tills, sands and gravels and glaciolacustrine clays which have been identified at both Quinton and Nechells. At both locations, these deposits were overlain by peat, organic sand, silt and humic clays of the Quinton Peat Formation deposited during the Hoxnian Interglacial (Marine Isotope Stage 11: 427,000–374,000 years ago).

The earliest evidence for the environment and ecology of Birmingham is from the Hoxnian Interglacial, a period of warmer conditions from 430,000–370,000 years ago. Insect assemblages from Duddeston, just outside the study area, provide evidence of a warming climate and later mixed woodland would have included fir and oak with some evidence of wet, alder woodland.

Recent work in Worcestershire (Russell and Daffern 2014; Shaw et al 2016) has indicated that there is potential for residual and in situ artefactual and palaeoenvironmental remains within deposits dated to the end of Hoxnian interglacial and the commencement of the Devensian Glaciation (Marine Isotope Stage 10 to 5e: 374,000–115,000 years ago). The potential for this material in the Birmingham area is supported by the survival of the earlier Hoxnian deposits although presently no material dating to this period has been identified.

Environmental indicators are then absent from the record until the end of the Devensian Glaciation – the most recent glacial period which lasted from approximately 110,000 to 12,000 years ago. During this period, Birmingham lay outside the confines of the ice sheet and was subject to periglacial activity. Information on this environment is available from insect assemblages from the very end of the last glacial episode, known as the late Pleistocene/early Holocene. These insects were sealed in peats found beneath the Wholesale Markets in Digbeth (within the study area) and suggest a much colder, boreal or subarctic environment. This would have been akin to the peri-tundra of modern Russia, Scandinavia and the montane areas of Highland Scotland and is characterised by long, often very cold winters, and short, cool summers.

A contemporary insect assemblage from West Bromwich, 7km to the north west of the study area provides further elucidation for this period and subsequent millennia. The assemblages initially indicated a boggy, treeless landscape, cooler than present. Almost 2,000 years later the climate had become substantially colder, this heralded the return of arctic conditions during a short-lived cold stage known as Loch Lomond Stadial. This was replaced about 9,500 BC by mixed woodland and a climate as warm as today. Further evidence of early Holocene vegetation change was found at Curzon Street, dating to 8,500 BC, where pollen evidence indicated a boreal ecosystem consisting of birch and pine woodland with an understorey of mosses and sedges. Further undated evidence indicates a later transition to mixed deciduous woodland composed of alder, hazel, birch and lime indicative of much warmer temperatures.

2.3 The Holocene: 10,000 to 3,000 BC

From the start of the Holocene to the mid-Neolithic (5,000 BC), there is a significant gap in our knowledge of the landscape and environment of what is now the city of Birmingham. Evidence within the study area from about 5,000 BC indicates a wooded landscape dominated by birch, pine, hazel, alder and oak with some lime. Within the wider West Midlands, mixed woodland, dominated by lime, oak and hazel was found across the landscape, with other trees and shrubs such as elm, birch, pine and alder present, depending upon variations in local soils and topography. There is very little evidence of the presence of human communities or the woodland clearance for settlement and farming characteristic of this period. During the later Neolithic, alluvial deposits associated with the River Tame at Perry Barr, less than 4km from the study area, provide rare evidence of the prehistoric environment of the city. The pollen record suggests that dense woodland was present on both the wetland soils of the river floodplain. The dryland vegetation consisted of lime-dominated woodland. Once again, no evidence for human activity between 5,000 and 3,000 BC was found at this site.

2.4 Early agriculture: 3,000 BC to AD 400

Direct evidence of clearance for settlement and farming during the late Neolithic and Early Bronze Age is absent from the study area. Nonetheless, evidence has been found across the southern Midlands in Warwickshire, Worcestershire and Herefordshire, this has been extrapolated from pollen evidence which indicates the contraction of the lime woodlands. The closest reference to the study area is, once again, Perry Barr, where pollen evidence reflects this trend. Further evidence of the Bronze Age environment is limited, as is evidence of Bronze Age activity as a whole. Activity from this period is currently restricted to burnt mounds, which consist of low mounds of stones which have been affected by fire. A total of 30 have been recorded within wider Birmingham, the closest to the study area at Bournville, Collets Brook and Moseley Bog, and they are discussed in greater detail below. Poorly preserved pollen from beneath the mound at Bournville indicates an alder- and lime-dominated environment. There is also a paucity of Iron Age activity and environmental evidence, although an Iron Age farmstead has been recorded to the north east of Birmingham at Langley Mill Farm (Booth 2008).

Evidence from the early Romano-British period is also scant. Within the study area itself, a small number of Roman coins are known, and excavations at Moor Street and Park Street in advance of the Bull Ring development revealed a small selection of Roman pottery sherds that may be indicative of a farmstead (Patrick and Rátkai 2009, 306).

Limited palaeoenvironmental evidence from around AD 200–400 indicates woodland clearance near to the study area and that open grassland was dominant in the wider landscape. However, evidence from Metchley Fort around AD 200 contradicts this, suggesting woodland recovery and re-expansion following the abandonment of the Roman fort. This trend of reforestation persists throughout the very early and early medieval period, after which time the area was gradually re-occupied.

2.5 Early medieval and medieval landscape

There is, on the whole, little evidence of environmental or landscape change from the end of the Romano-British (AD 410) through to the later medieval period. Most of the place names in Birmingham, including Birmingham itself, are early medieval in origin. Recent pollen work undertaken in the city centre at Edgbaston Street and Park Street indicates that mature woodland was present in and around the medieval town, with oak, lime, elm and several other species represented. The percentages of tree and shrub pollen in many of the samples sufficient for the analyst, James Greig, to speculate that '…perhaps Birmingham was indeed founded in a wood' (Grieg in Patrick and Rátkai 2009, 259).

The analysis of beetle and plant remains from watercourses, ditches and tanning pit deposits suggest the local conditions, were (unsurprisingly) rather foetid. Many of the environmental indicators are typical of decaying, mouldering waste around human settlements or the open water and aquatic vegetation present in the ditches on the site. Some of the samples do reflect the wider environment, which were open grassy areas and the presence of animal dung, perhaps suggesting that these areas of the town were used for stalling animals or for pasture.

Two sites along the River Rea floodplain (outside the study area and a few miles outside the city centre) at Selly Oak and Longbridge have recently been the subject of an environmental study. At Longbridge, data from the early medieval and medieval periods indicated a mixed environment of alder/hazel woodland by the river, with meadow pasture and arable land beyond. Open woodland of lime and oak was present on the drier slopes. The woodland area by the river appears not to have been used by the earliest settlers but, as time progressed, there was clearance and an increase in grasses suggesting a greater amount of pasture. In Selly Oak, the floodplain was damp, open grassland in the later medieval/ early post-medieval period.

The agricultural potential of the Birmingham Plateau was relatively limited, with poorer soils immediately west of the city centre. From the medieval period onwards there was a mixture of pasture and arable farming, although there is a paucity of evidence for the latter. The pollen record from Edgbaston Street did identify buckwheat, a species known to be more productive than other cereals in poor, sandy soils, such as those in and around Birmingham, and which was grown in abundance during the later medieval and post-medieval periods.

During the 14th century, records suggest hedged and ditched land. Plant and pollen evidence from the Bull Ring is consistent with this and also suggests open pasture and pastoral farming. In 1553 there were nine sheep folds in the borough of Birmingham.

The rural environs of Birmingham were fully enclosed by the 17th century, with the exception of Birmingham Heath at Winson Green, which was enclosed by 1802 and rapidly built over. Environmental evidence from the Bull Ring revealed that the heathland surrounding Birmingham was exploited for its natural resources, for example the remains of heather were found which may have been used for animal bedding, thatching and broom making.

2.6 Rivers and waterways

The river system and the later canal network in Birmingham have exerted considerable influence on the development of the city since at least the early medieval period. Birmingham's water supply has always been abundant with springs, rivers and standing pools of water. The most significant rivers which flow through the study area are the River Rea and the River Cole and their tributaries which ultimately flow into the River Tame, which flows in turn into the mighty Trent. The study area occupies a particularly low-lying area of the Rea floodplain. It has been so wet in some areas that peat has been found in Moor Street, at the periphery of the study area. Until canalisation in the early part of the 20th century, the Rea was also prone to regular flooding.

As is suggested above, the first evidence of some human activity in the riparian zone can be seen during the Bronze Age with the accumulation of numerous burnt mounds. The function of these 'structures' is still open to debate. Numerous functions have been posed from sweat lodges and domestic activity to a variety of industrial uses including tanning, textile processing and brewing. They are generally Bronze Age in date, and commonly associated with floodplains during woodland clearance and seldom directly with settlement. Examples of this type of structure have been found just outside the study area along the courses of the Bourn Brook and Coldbath Brook, a tributary of the River Cole. These structures, whatever their function, perhaps reflect the first evidence of industrial or processing activity associated with the rivers of Birmingham.

A reliable supply of water is vital to the establishment and expansion of any settlement and this was the case for Birmingham's development. The early town was established on higher ground above the Rea floodplain and was bounded to the south by two moated sites – the Parsonage Moat and the Manor (Birmingham) Moat – the two moated sites being linked by a watercourse, probably natural in origin, but subsequently channelled. Springs in this area were used in order to feed the two moats and joining watercourse, the later significance of these is discussed in greater detail below. Comparison of the results of environmental sampling from the Manor Moat (54) revealed two apparently-different aquatic environments; one fairly stagnant, the other free-flowing. Although there is no archaeological evidence for this, it would seem to suggest that the water within the moat itself was carefully controlled, possibly by a sluicing system.

The course of the Rea has been moderated over the years, most recently with the culverting of the river in the late 19th and early 20th century. Mapping these rivers today is somewhat problematic, as the River Rea has been canalised along much of the route which passes through the study area. One of the most useful tools for this type of research is the Environment Agency flood maps which demarcate the channel and floodplain of these 'lost' rivers. However, such maps cannot provide evidence of historical channel migration across the floodplain and historic maps must be referred to, to determine this activity.

Given the factors influencing channel migration which include sediment type and supply, slope and flow regime and the dimensions of the floodplain, it seems that the Rea was relatively stable and has been so through much of its history, certainly during the medieval and later industrial periods. The extent of the catchment and the headwaters, and the gentle drop in altitude from the headwaters to the confluence supports this theory. Elevation reduces by approximately 5m as it passes through the majority of the study area. Interestingly, in the area subject to ponding at the junction of Digbeth and Deritend, there are two depressions which lie at +103m OD, in contrast to the surrounding area which lies at +106m OD. Excavations in this area indicated gravels, likely to be Pleistocene, were reached at +101m OD, sloping eastwards to +100m OD.

The floodplain is also relatively constrained as it passes through the study area, at a little less than 200m wide for much of its course, narrowing considerably at a pinchpoint located at what is now the junction of Gooch and Conybere Streets in Highgate. A number of streams also drained down the south-east-facing slope of the Rea valley, emerging where the porous sandstone met the impervious Mercia mudstones along the Birmingham Fault. Digbeth was originally known as 'Well Street, from the many springs in its neighbourhood'. These numerous watercourses which included the Pudding and Dirty Brook are likely to have been used from the earliest periods of the town's history. Other springs were used to supply a bathhouse which lay to the south of the Parsonage Moat at Lady Well.

Recent archaeological excavation in the former Connaught Square (in the vicinity of reports 15 and 19) off Bradford Street has revealed deep layers of alluvium and the probable course of the 17th-century River Rea. The preservation of organic remains has been excellent and there is some scope for establishing the nature of industrial activity and their date. Combining this evidence with that from the early maps may help in understanding the water management systems which were in place in the medieval and early post-medieval periods. Street names within the study area also provide some evidence of the course, these include Rea Street, Floodgate Street and River Street. The latter, which demarcate the path of the River Rea, are all absent from Westley's 1731 map of the city. This early map evidence indicates a straight river which turns first east-south-eastwards before switching back to its original north-easterly trajectory. Industrial activity in the vicinity of this feature is discussed in greater detail below.

During the medieval and post-medieval period, the developing town of Birmingham continued to utilise its water sources. A wide range of industrial activities are recorded in the archaeological evidence, which is discussed in later chapters. Finally, the advent of a vast network of canals in the later 18th century significantly altered Birmingham's connections with other commercial centres and boosted its industry.

2.7 **Conclusion**

This environmental and archaeological evidence all conspires to suggest that Birmingham was something of a sleepy backwater into the medieval period. For much of prehistory and into the very early medieval period, evidence of human habitation is scarce. It is only during the medieval and early post-medieval period that the town rapidly changes from a sleepy market town to a bustling hive of pre-Industrial Revolution activity. During the Industrial Revolution Birmingham becomes 'City of a Thousand Trades' and begins to expand into the sprawling industrial landscape of today.

3 BACKGROUND TO MEDIEVAL AND POST-MEDIEVAL BIRMINGHAM

This chapter is a chronological and topographical description of Birmingham city centre as it evolved from the medieval period into the industrial period. It presents information upon the origins of the layout of the early settlement, principal features within that settlement and describes the influences which caused and shaped the development of the settlement. It draws upon a wide variety of information, including archaeological, historic, cartographic and town plan analysis and sets the scene for more detailed discussions later in the volume.

The original LWD draft contains a wider range of maps and plans to accompany this chapter (https://doi.org/10.5284/1046277).

3.1 Anglo-Saxon origins of Birmingham

Birmingham's name has Anglo-Saxon origins, meaning 'land-unit of Beorma's people' (Bassett 2000, 8; Buteux 2003, 7). Despite this, the city has no archaeological evidence for Anglo-Saxon settlement, nor any recorded Anglo-Saxon history (Bassett 2000, 1). Whether the name actually denotes a settlement or merely refers to a landholding is therefore uncertain. Several other place names within the city are indicative of Anglo-Saxon settlement, including Bordesley to the southwest, 'ley' meaning clearing in woodland or, as Gelling suggests, meaning 'settlement in a woodland area' (1974, cited in Bassett 2000, 3). Palaeoenvironmental evidence (cited in the preceding chapter) would appear to support this woodland origin.

Physical evidence dating to the Anglo-Saxon period is, however, ephemeral or inferred. A few sherds of pottery dating between the Roman and early post-Conquest period are known from the city centre (Patrick and Rátkai 2009, 306). It has been conjectured that the curiously-shaped Parsonage Moat may be a late Saxon manor, of a similar shape and size to others in the country. It has also been suggested that the possibly-circular graveyard surrounding the parish church of St Martin's may hint at an earlier church on this site. Either of these sites may have formed the focus for the early medieval town (Hodder 2011, 79-80).

Unfortunately the late Anglo-Saxon period in the region was largely aceramic, apart from burhs (defended towns) such as Warwick and Hereford. Furthermore, there appears to be no real continuity between early to middle Saxon and late Saxon settlement in the region in general, especially in Warwickshire. Any discussion of Anglo-Saxon Birmingham is inevitably largely speculative. From the 12th century onwards, however, the range of evidence improves (Hodder 2011, 80).

3.2 The early settlement focus

The Domesday Book of 1086 is the earliest known documentary source to mention Birmingham as a place. It recorded:

'Richard holds of William four hides in Birmingham. Land for six ploughs; one is in the lordship. There are five villagers and four smallholders, with two ploughs. Woodland half a mile long and two furlongs wide. It was and is worth 20s. Wulfine held it freely'.

Richard was Birmingham's first Norman lord and was the ancestor of the Peter de Birmingham who obtained a market charter in 1166; Wulfine was his Saxon predecessor before the Norman Conquest. The William referred to is William Fitz Ansculf of Dudley Castle.

The description of Birmingham in 1086 suggests that it was an insignificant agricultural settlement, with its nine peasant households sharing two plough teams, and a population of around 50 people, and showed no sign of any distinguishing characteristics or any particular potential for growth (Holt 1985, 3).

The development of the settlement in this period is uncertain. The parish church, dedicated to St Martin de Tours, was a key focal point, and it is suggested that the two moated sites – Parsonage Moat and the manorial moated site (Manor Place shown on Bickley and Hill's conjectural plan of Birmingham, see figure 3.1) – joined by a watercourse formed a focus for early development. While the origins of the two moats and their original relationship to each other are not clear, they are likely to have been important foci of the rural development.

The most significant date in this period of Birmingham's history is 1166, when Peter de Birmingham, also known as Peter FitzWilliam, lord of the manor, obtained a market charter from Henry II, in which it was recorded, 'that he may have market on Thursday at his castle of Birmingeham'. This was the earliest market charter issued in Warwickshire, and whilst it in all likelihood ratified market functions which were already taking place within the settlement, it effectively allowed the settlement to develop with the support of the lord of the manor and under the protection of the Crown.

In 1250 William de Birmingham took the town's advancement further forward when he obtained a charter from Henry III granting him the right to hold a fair, and later that year a second charter was granted allowing a second fair. The acquisition of both market and fair charters provided the lord of the manor with a lucrative source of income from tolls and the rental of stalls (ibid, 10).

Until recently, there was a relative dearth of documentation regarding medieval Birmingham. However, the discovery of two rentals of the borough of Birmingham, found in the estate archive at Longleat House (Wiltshire) has demonstrated the extent to which medieval Birmingham was urban and has provided a detailed and broad-ranging view of the town in the half century before the Black Death. The first of these was drawn up at the feast of St Michael 1296, and the second in the 18th year of the reign of Edward III, 1344-45 (Demidowicz 2008, 4).

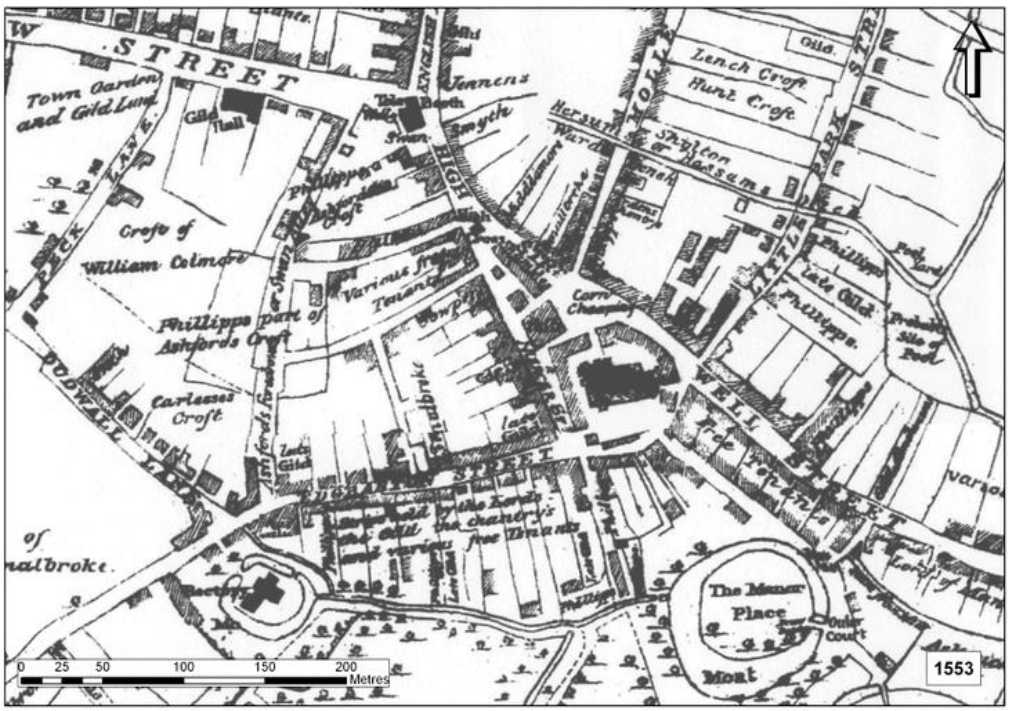

Figure 3.1 Bickley and Hill's Conjectural Plan of Birmingham 1553 (1890) The marketplace has a distinctive triangular formation, with St Martin's at its hub, which may be a result of its being deliberately laid out in a single operation

From the earlier of these rentals it is possible to suggest that the principal settlement of the manor of Birmingham in the later 13th century was both a physically recognisable town and a borough, although not formally established as such through a charter. For the first time, a list of street names is provided, indicating that New Street was already in existence and built on by 1296. The other familiar street names are Park Street and Edgbaston Street; *La Dale* appears to have been an earlier name for Dale End; and *versus capellam* was to become Chapel Street, later Bull Street, with the 'chapel' being that of St Thomas, an Augustinian religious house, also variously known as a priory or hospital. New Street, with its burgages, has a junction with a built-up street (the later High Street) running north to *La Dale* and descending south-eastwards as far as St Martin's Church and Park Street to include the later Bull Ring. Here, the market began as a gradually-widening triangle, with the church of St Martin and its cemetery located more or less centrally on the long axis, dividing an upper market from a lower market. Below the cemetery, the sloping ground stretched down to the moated manor of the de Birmingham family. This layout suggests deliberate planning with the manor directly overlooking the market and chapel (ibid, 8).

Overparkstreet, later Mole Street, led off the north side of the upper market into Over or Little Park. Here, the Hersum Ditch, a natural rivulet channelled into a boundary ditch, divided the town from the park and is mentioned once as *le hyrsonedeych*, the earliest known reference. The channel which connected the Parsonage Moat with the manorial moat also divided the Edgbaston Street burgages from the lord's park (later Holme Park) to the south. The parsonage (*persona*) is mentioned for the first time, and may have been recently constructed. Dead Lane (*venella mortua*) could be identified with all or part of a lane of the same name that was recorded in the 16th and 17th centuries, later known as Carrs Lane, which runs today from the High Street to Moor Street (Queensway) (ibid, 8).

Edgbaston Street, which forms the base of the triangle of the Bull Ring marketplace, would have carried traffic from the south west to and from the main axial route represented by High Town and Digbeth, and may have seen some of the earliest urban activity in the centre of Birmingham. The limits of Edgbaston Street are defined by Parsonage Moat to the west and Birmingham Moat to the east. The natural wells or springs of this district may have been exploited at an early date, for example the Lady Well is known from medieval documentation, and Edgbaston Street would have represented what was, in the 12th century, a prime development site (30; Figure 3.1).

3.3 The marketplace

As noted above, the first reference to Birmingham's marketplace is the royal charter of 1166 granting to Peter de Birmingham and his heirs a market to be held 'at his castle of Birmingham'. One question immediately arising from this is how literally 'at his castle' (*apud castrum*) should be understood. Did the phrase mean merely 'in the general vicinity of the castle' (being the most prominent landmark), or was it much more precise, meaning at the gate of the castle, the manorial moated site in the Edgbaston Street/Moat Lane area? Either seems possible, though Mike Hodder (pers. comm.) has opted for the more precise meaning, arising from the presence of the 'lower market' to the south of St Martin's. The 1189 market confirmation charter referring to the market 'in the town' rather than at the castle could similarly be read either to suggest that marketing activity had shifted north, or that it was the town, the rapidly-growing built-up area, that was already by then the most striking landmark (Buteux 2003, 51).

The marketplace as a whole covered a triangular area measuring about 250 metres long north to south by about 100 metres across at its base, formed by Edgbaston Street and St Martin's Lane, curving around the churchyard perimeter. Its western side was formed by Spicer Street (home to the town's wealthiest merchants in 1553), its eastern side by Corn Cheaping, a section of the continuous, sinuous, primary High Street–Digbeth road running northwest–southeast through the town, carrying inter-regional traffic from the Lichfield and Wolverhampton directions (west and north) to the south and east (Coventry, Stratford and ultimately London).

As usual, such street names reflect the segregation of functions within a large urban marketplace, the Shambles occupying the northern apex of the triangle with livestock markets along the main street to the north: the Beast Market or English Market from the Tollbooth at the New Street junction to Carrs Lane; beyond, as far as Dale End, was the Welch Market, dealing with sheep and wool. In 1553 this part of town was characterised by sheepfolds (e.g. Bickley and Hill 1890, no.87, xviii).

The manorial survey of 1553 also shows clearly that the marketplace encroachments recorded by the 18th-century town plans were then in place. The bailiff and commonality of the borough were paying eight shillings per annum for 'divers stalls for the fishmongers, butchers and tanners there in the market' (Bickley and Hill 1890, no.90, xviii). Encroachments out from the principal frontages appear to be represented by entries such as that for the 'parcel of a shop' measuring five feet by ten feet in front of William Budges' shop, or one shop and one 'standing' at the outermost end of the Shambles (ibid, nos.93, 98, xix, xviii). The origins of the main encroachments are not recorded, but a row such as the Shambles is most likely to have been a manorial initiative, most probably of the 13th, or at latest 14th, century. The marketplace encroachments were gradually demolished by the Street Commissioners in a process that commenced in 1784 (Brickley and Buteux 2006, 9).

What of the origin of the triangular marketplace itself? To what extent is there evidence of design, of town planning or 'higher-order decision-making' in the form of the marketplace; was it, in Steve Bassett's words, 'the product of a formal act of creation'? It has to be said that the case for this may have been overstated (Bassett 2000, 2 and n.11). While there is abundant evidence for the careful laying-out of the surrounding plots and, in the Moat Lane/Digbeth block, a possibly more intensive redesign of a plot series with a back lane (see below), the possibility that the triangular marketplace evolved from an informally-used open space at a three-way junction of major routes, on the lines of Swaffham (Norfolk) or Ross-on-Wye (Herefordshire) cannot yet be ruled out. Nor, however, can deliberate seigneurial creation. One distinct possibility is that the necessary open space was created around the existing church by pulling back the south-western frontage of the primary through-route to a new line represented by Spicer Street, possibly already there as a short-cut through to Edgbaston Street.

3.4 St Martin's Church and religious houses

The origins of St Martin's Church can at present be traced back to the 12th century, on the basis of a stone fragment with chevron ornament reported in the 19th century. Direct documentary evidence is much later, the church first recorded only in 1285 (Brickley et al 2006, 12). How far the church actually predated the 12th century is contested. Steve Bassett (2000, 16) has suggested that St Martin's was a 12th-century foundation associated with, but secondary to, the creation of the marketplace, while the pre-Conquest parish was served by a different church, possibly one on the site of the Priory or Hospital of St Thomas. Hodder, however, has rejected this view, suggesting instead that St Martin's was the first and only parish church, one, moreover, occupying a circular churchyard and potentially, therefore, of much earlier date (Hodder 2011, 79).

The date at which the churchyard became ringed by buildings is also uncertain. Recent archaeological work recovered 15th- to 16th-century pottery probably derived from surrounding buildings (Rátkai 2006); they do not identifiably appear in the 1553 survey as presumably they paid rent to the parish rather than the manor. They may, however, have been established much earlier, perhaps contemporaneously with the adjacent marketplace encroachments, as the church sought to profit from its marketplace frontages. Removal of the houses began in the late 18th century and was completed by 1810 (Brickley et al 2006, 9).

Away from the nucleus of the settlement, an important part of the medieval town would have been the Priory or Hospital of St Thomas (Figure 3.2). No record of foundation survives, but land was given to the hospital in 1286, and by 1344 the establishment was reported to be in a poor condition. The names of Upper and Lower Priory Street which feed into The Square preserve the location of the religious foundation. Hill and Dent (1897) observed that the chapel may have been located on the site of the 18th-century Upper Minories: 'part of its walls still remained buried under the shop on the south side of that street occupied by Mr Berrill'.

The priory was an Augustinian foundation, with a free church, hospital, graveyard, rabbit warren (or coningre, now Congreve street), cherry orchard and (according to Hill and Dent 1897) a house for a clerk and which reportedly had its own natural water supply (Bond 1993; 1). The dissolution of the priory did not take place until 1549 and it remains unclear when the priory buildings were demolished. Stone and other building material was probably systematically robbed from the ruins from an early date. The bulk of the priory lands were eventually sold by the Holte family after the Civil War and, by the time of Westley's map (1731), the area had several characteristics of Georgian planned suburban development (1).

The wider environment of early Birmingham in this period was still very rural with a large proportion of Birmingham manor retained by the family in the form of parkland. Little Park, which is remembered today by Park Street, was located to the northeast of the present Bull Ring. Holme Park lay to the southwest, bordered by what was to become Smallbrook Street, and later Rotton Park, a large hunting ground of approximately 600 acres which lay to the north-west of the manor, was partially cut out of Birmingham Heath in the 13th or 14th century. To the north of Rotton Park lay the remaining square mile of wasteland that was Birmingham Heath, which reached up to and included a large stretch of Handsworth. This left around just one third of the manor for agricultural cultivation (McKenna 2005, 9-10).

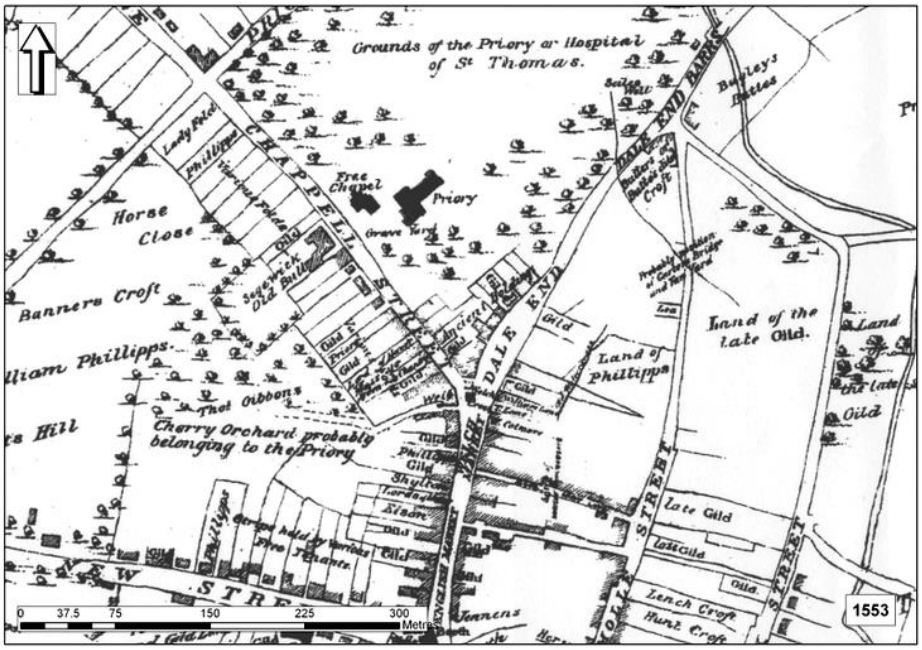

Figure 3.2 Bickley and Hill's Conjectural Plan of Birmingham 1553 (1890) showing the grounds of the Priory or Hospital of St Thomas, founded around 1250

3.5 Digbeth and Deritend: the river crossing

The origins of Deritend, located on the opposite side of the River Rea, are obscure, but it was a river crossing point and an important suburb of the manor of Birmingham. It was probably granted to the de Birminghams in the 12th century, and may have provided a dry route to a potential water mill site, avoiding the lord's demesne of Over or Little Park. The 1296 rental provides the earliest reference to this mill, Heath Hill (*le Hetmulne*), and also to another which has been identified with the later Moat Mill. As for Deritend itself, there is a reference to *Deregatestret* (meaning Deer-gate-end), another to a burgage 'next to the bridge', and two references to tenements 'next to the river'. The earliest spelling, *Durygatende*, dated 1381 is found in a document relating to the appointment of a priest for the newly-built chapel of St John the Baptist. The place name element, -end, was used to describe the extremity of a settlement or any outlying hamlet, indicating that by this time Deritend had developed into the only recognised suburb of the medieval town of Birmingham (ibid, 9).

The first eyewitness account of Birmingham dates to around 1538, when the traveller John Leland passed through. His description principally refers to the approach from the south, across the Rea:

'There is at the end of Dirtey a proper Chappel [St John's] and Mansion house of timber [thought to be The Old Crown], hard on the ripe [river bank], as the brook runneth down and as I went through the ford by the bridge, the water came down on the right hand, and a few miles below goeth into Tame. This brook above Dirtey breaketh into two arms, that a little beneath the bridge close again.' Leland quoted in Langford (1868, 10)

The ‘proper chapel’ of St John’s came about in 1381 when Sir John de Birmingham, ‘lord of the villa or hamlet called *Duryzatehende’* and the parishioners of Deritend and Bordesley, successfully obtained an agreement from the prior and monks of the Priory of Tykeford, who possessed the parish church of Aston, to be allowed to appoint their own chaplain (McKenna 2005, 14f); the building of the St John’s Chapel, Deritend, was the result and could not have been accomplished without considerable expense on the part of the inhabitants of the area (31).

The existence of the impressive 16th-century building, The Old Crown, still extant on High Street, Deritend, provides tangible evidence for settlement in the area. The structure may have been either a wealthy merchant's house, or perhaps (as is more generally accepted) built as a school, schoolmaster’s house and guild hall by the Guild of St John's. It is the only complete medieval standing building in Birmingham’s city centre, and is Grade II* listed (Figure 3.3).

Figure 3.3 The Old Crown, High Street, Deritend (Rátkai and Forster 2008)

The role of the River Rea in the economic and industrial development of Birmingham has been crucial as both a key entry point, and a water source for power and industry. Despite early mapping of the river, which reveals its meandering course in 1731, the identification of the precise historic course, rather than the culverted alignment, has long been a target for archaeological investigation. Archaeological work at 170 High Street, Deritend, revealed alluvial deposits at a height of c.100m AOD, some 3m below the modern ground surface, which belonged to a meander of the River Rea that went out of use when a new bridge was constructed in the later 18th century (19). Recent excavations at Connaught Square have revealed the 17th-century course of the river, this report however awaits publication.

The crossing point itself has remained as elusive archaeologically as the river. Recent excavations at Connaught Square (2008) did not locate the bridge, nor did those at 170 High Street, Deritend (13). This is perhaps unsurprising; the road is now far wider than it would have been when the bridge was visible. A photograph showing the bridge from 1935 indicates that the crossing point was located well beneath the surface of the current roadway, although at this time the river was redirected from its earlier course.

The bridge was the subject of a protracted court case between the justices of the borough of Birmingham and the inhabitants of the county of Warwickshire over bridge repairs between 1625 and 1642. The bridge had fallen into such a state of disrepair by the mid-17th century that visitors to the town thought it had been sabotaged in the Civil War (Gill 1952, 51). In 1652 the repairs were finally carried out but the form of the bridge at this time is unclear. William Hutton, in his History of Birmingham (1783) refers to the erection of a new stone bridge in 1750 and states that earlier bridges were mainly of timber. Westley's prospect of the town, drawn up in 1732, appears to show this newly-constructed stone bridge (Figure 3.4). Interestingly, Westley's prospect shows the bridge as having four arches, with gatehouses suggesting that tolls were collected. Also of interest is the large pond shown to the west side of the bridge, suggesting that the water was being used for some purpose. A wooden bridge, possibly a pedestrian route, is shown downstream.

On Ackerman's Panorama of 1847, the bridge can clearly be seen crossing High Street immediately to the east of Floodgate Street. It is interesting to note, however, that a large ditch excavated at Floodgate Street has been interpreted as having been created to supply causeway material to provide drainage alongside it, while at the same time clearly demarcating the causeway from surrounding land (see Edgeworth forthcoming).

The number of major roads from towns in the surrounding area which either crossed or lay close to Birmingham must have been a major catalyst for its grant of a market charter. Those roads from the east and south were funnelled through Bordesley, Deritend and Digbeth, crossing the River Rea at this point. Several projects have been undertaken along this route (Sites 10, 14, 21, 22, 26, 31, 38 and 44).

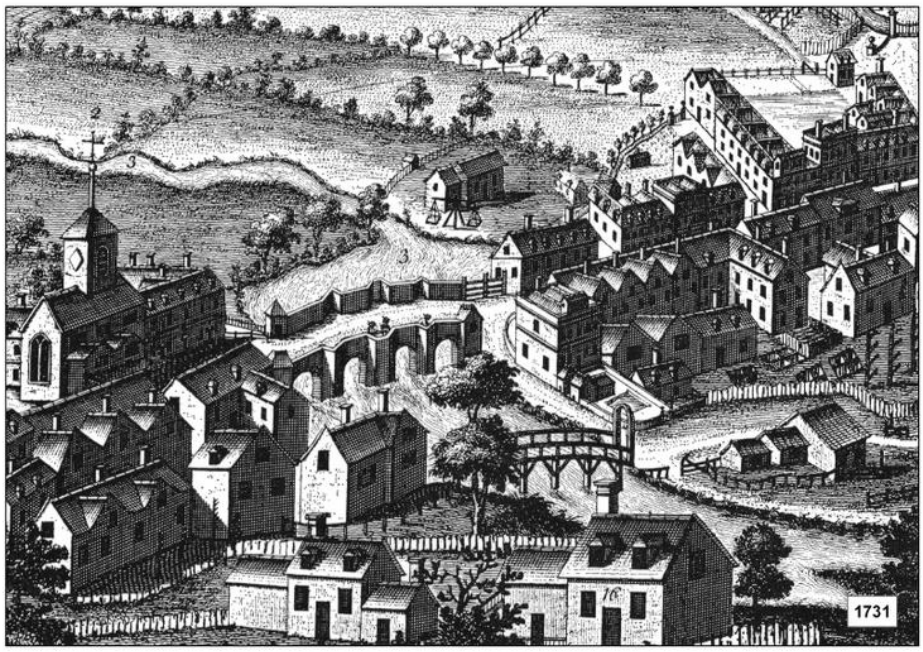

Figure 3.4 Westley's east prospect of the town, drawn up in 1732, showing a wide stone bridge over the river Rea (Reference MAL/14035)

The crossing of the river at this point is often highlighted as a main contributing factor to the growth of Birmingham's centre where it is. Bassett's analysis of the pre-modern roads coming into and out of Birmingham indicates that the Digbeth/Deritend crossing was not the only way across the Rea (Bassett 2001, 11). A major crossing point was also that at Duddeston (Aston parish), which may have provided a choice of crossing depending on traffic or weather conditions. It is interesting to note that routes to many of the neighbouring towns of importance (such as Coventry and Alcester) appear to have been realigned to accommodate the crossing at Digbeth where they are more naturally aligned to Duddeston (ibid). The establishment of the market and town of Birmingham in 1166 must, therefore, be seen as a primary catalyst for the redirection of these routes (ibid, 12).

3.6 Activities and industry

The 1296 rental is important for providing information on industry within the late 13th-century town, providing the earliest reference to the premises of metal workers, with four forges listed. Personal names also give an indication of trades, or those of preceding generations, with trades and services ranging from victuallers and their suppliers (le Baker, *molendinarius* (miller)), through textiles and clothing (le Taylur, Chalimer, Capper), the construction trades (Carpentar, le mason), and the merchants (le mercer, purveur (purveyor)), to the suppliers of leather goods (le Tanner, le Glover) (Demidowicz 2008, 17).

At an early date in the town's history, groups of tanners had settled in the lower or 'watery' part of the town in close proximity to the River Rea and to the streams issuing from the Birmingham Fault. Many families of tanners are named in the 1553 survey, among them Christopher Elesmore, Abraham Colmore, and Roger Foxall who owned a tanyard near to the course of the Rea (Wise 1948, 181–182).

During the medieval period, evidence for activities such as retting (the extraction of fibres from plants such as hemp or flax through soaking in water), willow-processing, tanning and a variety of smiths, some of which are apparent in the archaeological record at Digbeth, Deritend, and the areas around Edgbaston Street (70), Park Street (77) and Moor Street (73). Post-medieval pits and the large artificial pool at Floodgate Street, Deritend (78) demonstrate exceptional preservation of organic material in the form of plant macrofossils, including seeds and wood, and even remains such as animal hair. The wood remains, in particular, from this site are important as dendrochronological dating provided precise calendar dates of felling between AD 1519 and 1550. One of the samples was identified as a French barrel, probably a wine barrel which had been used to store lime, an important element in the dehairing and defleshing of hides in the tanning process.

In the 16th century, traveller John Leland called Birmingham 'a good market town'. He went on to say that there were in the town 'many smiths that… make knives and all manner of cutting tools, and many lorimers (craftsman who made horse harness fittings) that make bits, and a great many nailors; so that a great part of the town is maintained by smiths'. Their iron, he said, came from Warwickshire and Staffordshire, and their coal from Staffordshire.

Three mills at the Moat or Malte Mill, Digbeth or Askerick's Mill and the Heath (or later Cooper's Mill) were at work on the River Rea. Utilisation of natural resources is also evident within the Bordesley (39 and 40), Digbeth (78) and Deritend (9) areas of the city centre, where archaeological excavations identified quarry pits. The clays from both the Mercia mudstone and the alluvium derived from the River Rea were a source of raw material for brick, tile and pottery. In addition, many of the buildings within the study area are built of sandstone, which may have been derived from quarries in close proximity to the city centre.

3.7 **Commercial centre**

One of the defining attributes of today's city is its role as a major shopping centre within the region and country. The development of the Bullring shopping centre not only represents Birmingham's most recent retail development, but brings the layout and focus of the market centre back in line with its historic ancestor. It is an excellent example of continuity that, despite massive expansion and development of new shopping areas, Birmingham's real trading heart remains at the foot of St Martin's church where the present day markets still provide a busy focus for the city's shoppers.

Comparison between Kempson's map of 1808 and late 18th-century mapping such as Snape's Plan of the Parish of Birmingham 1779, shows that the marketplace had been cleared of structures relating to the Shambles and the Corn Market and the buildings around St Martin's churchyard by 1808. By 1810 a statue of Nelson had been erected at the centre of an otherwise open marketplace, and Ackermann's Panoramic View of Birmingham 1847 shows the Bull Ring Market remains open apart from this statue (76). Within the area of Manzoni Gardens, located under what is now the north-west side of the Bullring Shopping Centre, there is little change evident from the mapping from the mid-18th century until 1835, when the site was cleared and a new market hall was constructed. Skipp (1983) puts the cost of construction at £100,000 and describes a Doric-style entrance from High Street leading into a hall with 600 stalls (75).

The clearance of this area was a result of the deliberate enhancement of the market facilities by the Street Commissioners. The success of the markets brought problems with street congestion and traffic issues with produce and livestock being brought into the city. One problem was solved around 1810 when the Commissioners bought the former manorial moat which lay to the south of St Martin's Church, and opened 'Smithfield Market' in 1817 for the sale of livestock. A wholesale butcher's market, St Martin's Market, was opened subsequently in 1851 at Jamaica Row (Skipp 1983, in 76).

The Bull Ring marketplace also became overcrowded and extended beyond its original boundaries, and this was addressed by the construction of St John's Market, depicted as a two storey market hall, to the north-west of St Martin's church (75) (Figure 3.5) on Ackerman's Panoramic. This market was for meat, vegetable and other sellers, and was subsequently reorganised to accommodate the Fish Market which was brought down from Dale End. A separate Wholesale Fish Market was opened to the south of St John's Market by the City Corporation in 1869, and the Smithfield Vegetable Market for wholesalers was opened in 1884, replacing the previous pitches on High Street, Spiceal Street and Worcester Street (Skipp 1983, cited in 76).

The status of Edgbaston Street seems to have declined rapidly during the 19th century. Massive population growth during this period, associated with social changes brought about by the Industrial Revolution, had already contributed to a general decline of the 19th-century inner city. The urban poor were forced to live in unsanitary and often old properties commonly situated in courts built behind the more substantial properties that lined the street frontages (55). The situation only began to be seriously addressed during Joseph Chamberlain's leadership of the city council. This corresponded with broader changes in the economic shape of Birmingham particularly brought about by enhanced rail links, which firmly established the status of the 19th century wholesale markets situated over the Birmingham Moat (55).

Figure 3.5 Ackermann's Panoramic View of Birmingham 1847 depicts a two storey market hall (towards top left), labelled as 'St John's Market' (Reference MAL/14023)

3.8 The coming of the canals and railways

As Birmingham expanded it was unable to provide all of the agricultural produce that was required to sustain the increasingly-urbanised population. Arthur Young (1791) noted the long distances across which the produce for the Birmingham markets was transported. Garden vegetables came from Evesham and Tamworth, 30 and 16 miles away respectively, since, Young noted, there were very few (sic) gardens near Birmingham. Corn came from Compton (50 miles distant), Buckingham (56 miles distant) and Evesham.

The need for an effective means of transporting goods and merchandise to and from the town's industrial centre brought a vast canal network to the town in the late 18th century. They were an essential part of the commercial life of the city and the country until the advent of the railways in the 1830s. The canals remained in use up until the 1960s, after which point their use as an effective means of transporting goods was no longer economically viable. The canal network was abandoned and fell into disrepair for much of the late 20th century, until considerable investment as a result of the urban regeneration in recent years. The canal network is now a focal point for tourism and leisure, living on as a reminder of Birmingham's rich industrial history.

The coming of rail during the 19th century instituted the next major phase in the development of Birmingham's infrastructure and communications network and enhanced the town's strategic and industrial importance by encouraging links with other commercial centres such as London, Liverpool, Manchester and Derby. After parliamentary approval was granted to the London and Birmingham Railway in 1833, and to the Grand Junction Railway (GJR) in the same year, progress was so swift that the intended terminus, Curzon Street (Figure 3.6), and the viaduct approaching it, was still being built when the first GJR train from Liverpool arrived, and a temporary terminus was required at Vauxhall. By 1839 the line into Curzon Street had been finished and Vauxhall was abandoned. The portico at Curzon Street (Grade I listed), designed in the Greek Revival style by Philip Hardwick and built in 1838 still survives as the oldest railway terminus in the world still in its original location (Upton 1993, 93-94).

By the early 1840s, the Birmingham and Gloucester Railway and the Birmingham and Derby Junction Railway had both opened stations in close proximity to Curzon Street. In 1844 the Birmingham and Derby merged with the Birmingham and Gloucester to form the Midland Counties Railway, and in 1846 the GJR and the London and Birmingham Railway joined to form the London and North Western Railway (LNWR). By this point, it was realised that the location of Curzon Street Station was not ideal for the centre of Birmingham, and in 1854 New Street Station was formally opened, followed by the opening of Snow Hill by the Great Western Railway (GWR) in 1852 (ibid, 96-97). As with the canal system, the railways were associated with numerous other features such as tunnels, embankments, buildings, cuttings and viaducts (Hodder 2011, 152).

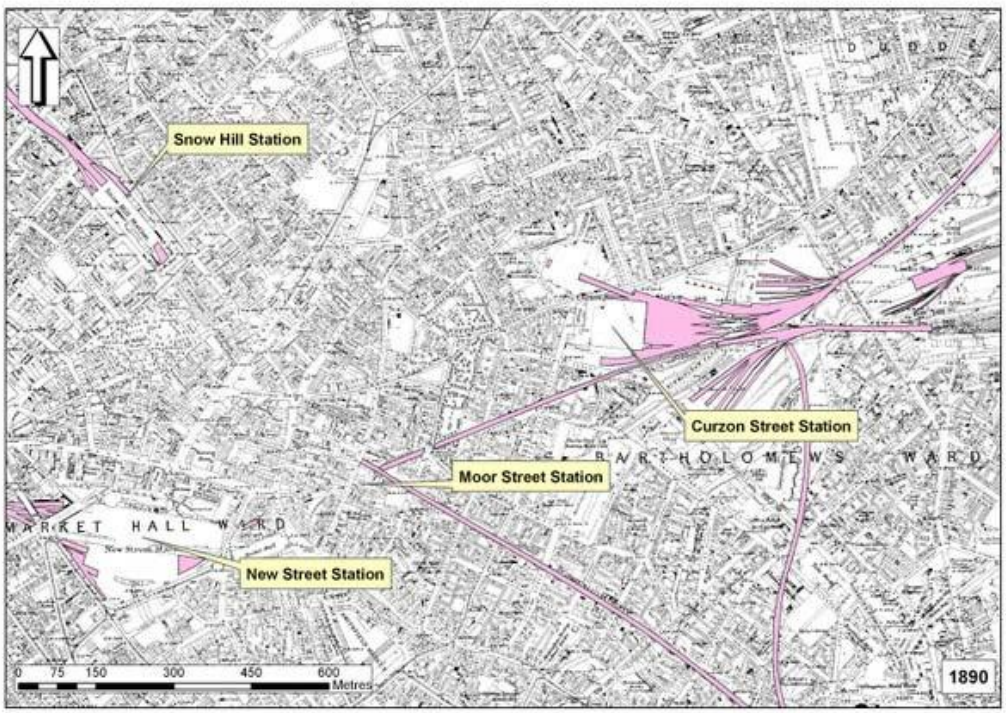

Figure 3.6 Location of rail stations in Birmingham city centre (Rátkai and Forster 2008)

The insertion of Moor Street Station had a significant impact on the area around Moor Street, Park Street and the Bull Ring (29), as it required the clearance of the north-western third of the area. The original plan to extend the LNWR line through the north-west corner of the Moor Street, Park Street and Bull Ring Block was submitted to the Borough Surveyors as early as 1856. By 1878 the Birmingham and Lichfield Junction Railway also had railway-related proposals in the Moor Street area, but in the end it was the Great Western Railway Company's proposal which became reality, and Moor Street Station was opened in 1909 (29). The station not only provided a terminus for passengers adjacent to the city centre, it served as a vital link between the city's expanding wholesale markets and the national and international distribution network, superseding to a large extent earlier good yards situated in Bordesley (29).

4 LIFE IN BIRMINGHAM CITY CENTRE

The potential for archaeological information to inform about the daily lives of the inhabitants of the settlement is discussed in this chapter. As with all developer-led archaeological investigations, there are gaps in our understanding; investigations only occur where development is proposed and there may be areas of Birmingham where it would be much more profitable to investigate but the opportunity has not yet presented itself. Nevertheless, there has been a considerable amount of material recovered which can shine a light upon the life of earlier Birmingham residents.

Archaeological investigation has so far failed to record anything pre-dating the 12th century, which is perhaps unsurprising. With the considerable development which the centre has undergone, it is not unexpected that little of its archaeological heritage survives. In spite of the potential for truncation, the current earliest archaeological evidence for occupation in Birmingham fits well with the historical narrative. Fragments from a 12th- or 13th-century cooking pot recovered from the base of the fill of the northern arm of the Birmingham Moat (Patrick and Rátkai 2009) correlates with the commencement of market function of the castle of Peter de Birmingham in 1166.

4.1 Early Birmingham 12th to 14th centuries AD

The area which we know to have been the focus of medieval Birmingham has nearly all been covered by desk-based assessments, which can themselves be grouped into three main areas. The first forms a ring around St Martin's Church, the area most likely to be the initial focus for the early town (reports 29, 30, 31, 75, 76 and 83); the second comprises two reports (1 and 67) which cover the area to the north of the medieval town around the Priory of St Thomas and the third group covers the important route over the River Rea through Bordesley, Deritend and Digbeth, into Birmingham (10, 14, 21, 22, 26, 38 and 44). Importantly there is a significant gap in the coverage of the High Street area to the north of St Martin's Church as a result of little development since the 1980s.

Intrusive excavations are also numerous, many of which have been undertaken within the bounds of the early town. Perhaps unsurprisingly, many of these projects have recorded medieval remains, with further sites outside the medieval boundaries also recording residual pottery. While the level of survival varies considerably, from extensive remains to occasional pits, layers and residual finds, the collective evidence contributes substantially to the body of knowledge for this period.

In the heart of the city, archaeological investigations at Edgbaston Street (70), Moor Street (73) and Park Street (77) identified substantial amounts of medieval archaeology. All of these projects have been published and provide a strong foundation to understanding the nature of the medieval town (see Patrick and Rátkai 2009). Other major excavations similarly have been, or will be, published. Of significance here are Floodgate Street and Gibb Street (Edgeworth et al, forthcoming) and High Street, Bordesley (Rátkai and Martin Bacon, forthcoming). In addition, several evaluations and watching briefs, all grey literature reports, have also recorded medieval remains.

4.1.1 **Layout**

As part of the original LWD project, a comprehensive programme of town plan analysis was undertaken which used existing cartographic and documentary evidence, coupled with the physical survival of elements of the original town plan within the existing streetscape. This is an invaluable source of information on the origins of the layout of Birmingham and the subsequent adaption and expansion of the settlement (Rátkai and Forster 2008). This report should be seen to complement the Historic Landscape Characterisation work undertaken by Birmingham City Council and which is expanded upon in Chapter 7.

Some of the earliest information relating to the planning, layout and occupation of Birmingham relates to the burgage plots which were laid out perpendicular to the principal streets, with premises fronting the street and workshops and other industrial uses to the rear. The preservation of these former property divisions can, in some instances, be seen in later property boundaries (83; Figure 4.1).

Property boundaries may have been demarcated by ditches in wet areas such as Digbeth, and plot boundaries within the town possibly by smaller ditches. A large ditch of 12th century date was located at Park St and Moor St and may have been a boundary ditch which marked the settlement limit (Patrick and Rátkai 2009, 307). The rear extent of the properties along the north side of Digbeth is demarcated by a large ditch identified in excavations some 7m wide and at least 2m deep (83). At 25-27 Heath Mill Lane, Deritend, excavation in May 2008 revealed a roughly north to south aligned ditch which measured c.1.40m in width and 0.31m in depth. The ditch had been recut as a distinctive 'U'-shaped profile; the backfill of this recut was dated to the first half of the 13th century on pottery evidence (96).

Work within these plot boundaries is extremely informative on the evolution of the town, its network of streets and the level of occupation or use of specific areas of the city centre. For instance, development of the linear High Street, although clearly a distinct and probably planned entity, appears to have occurred later, since there was no evidence from the archaeological work undertaken to suggest that the northern side of the High Street, at least, had ever been occupied in the medieval period. The few fragments of pot that were recovered were more likely to represent finds from ploughsoil.

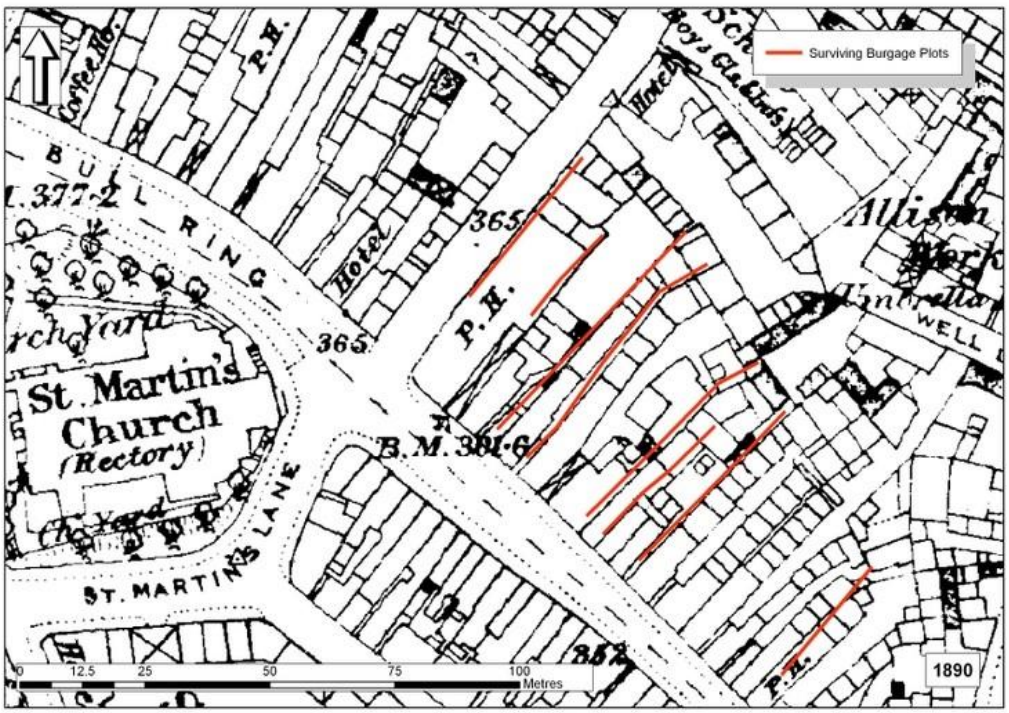

Figure 4.1 Surviving boundaries of burgage plots shown in red, represented on the 1890 Ordnance Survey map (Rátkai and Forster 2008)

4.1.2 **Buildings**

Despite the fact that documentary sources and artefacts found on archaeological sites indicate that there was settlement around St Martin's Church, no evidence has been found for medieval buildings in this area, other than the church itself, the stone footings of which were identified during archaeological work in 2001. Parts of the moat and a single wall relating to the Manor House (Birmingham Moat) were uncovered during archaeological work in advance of the Wholesale Markets (Hodder 2011, 87).

The excavations undertaken on the Bull Ring sites (Edgbaston Street, Moor Street, Park Street and The Row) did not extend as far as the presumed medieval street frontage, and even if they had, later cellaring or the insertion of services is likely to have impacted the survival of any structural remains. The finds from the excavations on Edgbaston Street, however, suggest domestic occupation in the vicinity (see below) (Hodder et al 2008, 311).

The Old Crown in Deritend is the single extant example in Birmingham of a late medieval timber-framed building, although other substantial timber buildings of 16th and 17th century date in Deritend and the city centre survived long enough to be photographed prior to their loss (Patrick and Rátkai 2009, 311).

Plant remains of alder, hazel and willow, found during the excavations on the Bull Ring sites, may indicate that these trees were used for wattle and daub construction within timber-frames (although they could also have been used in basket making) and the presence of heather pollen and seeds may indicate that it was used as a roofing material. At Park Street and Edgbaston Street, however, large quantities of ceramic roofing tile were found, some of which was glazed, and the presence of two glazed crested tiles at Edgbaston Street may suggest at least one building of quality in the vicinity (Hodder et al 2009, 312). Ceramic roof tiles were available generally in Britain by the beginning of the 13th century (Salzman 1952, 229); the preference for ceramic tiles, as opposed to wooden shingles or thatch, may indicate the prevalence of fire-based industrial processes, with their attendant fire risks in the centre of Birmingham from an early date (Bevan et al 2009, 187).

Some medieval occupation layers, along with ten post holes and a gully, were recorded at The Custard Factory, located immediately to the north-west of Heath Mill Lane; pottery from the occupation layers was similar in date and fabric to the assemblage from The Old Crown excavations in 1994, dated to the 13th to 14th centuries (9).

Further evidence for medieval settlement was revealed during an archaeological evaluation in 2000 of the Open Markets, located immediately north of St Martin's Church, and within an area now covered by the modern Bull Ring landscaping. Four trial trenches were excavated, and within one, located close to the boundary of the churchyard, was the only surviving feature relating to the medieval period; a well which had been cut into the sandstone bedrock to a depth of 5.30m. The well measured 1.20m in diameter and had vertical sides, with the top being constructed of two courses of large, dressed sandstone blocks. A series of notches in the well wall represented support holes for the original working platforms. The well had not been backfilled, but had instead been capped with a layer of red bricks in the post-medieval period. It has been suggested that the location of the well, being within the medieval marketplace, and close to the boundary of St Martin's churchyard, may suggest that it was meant for communal rather than private use (76). During archaeological work at Moor Street, a stone-lined well was recorded in what would have been a backplot running back from the Bull Ring frontage. It measured 1.50m in diameter and survived to a depth of 2.20m. The well had been backfilled with deposits containing pottery of 12–14th century date (76).

The only other structural evidence relating to the medieval period so far identified through archaeological work is a bread oven revealed at Edgbaston Street. This oven survived as a circular feature with a tiled floor (Figure 4.2), and a clay 'plug' was located near its base. The absence of charcoal and the presence of an unburnt clay lining completely covering the tiles suggested to the archaeologists that the oven had not been used (Patrick and Rátkai 2009, 18). It is thought that this bread oven was probably for domestic use, although in general, baking ovens are found only sporadically in the archaeological and documentary record and Mennell (1985, 47) points to the existence of communal ovens and of specialist bakers. Gottschalk (cited by Mennell ibid), writes 'In the towns, the rudimentary [cooking] arrangements …..[made it] necessary to have recourse to the cook shop or the baker.'

Figure 4.2 Base of a medieval bread oven revealed on Edgbaston Street (Courtesy of Mike Hodder/Birmingham City Council)

4.1.3 Artefactual evidence

Artefactual evidence represents the greatest archaeological resource relating to the domestic context of early Birmingham. Despite this wealth of material, evidence consulted for this study is not consistent, with some later periods revealing considerably more information than earlier. Some biases due to the patchy nature of the archaeological record are likely and the conclusions presented here should be read with this in mind.

What is clear is that the artefactual record is very large and at present imperfectly understood. It is not within the remit of this study to provide a detailed catalogue of the various artefacts or artefactual groups. The following is an overview of the character of the artefactual resource, with brief discussions where appropriate.

Prior to the excavations undertaken at the Bull Ring between 1997 and 2001, the only collection of 'small finds' (artefacts regarded as individual compared to common types of finds such as pottery sherds) from the city centre was that recovered during salvage recording on the site of the Manor House in the 1970s (Watts 1980). The archaeological work undertaken at the Bull Ring, and on other sites within the study area, has provided invaluable evidence for both everyday life, and for the numerous crafts and industries undertaken in Birmingham from the medieval period through to the 19th century. However, it should be noted that a large quantity of the small finds, particularly from the Bull Ring site, were residual, found mostly in the backfills of pits and ditches and not from clearly datable layers (Rátkai and Bevan 2009, 172).

Only a small number of portable finds of medieval date can be identified from the recent archaeological work undertaken in the study area. The finds comprise principally items of dress, dress accessories and domestic items, discarded when of no further use in some cases and the result of casual loss in others.

Occasional pieces broken from shoes dating to the medieval period were found at Edgbaston Street (70), Park Street (77) and Floodgate Street (10) either in 12–14th century deposits or occurring residually in later deposits. Shoes of medieval date were also present among the leather recovered during the salvage excavation of the Manor House (54). As the leather was not examined by a specialist, only a cursory description of the finds and a very tentative date for them was given (Watts 1980, 62). The leather, now in the care of Birmingham Museums Trust, was, therefore, examined as part of this project.

The remains of at least three shoes of medieval date were present. All were turnshoes (i.e. made inside out then turned right side out once finished to hide the seams) of adult size, which appear to have been discarded domestic refuse having been heavily worn and repaired before being thrown away. There is no reason to doubt that they had been made, and later repaired, locally. The best preserved example is a side-lacing shoe of adult male size that may be dated to the early or mid-13th century by comparison with the well-dated examples from elsewhere.

4.1.4 **Ceramic evidence**

Pottery, both as domestic and production waste, is much better represented than other types of finds. The pottery from behind The Old Crown (27; Rátkai 1994) falls into the latter category as does the pottery from Freeman Street (43). The pottery from Heath Mill Lane (50), located further behind The Old Crown waster pit, is in all probability production waste too; all of these sites will be discussed in Chapter 5.

The Hartwell's Garage site in Digbeth (24, 25) contained a domestic assemblage, which although a small group, contained both locally-made pottery and regional imports recovered from firmly-stratified features which allowed the medieval activity on the site to be dated to the 13th and early 14th centuries (72). Rare sherds from Bordesley High Street (39, 40, 21, Rátkai forthcoming) and Manzoni Gardens (75) seemed to represent either ploughsoil or garden soil scatters and are indicative of an absence of medieval domestic occupation in these areas.

Domestic groups of pottery were recovered at Edgbaston Street (possibly late 12th to mid-13th century) and Moor Street (late 12th to 13th century). The pottery from Park Street contained a large number of Deritend cooking pot wasters and a few reduced Deritend ware and oxidised glazed jug wasters (see Chapter 5 for discussion of the Deritend pottery industry). Deritend wares predominated but there were non-local sherds present as well. Pottery which dated wholly or in part to the 12th century comprised Coventry type wares and Worcester glazed ware, for example, and it has been suggested that their presence in Birmingham may have predated the establishment of the Deritend ware industry (Rátkai 2009, 147).

The relative paucity of 'normal' medieval domestic finds assemblages is puzzling, given all the other indications that Birmingham was a thriving settlement for most of the medieval period. Several factors, however, deserve consideration. Firstly, all of the evidence has come from a small part of the study area and has been concentrated around Digbeth and the lower part of the town. This area may be atypical of the town as a whole. Secondly, nearly all of the archaeological sites have evidence of industrial activity (see Chapter 5); it is therefore a possibility that there was some zoning in the town with a separation of working and domestic activity, although this would be unusual for a medieval settlement. Another possibility is that working areas were kept free of domestic refuse which was either carted away or disposed of in an unexcavated area of the backplots.

4.2 15th to 16th centuries

Bickley and Hill's conjectured map of Birmingham in 1553, based on a survey of the borough and manor of that date (Bickley and Hill 1890) postulates the suggested extent of the settlement in the mid-16th century, with the focus for settlement still centred on the marketplace and down the High Street to Deritend.

Archaeological evidence for this period within this area has been forthcoming from the Bull Ring sites, but this evidence is confined to artefactual evidence recovered from domestic refuse pits. These sites (Edgbaston Street, Park Street, Moor Street and The Row), did not reveal any evidence for buildings, presumably reflecting the fact that the areas under excavation were situated in backplots behind the street frontages, as they had been in the medieval period.

Many of the features encountered which dated to this period were pits, for example on Moor Street a series of pits contained fragments of cooking pots and roof tiles, which would suggest domestic activity in close proximity. Of interest were the remains of a pony in one pit, in the same layer as a single sherd of Cistercian ware which indicated that the layer had built up or was deposited by c.1550 (Burrows 2009, 47).

In Digbeth, The Old Crown stands as a surviving building dating to this period; therefore it is clear that there was some occupation of this area, however it is unclear to what degree this stood in isolation. Work at nearby Floodgate Street has again provided artefactual evidence for these centuries, but as yet there is little structural evidence.

At some sites, archaeological work has revealed an apparent hiatus in occupation between the medieval period and the 18th century, for example at 25-27 Heath Mill Lane, Deritend. This is evidenced by apparent medieval industrial activity in the form of pits and post holes, with one of the pits being backfilled during the early 14th century, following which there was no activity until a cobbled surface was laid down in the post-medieval period (dated to the 18th or early 19th century by the finds) (96).

4.2.1 **Ceramic evidence**

This is the period for which pottery evidence is most lacking, although it has paradoxically received considerable study. By this period it is likely that a proportion of the pottery used in Birmingham was manufactured in Wednesbury, a thriving South Staffordshire 'potting village'. Here, Midlands purple, redwares and other oxidised wares were produced from the 15th century, to be followed by Cistercian wares, blackware, yellow ware and coarseware in the following centuries. A ceramic link between Birmingham and this area would, of course, have existed in tandem with that forged by the import of coal and iron into Birmingham.

A 'gritty orange medieval rim sherd' from St Philip's churchyard probably in fact belongs to this period. It was decorated with a cross stamp (pers. comm. Mike Hodder) typical of pottery made in Wednesbury in this period. Other late oxidised ware sherds were found at 131-148 Bordesley High Street (39) and at St Martin's Church (Rátkai 2006). Cistercian ware sherds (late 15th to mid-16th century) were recorded at St Martin's Church and during a 1997 watching brief at The Old Crown, Deritend (28). Midlands purple sherds were found at St Martin's Church and Hartwell's Garage (24 and 25). The largest group was discovered at Floodgate Street where there were late medieval to early post-medieval transitional wares consisting of Cistercian ware, late redware, iron-rich and iron-poor transitional wares and Midlands purple ware.

4.3 **17th to mid-18th centuries**

Birmingham at this period was starting to expand rapidly outwards, predominantly to the north and west of the medieval core. The area was in the possession of the Colmore family who speculated on its development and it was at this period that St Philip's Cathedral was constructed within a formal square, attracting more affluent properties.

Maps of the 18th century show the town included numerous private gardens and what are probably best described as allotments, alongside buildings, and archaeological evidence of this popular and necessary activity has been found in the plant macrofossil record. Hutton (1783) recorded 'Health and amusement are found in the prodigious number of private gardens scattered round Birmingham, from which we often behold the father returning with a cabbage, and the daughter with a nosegay.'

4.3.1 **Ceramic evidence**

Most of the sites where archaeological work has taken place have produced pottery of this period, although it is difficult, from the often rather general descriptions given, to ascertain whether some of the pottery belongs to this period or later ones. The presence of yellow ware, mottled ware and various slip-decorated wares (Figure 4.3) has been taken as an indicator of groups dating from before 1750. At the other end of the spectrum, it is not easy to decide how much of the pottery belongs to the early 17th century, especially in the absence of good closed groups. So, for example, yellow ware could date from the end of the 16th century up to the early 18th century, blackware could date from the mid-16th century through to the 18th century. There is also possible confusion in some of the records with the term 'blackware', under which heading slip-coated wares and coarsewares have, at times, been included.

Figure 4.3 Slipwares recovered from excavations undertaken as part of the Bull Ring development (Rátkai and Forster 2008)

The presence of slip-decorated wares in most of the groups, however, might be an indication that the greater part of this post-medieval activity dates from the second half of the 17th century. For example, the two, admittedly rather small, groups of pottery from 138–148 and 149–159 Bordesley High Street (39, 40, 21 and Rátkai forthcoming c) do seem to show that domestic occupation did not really get underway until the later 17th century. Most of the assemblages are too small to undertake functional analysis, although the presence of 'table wares' as well as the utilitarian coarsewares, suggests a reasonable level of prosperity, of the type which would be expected in an urban setting.

At St Martin's churchyard the presence of fine table wares, for example white salt-glazed stoneware (1720–1760/1770) and creamware (c.1750–1800), demonstrates the revolution in ceramic manufacture and use which occurred in the 18th century. On internal evidence alone it is impossible to know how quickly after their first manufacture, white salt-glazed stoneware (and later creamware) began to appear in Birmingham (Figure 4.4), and what this might imply about the status of the inhabitants in the area around St Martin's Church. However, there were a sufficient number of contexts where only white salt-glazed stoneware appeared to suggest that it may have had a period of use before the development of creamware, which could indicate a comparatively early (and thus high status) use. In addition, the presence of at least two teapot fragments in wares which ought to date to before the Commutation Act of 1784 (in which the tax on tea was dramatically reduced, bringing tea consumption to a wider public) would seem to support the idea of higher status inhabitants in the area of St Martin's in the 18th century.

Figure 4.4 Creamwares (left) and white salt-glazed stoneware (right) recovered from excavations undertaken during the Bull Ring development (Rátkai and Forster 2008)

A rather more substantial group of pottery of this and the following period was found at the Birmingham Moat site. A date range of 1700–c.1850 was suggested, with most pottery fitting into the 1725–1850 range (Watts 1980, 56). Although it is not possible to isolate specific ware types, an examination of the illustrations (ibid, figs 25-27) indicates that some pottery pre-dating 1700 may be present. It would therefore be entirely possibly that material accumulated in the moat from at least the second half of the 17th century and continued to do so in the following two centuries. The vessel forms are very similar to those in use at Park Street during the 17th and 18th centuries.

Post-medieval pottery was found associated with properties fronting onto Deritend High Street in the block running from Chapel House Street and Alcester Street (Sherlock 1957) and to the rear of these properties, although the latter probably dated mainly to the late 18th–19th century. The commonest forms were ordinary table wares such as drinking vessels, bowls and dishes. Of particular interest is the mention of several shallow oval dishes (Sherlock 1957 fig. 3,6). These are dripping trays, a parallel for which can be found at Edgbaston Street in a context dating to the second half of the 17th century. The presence of dripping trays implies two things; firstly that meat was being consumed, since these vessels caught the fat and juices of spit-roasting meat, and secondly that the dwelling was substantial enough to have had a proper cooking range. That more than one of these vessels was found is notable.

In this period it is likely that Wednesbury continued to supply Birmingham with pottery, particularly with blackware, yellow ware and coarseware. Judging by the size of the waster dumps found in Wednesbury (weighing hundreds of kilograms) the output must have been considerable. Later wares, such as white salt-glazed stoneware are likely to have come from The Potteries (Stoke-on-Trent).

Imported continental pottery is infrequently encountered in Birmingham, however, Rhenish stoneware (a Bartmann jug with the arms of Amsterdam) was found at Floodgate Street and a small collection of stoneware vessels was found at Edgbaston Street (16th to early 17th century in date). Although Rhenish stonewares are not uncommon in Britain as a whole, particularly on coastal sites where virtually any consumer from the lowliest to the highest could purchase them, they can be seen as exotica in a landlocked settlement such as Birmingham and are indicative of status. As Gaimster (1997, 126) notes ‘stoneware… enabled various groups of middle class consumers to… imitate the dining habits of their betters.’ Rhenish stonewares are much more commonly encountered in Coventry, where the mercantile classes were much better represented than in Birmingham, which lends some weight to Gaimster’s observation. It is interesting therefore that the few stoneware vessels found in Birmingham are associated with tanning complexes, since the tanning process requires considerable capital outlay and tanyards were owned by people of means. Strong commercial links between Birmingham and London suggest that these and other imported wares came to Birmingham from the capital.

Martincamp flask sherds were found at Edgbaston Street; Martincamp flasks were made in northern France and are often found in Dissolution and in Civil War deposits. Two possible Mediterranean tin-glazed earthenware sherds were found at Moor Street and Edgbaston Street (Figure 4.5). A Spanish olive jar was found at Park Street which may date to this period.

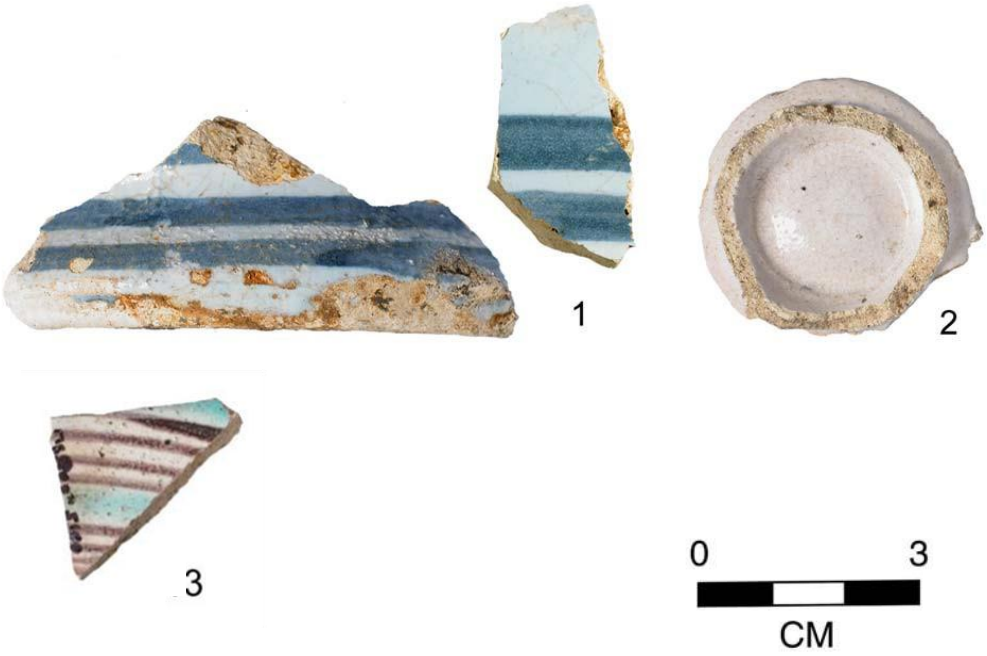

Figure 4.5 Tin-glazed earthenwares; 1 and 2 Albarello fragments, 17th–18th centuries, and 3, Mediterranean maiolica, internal purple and turquoise concentric bands (Rátkai and Forster 2008)

4.3.2 **Domestic artefacts**

Even allowing for the fact that some artefacts recovered from archaeological sites within the study area may belong to this period but are listed as unidentified and/or undated, there is a relatively poor showing for domestic loss.

Clay pipe found during excavations in Deritend (Sherlock 1957), can now be viewed in the light of extensive work on the clay pipe fragments from the Bull Ring sites (Higgins 2009). The output of the pipemaker, Michael Brown, was very much in evidence at the Bull Ring and also in Deritend (Oswald 1957a). Higgins suggests a date range for Michael Brown's production of c.1680-1730 (Higgins 2009, 211).

The best, and possibly earliest, group of domestic artefacts of this period came from Floodgate Street where personal items and domestic utensils dating from the 16th to 17th centuries were recovered. Shoes ranging in date from the mid-16th to the first half of the 17th century had been thrown away by a cobbler when beyond further repair. One of the 17th-century shoes had been refashioned from a front-tying shoe into a mule (a shoe without a heel) and had been very heavily worn before being eventually discarded, suggesting it had been worn by one of the poorer members of the population. A copper alloy loop wire earring threaded with decoratively ribbed collars is an unusual find as items of jewellery are rarely found from this period. The earring, being copper alloy, was not a high status item but probably belonged to a woman of middle/merchant class and is in contrast to the evidence of poverty demonstrated by the mule. A second copper alloy earring was found in a pit on Park Street (Patrick and Rátkai 2009, fig 8.4.1) in a rather mixed deposit containing metal working slag and personal items of bone and copper alloy so that its date is less certain.

A turned alder wood bowl, from Floodgate Street, provides a rare reminder of a common domestic vessel more usually burnt on the fire when it had served its purpose, or absent due to burial conditions. The interior of the shallow bowl has taken on a glossy dark brown coloration from heavy use. A knife handle of yew wood was found at the same site (Allen forthcoming). The two handle scales are a matching pair and rather than being evidence of hafting, are the remains of a discarded knife. Burwood was probably selected for the handles because of the attractive grain pattern.

By this period far greater accumulations of domestic pottery were apparent. These generally represent fairly typical urban occupation of middling status, although the presence, for example, of a Ravenscroft-style wine glass from a Park Street refuse pit indicates that there was sufficient disposable income to purchase luxury goods (Figure 4.6).

Figure 4.6 Ravenscroft-style wine glass from a Park Street refuse pit (Rátkai and Forster 2008)

4.4 Mid-18th to early 20th centuries

Archaeological work at several sites within the study area has revealed structural remains representing domestic properties dating to the 19th century. An evaluation undertaken on the north-west side of Warwick Street, located to the south-west of High Street Bordesley, revealed cellars relating to tenement buildings. 18th-century maps showed this site as undeveloped, and this was still the case on maps of 1828 and 1838. The First Edition Ordnance Survey map of 1888, however, showed the rows of back-to-back houses laid out at right-angles to the Warwick Street frontage identified archaeologically; by 1937 this area had been cleared. The historical mapping does not provide any information on the construction material of these structures, and what plan form they may have taken. The evaluation trenches revealed brick floors, and walls constructed in English garden wall bond, along with a possible coal chute, from which coal would have been loaded into the cellar (97). The evaluation also identified that the brick buildings had been constructed into the natural subsoil, with no evidence for earlier activity on the site, which corresponds with the historical mapping.

Archaeological evaluation undertaken in 2007 for a carpark adjacent to Park Street Gardens also revealed evidence for cellarage, although in this case there was a distinct difference between the north and south ends of the site. The cellars exposed in the southernmost trenches appeared to be of early 19th century, and were suggested to have related to buildings recorded on an 1824-25 Plan of Birmingham, and still standing at the time of the 1905 Ordnance Survey map. The cellars in this area were constructed of brick, and the top of a brick-vaulted roof was partly exposed. The northernmost trenches, however, also revealed a cellar, but in this case the walls has been tiled, suggestive of a 20th century date, possibly relating to a 'works' recorded on the Ordnance Survey map of 1950 (42). No earlier deposits were recorded during this work, but it must be noted that the existence of cellars would have had an impact on any potential earlier archaeological remains.

4.4.1 Ceramic evidence

It is in this and the following period that documentary sources make it much easier to link pottery usage with individuals and their trades. This avenue of research has been partly explored for Park Street (Rátkai 2009) and presents a fruitful enterprise, which could be explored for other post-medieval sites.

A number of sites contained pottery of this later period only. These were Warwick Street/Warner Street, where archaeological evaluation revealed evidence of an almshouse chapel laid out in 1820-21, and pottery finds dating from the late 17th to early 20th centuries (99), and Dean House (17). At Heath Mill Lane, there was a break in the pottery sequence which began with medieval pottery and then continued with pottery dating from the very end of the 18th century and 19th century, suggesting a hiatus in activity. Pottery of this period was also found within the Birmingham Moat (Watts 1980).

A small pottery assemblage was found in Deritend in a backplot area between Deritend High Street and Alcester Street (HER entry reference 3456). Along this section of Deritend High Street at least four public houses or beer retailers (a lower kind of establishment, brought into existence by the 1830 Beerhouse Act) were recorded in the 1856 Post Office Directory. These were numbers 24 The Golden Lion (dismantled in 1911 and re-erected in Cannon Hill Park, Edgbaston), 27 Richard Tate, beer retailer, 29 The Nags Head and 41 The Green Man. As far as it possible to tell from the records, the pottery seems to have been primarily 18th century in date, with the absence of yellow ware suggesting dates later than c.1725. The vessels are utilitarian in character and comprise kitchen wares (bowls/pancheons and jars) and table wares (mugs, cups, bowls and dishes). Other wares which appear to be present are mottled ware, trailed slipware and brown salt-glazed stoneware. The overall composition of the pottery in terms of ware and vessel forms is similar to mid- to late 18th-century groups from Park Street. Wine bottle fragments were found with the pottery and a piece of clear ribbed glass (possibly part of a drinking vessel). It is therefore possible, wine bottles not being frequently encountered on Birmingham sites (a notable exception being a pit behind The Old Crown Deritend), that some or all of the pottery and the glass derives from one of the hostelries mentioned above.

Formal dining and tea wares in, for example, white salt-glazed stoneware and creamware, are most likely to have come from The Potteries. The construction of Brindley's Staffordshire and Worcestershire Canal, which was opened to trade in 1772, provided a ready means of transport for ceramics from The Potteries into Birmingham via the junction from the Birmingham Canal at Aldersley and some of the creamwares and probably all of the pearlwares found in Birmingham were probably transported in this way. By the 19th century the canal system must certainly have facilitated the transport of the 'cheap and cheerful' pottery such as industrial slipware, sponged ware, painted ware and the blue transfer printed wares, which formed the core of the pottery used in the first half of the 19th century.

4.4.2 **Domestic artefacts**

A wide range of early modern items used in and around the home have been recovered, principally from the Edgbaston Street and Park Street areas where more extensive excavation has been undertaken.

Of interest was the recovery of a partially-articulated wooden chair that was discovered in the backfill of a probably wood-lined tank on the Park Street site (Figure 4.8), together with a dump of pottery, possibly associated with a house clearance of the late 18th century. Part of the back of the chair was missing at the time of its deposition and only a small fragment of the leather seat and back survived, with some traces of probably horsehair or wool used as stuffing. Despite its degraded state, it was possible to reconstruct the form of the chair; it was a heavy, solid example, probably constructed from oak, with bobbin-turned front legs. Such chairs were popular during the mid-17th century, and it was suggested that it may have been over 100 years old when it was thrown into the tank (Bevan et al 2009, 174).

Figure 4.7 View looking north up New Canal Street during archaeological work in 2008 (copyright unknown)

At Edgbaston Street, a damaged but largely-complete cauldron, which originally had a tripod base, was recovered. As cauldrons were still in use in some parts of the country as late as the 1930s in hearth cooking, dating of this example was difficult, although the context in which it was found suggests a 19th-century date (ibid, 177).

Unfortunately, although reasonably-sized groups of 19th-century pottery have been recovered from various archaeological sites, none of them has been examined in sufficient detail to draw conclusions during this study.

Figure 4.8 Chair revealed during the Park Street excavations (Courtesy of Mike Hodder/Birmingham City Council)

5 WORK AND INDUSTRY IN BIRMINGHAM CITY CENTRE

> 'By uniting also with industry, we become industrious. It is easy to give instances of people whose distinguishing characteristic was idleness, but when they breathed the air of Birmingham, diligence became the predominant feature. The view of profit, like the view of corn to the hungry horse, excites to action'. Hutton (1783)

5.1 Introduction

This chapter provides an overview of the industrial development of Birmingham, from its origins through to its expansion during the Industrial Revolution, fuelled by the introduction of first the canal network and then the railways.

Birmingham has long been referred to as the city of a thousand industries. The legacy of Birmingham's industrial past is still evident, with factories, workshops, forges and mills still surviving in the present-day townscape. The archaeological record bears this out, with investigations having revealed both large and small scale industrial activity being undertaken within the city from its earliest origins until the post-medieval period and through into the Industrial Revolution.

Reference to trade directories from the Victorian period reveals a wealth of small manufactures, such as button makers, curtain rail manufacturers and bedstead fabricators in the cramped courts and terraces of central Birmingham, but it is only through archaeological investigation that the nature and scale of these enterprises can be seen.

What archaeological investigations have been able to reveal and elaborate upon is the small scale industry, which is often unknown in the historical record, overlooked or discounted. However, there are some limitations to the evidence. Many of Birmingham's industries were 'bench top' and production would have taken place within a building or in a yard. They lacked the structures, machinery or other diagnostic remains that are easily recognised in the archaeological record, although recent work on Moland Street, for example (below), has shown that industries not represented in trade directories were present. If these less visible industries are to be further understood, the historical record and the archaeological record must be considered together.

5.2 Medieval industry

5.2.1 Ceramics

As mentioned in the preceding chapter, pottery dominates the archaeological record for medieval sites due to its durability compared with other contemporary items such as wood or fabric which would, in many cases, not survive. However, despite the prevalence of pottery there is very little documentation associated with potters, pottery making and marketing of pots. Potters rarely appear in taxation records and there is no documentary evidence for pottery production in Birmingham in the medieval period. An absence of topographic names such as those containing the element 'pot/potter' or 'crock/crocker' e.g. 'Pottersfield' or 'Potters Row', may also indicate a lack of, or small-scale, pottery industry. The 1344–45 Rental refers to *le Tylehous*, which has been suggested to indicate clay tile production (for roofing) (Demidowicz 2008, 25), but the location of this site is unclear.

However, from at least the early 13th century and possibly from the later 12th century, Birmingham's pottery needs appear to have been met for the most part by local production. Some pottery did find its way to Birmingham from Coventry and the Coventry area, from Worcestershire and from the Brill-Boarstall industry in Buckinghamshire. A spouted bowl possibly from Oxfordshire was found at Park Street and a sherd, at present unsourced, from The Old Crown contained flint and was clearly not local – indicating pottery trade. However, the majority of the pottery was made in Birmingham or appears to have come from south Staffordshire or north Warwickshire.

Although no pottery kilns have yet been identified, Birmingham's medieval pottery industry first came to light in the 1950s, when misfired fragments of jugs and cooking pots were found on the south side of High Street Deritend during road widening, and the particular style of pottery was subsequently christened Deritend ware (Hodder 2011, 94).

Deritend wares span the 12th to 14th centuries. Possibly the earliest pottery which was definitely made in Birmingham was a dark grey ware used for cooking pots. There is some evidence that this ware may first have been made in the 12th century but examples of this date are comparatively rare. More common are cooking pots with a very distinctive angular rim and large capacity globular jugs. These jugs were almost always unglazed and, despite their rather plain appearance, may have been valued, since one of these jugs, found at Moor Street, had evidence of a substantial riveted repair. This grey pottery is known as reduced Deritend ware. The cooking pots with angular rims seems to occur mainly in the 13th century and possibly early 14th century (Figure 5.1).

Figure 5.1 An example of Deritend ware pottery (Rátkai and Forster 2008)

The most important medieval pottery assemblage from Birmingham so far was revealed during archaeological evaluation to the rear of The Old Crown, Deritend in 1994 (27, Figure 5.2). The work revealed a pit which contained pottery production waste and fragments of kiln superstructure. The pit held a large quantity of Deritend ware jug sherds in a highly-decorated style, together with a small number of cooking pot sherds (27). Watching briefs to the rear of The Old Crown in 1997 and 1998, during the modification and extension of the building, produced only small amounts of 14th century pottery but these were also consistent with production waste and included one piece of kiln superstructure. Given the lack of documentary evidence relating to the pottery industry, surviving archaeological deposits and features are therefore of importance, and the potential for investigation of this industry lies with future development in the immediate Deritend area (28).

Further pottery production waste was recovered from an evaluation at Freeman Street (43). Both oxidised Deritend ware jugs and reduced Deritend ware were found here, along with some wasters. The most likely interpretation is that all of the pottery represents dumped production waste in either an unused backplot or in an area of Little (or Over) Park before the establishment of backplots, or indicates that pottery production was actually taking place in the burgage plot itself, although no evidence for a kiln was revealed.

Pottery production waste has also been found at Park Street (wastered white slip decorated Deritend ware jug, oxidised cooking pots, and a kiln bar) and a very small amount of waste was found at Moor Street (an unglazed jug with overall white slip and a kiln spacer). The small amount of Deritend ware from Gibb Street (Rátkai forthcoming b) has also been interpreted as kiln waste. A large quantity of reduced Deritend ware cooking pot sherds from Floodgate Street (Rátkai forthcoming a) is in all probability also production waste.

Figure 5.2 Archaeological work to the rear of The Old Crown, Deritend in 1994 (Courtesy of Mike Hodder/Birmingham City Council)

Overall, the distribution of pottery waste as found by excavation suggests that the industry stretched along most of the historic core of the town, from Deritend, possibly as far as Moor Street, potentially intermingled with other trades and occupations and situated within the rear of burgage plots.

Archaeological evidence has been recorded for the extraction of clay, possibly as the raw ingredient for pottery manufacture. In 2004, an archaeological evaluation was undertaken at 25-27 Heath Mill Lane, Deritend prior to a proposed development (50). The evaluation identified two large features in the form of a pit and a ditch. The pit measured approximately 4.2m in width and exceeded 1.8m in depth, and the date of the backfilling of the pit was undoubtedly medieval based on the presence of fragments of 13th and 14th century Deritend ware pottery. It was suggested that this pit may have been a clay extraction pit, possibly associated with the local production of Deritend ware. Full excavation of the site in 2008 revealed post-holes, stake-holes and pits, the largest of which had been cut into an earlier boundary ditch and had been lined, suggesting some form of industrial use, although its function was unclear. The infill of this pit included some possible waste from pottery production, and the post holes may have been evidence for several temporary structures.

The dumps of waster pottery identified behind The Old Crown almost certainly predated the 1360s when the site was first documented. Indeed, the production of Deritend wares appears to have ceased in the first half of the 14th century. To date there is no evidence to suggest local pottery production in the later 14th to 16th centuries and there are no pottery groups which could definitely be ascribed to this period. Whether this reflects shrinkage of the town, a difference in the disposal of domestic rubbish or a difference in plot use is at present uncertain. The Black Death was a major destructive force in the mid-14th century, and clearly caused serious disruption and loss of life, but it is also possible that earlier in the 14th century there were better opportunities for potters and more money to be made in other crafts and industries. The absence of Guild restrictions may have made it rather easier than in most places for the inhabitants to change from one craft to another and evidence from the later medieval period (Gooder 1984) suggests that potting was a lowly trade (although not necessarily without reasonable remuneration) which its practitioners escaped from as soon as they could. The absence of pot production might just, then, be an indication of rising prosperity in the town, rather than of an economic slump.

Generally, pottery known from the later 14th and 15th centuries was typified by an absence of decoration and rather sparing use of glaze on jugs. From evidence elsewhere in Warwickshire and south Staffordshire it seems reasonable to assume that some whitewares and the iron-poor wares were in use throughout the 14th century, but there is little evidence for this from Birmingham itself.

5.2.2 **Tanning**

Documentary evidence for Birmingham suggests the existence of tanneries in the medieval period, through personal names such as le Tanner and le Glover listed in the Borough Rentals of 1296 (Demidowicz 2008, 17). At present the only medieval craft tool – which also appears to be the earliest metal tool from the settlement – recovered through recent archaeological work is a broken iron knife blade with a right-angled tang, originally set into an organic handle, found in 12th to 13th century ditch fill at Floodgate Street (10). Such a blade aligned at right angles to the handle may have been used for a number of craft purposes: knives were used for de-fleshing and de-hairing hides prior to tanning whilst draw knives were used widely for a variety of woodworking tasks. If the former interpretation is correct, then this is evidence of the early establishment of tanning by the River Rea.

All medieval towns are likely to have had a tannery but archaeological evidence has indicated that medieval Birmingham had at least three, situated on Edgbaston Street, Park Street and Floodgate Street, all of which were sited where water was plentiful. Three tanneries suggest more than just catering for local needs and tanning seems to have been one of the industries underpinning the economy of Birmingham. Faunal remains from the Bull Ring sites can be interpreted as evidence of drove cattle being brought to Birmingham and there is further evidence of stock rearing or management on Edgbaston Street, Park Street and Moor Street. Therefore, the raw material for tanning is quite clearly present in the archaeological record and the possible early importance of Birmingham as a stopover point on the droveways from the north and west to the east and south east may have acted as a stimulus to the setting up of tanneries.

Turning animal hides into leather was an industry that required specific conditions such as water supply and structures such as treatment pits. In the archaeological record it is the pits and the remains of the animal carcasses which most commonly survive. At Edgbaston Street, several pits were revealed during archaeological work, some of which were lined with clay or timber to retain water. These would have contained tanning liquor, made from crushed oak bark and water, in which the hides were soaked. The earliest of these predated the later 13th century when they went out of use and were filled with rubbish, but they were replaced by more pits and tanning continued on this site until the 18th century (Hodder 2011, 94). This is of interest, as there is little indication of the existence of tanneries on Edgbaston Street from available maps and documents. The discovery of 13th and 14th century tanning here shows that there was a thriving industry and trade in Birmingham well before the post-medieval tanneries at Floodgate Street and the Custard Factory (9). The importance of the Edgbaston Street evidence is enhanced by the scarcity of known medieval tanning sites within the West Midlands as a whole (Patrick and Rátkai 2009, 35).

Further possible tanning pits of medieval date were found during archaeological work on Park Street. They were also clay-lined, which suggests they were intended to hold water. The group of three pits included a large rectangular example, which may have been used for the tanning; an adjacent pit which had a hole in its base, and therefore may have been used as a soakaway; and an oval pit which contained lime, which when slaked, was used in the pre-tanning process to remove hair from the animal hides. The presence of leather offcuts in the large rectangular pit may indicate that there was leather working as well as tanning occurring on the site. The large pit was infilled with deposits that included 14th century pottery, suggesting that this pit had gone out of use by this date. It has been suggested that tanning on Park Street may have commenced before the burgage plots were laid out or may have been one of the first industries established (Burrows et al 2009, 58-59).

Archaeological work undertaken at Digbeth Cold Store, between Allison and Park Street, in 2007 identified further pits, in this case wood-lined. These two pits were recorded cutting into the backfilled town boundary ditch, and their backfills contained pottery dated to the late 12th to 13th century. The wood lining, and evidence for lime in the backfill, has led to the suggestion that these were also associated with tanning (86).

Documentary references to tanners in the 16th century tend to be in locations on the low-lying ground south of the manor house (Birmingham Moat) and around the River Rea, but archaeological evidence from sites such as Edgbaston Street and Park Street suggests that this smelly industry also was taking place in close proximity to St Martin's Church, the manor house and the marketplace. It is suggested that this noxious industry may have been tolerated in this location at this time due to its perceived economic significance to the town, or simply because the town's population were less sensitive to the smell (Patrick and Rátkai 2009, 313).

Tanners were a wealthy group because a large capital outlay was required in order to obtain hides. This outlay could not be recouped for many months because of the time needed to turn the hides into leather. At the other end of the leather-working scale were cobblers, who were a poor group at the bottom of the manufacturing and repair chain. A wealth of related industries were also represented in the town. McKenna (2005, 14) suggests that the de Birmingham family were responsible for the regeneration of Edgbaston Street after the Black Death with new or vacant properties being taken up by tanners, skinners, graziers, butchers and others.

5.2.3 **Metal working**

As with tanning, medieval documents indicate that metal working also had early origins in Birmingham, as the 1296 Rental refers to four forges (*fabrice*), although the locations are not provided (Demidowicz 2008, 13). At present, the evidence does not suggest that it was of major importance but this may be because the focus of metal working was sited outside the areas which have been studied archaeologically.

At Park Street, smithing slag derived from iron working, and smithing hearth bottoms containing coal, the fuel used for this process, were discovered. At Moor Street, a fragment of a crucible, representative of metal working, hammerscale (metal working debris) and coal and charcoal were found in the park boundary ditch and in pits which had been dug into it after it had been filled in (Hodder 2011, 94). Although this evidence indicates that metal working took place in Birmingham, this may have been on a limited scale with the greater proportion of iron brought into the town as pig-iron from the Black Country. Iron smelting is a process more likely to be undertaken on higher ground to take advantage of the prevailing winds for the furnaces. This is precisely the area of Birmingham which has seen the least archaeological intervention and the greatest amount of substantial modern rebuilding, so the true extent of iron smelting in Birmingham is unlikely to be known.

Small amounts of waste and scrap were found at Moor Street, Park Street, Hartwell's Garage (24, 25) and Gibb Street (9). Iron slags are more likely to have come from the smithing of iron and the snippets of sheet copper alloy to come from manufacture of small items. The association of coal with crucibles and slag confirms the documentary sources for an early industrial use of coal in Birmingham.

5.2.4 **Textiles**

Documentary evidence suggests that Birmingham had a relatively significant textile trade in the medieval period. It has been suggested that by the early 13th century, the town had acquired an industrial specialism in the manufacturing of cloth. However, the evidence to corroborate this is elusive, and although there is a reference to a dyer working in Birmingham c.1280, and further references to cloth workers in the town in the following century, there is no definite information about Birmingham's cloth industry until the years around 1400 (Holt 1985, 8). Despite documentary references to the wool industry and wool merchants in Birmingham (Pelham 1950), there is no archaeological evidence connected with these industries. It must be noted, however, that unlike tanning, which involved the excavation of pits into the ground, and which could be identified through archaeological work, the textile industry would not necessarily have left the same physical evidence, with activities such as spinning, weaving and carding all being undertaken on equipment, such as looms or spinning wheels, which would not necessarily leave below-ground evidence.

Although there is presently no archaeological evidence to indicate whether items such as linen yarn, cloth, sacking, twine and ropes were produced, there is some evidence of flax and hemp, remains of which were found at Moor Street, Park Street (Ciaraldi 2009; Greig 2009), possibly at the Birmingham Moat site (Greig, in Watts 1980) and the area of Deritend Bridge (15, 19), although the exact date of the latter three is uncertain. The plant and pollen remains could indicate retting i.e. the rotting down in water of the hemp and flax stems to release the fibres within. Flax was used for linen yarn and cloth, and hemp for cloth, sacking, twine and ropes.

At Deritend Bridge (junction of High Street, Deritend and Rea Street), environmental samples taken during archaeological evaluation, revealed the presence of hemp stem, which strongly suggested that hemp retting had taken place on the site, although the date of this activity was unclear (15). At 170 High Street Deritend, located just to the south east of the Deritend Bridge site, further environmental samples identified the presence of flax capsule fragments and seed. This suggested that flax, which would probably have been grown in fields elsewhere, had been processed on the site. It was suggested that as the deposit from which the flax had been retrieved derived from a former course of the River Rea, it was possible it indicated the watercourse had been utilised for retting hemp (19).

Further evidence of possible textile production was obtained from the Hartwell's Garage site (24, 25) where 'fibres' were found in a waterlogged deposit. No analysis of the fibres was undertaken but their waterlogged find spot may indicate that they too were flax or hemp.

Most of the sites in Birmingham subject to archaeological investigation so far had easy access to water and it should therefore come as no surprise to find industries such as tanning, flax retting and pottery production, all of which require water. Although the interdependency of these industries and water created, in effect, a craft/industry zone, it is interesting to note that no one industry appears to the exclusion of others. So, for example, flax retting, tanning, possibly stock management, butchery, the production of lead objects, pottery production and possible basket-making are all attested at Park Street. The Park Street site was not especially large and some of these crafts and industries may have been coeval. If not, it still suggests a certain amount of flexibility in plot use in this period, a feature which can be seen in subsequent periods. Alternatively, the area of Park Street excavated may have been a rather undeveloped, boggy, marginal area which was not fully developed into true burgage plots until the post-medieval period.

5.3 Later medieval and post-medieval industries

The evidence for this period seems to suggest that the town's efforts were concentrated on two industries, smithing/cutlering and tanning. Documentary sources indicate that by this period the wool trade was of minor importance in Birmingham, although still a major concern in outlying settlements such as Kings Norton to the south, where in the 16th century Leland records the fine houses of wool merchants.

This period saw Coventry, which owed its wealth and importance to wool and associated trades, begin to decline. Was it fortuitous that in this period Birmingham's inhabitants concentrated their efforts elsewhere and therefore weathered the economic storm or did they sense that they were better able to survive and even thrive by concentrating on blade-making, cutlering, smithing and tanning? Stephens (1964) notes that sheep never entirely ousted arable farming in the Birmingham area and that Birmingham was comparatively unaffected by large scale enclosure that occurred in more classic open field country in the 15th and 16th centuries.

5.3.1 Metal working

The first substantial archaeological evidence of blade making and cutlering is found in this period. This ties in well with Leland's mid-16th century observations of smiths and cutlers lining Digbeth:

'I came through a pretty street as ever I entred, into Bermingham towne. This street, as I remember is called Dirtey [Deritend]. In it dwells smithes and cutlers and there is a brooke that divideth this street from Bermingham' (Upton 1993, 12).

Hammerscale indicates that smithing was practised on Park Street at the very end of the 16th century and may mark the first movement of smiths away from lower Digbeth and Deritend towards the higher ground to the north of St Martin's Church.

Most of the material associated with this trade comes from Floodgate Street, where a cutler's pit was found, containing a possibly-unfinished discard and hafting waste (Edgeworth et al, forthcoming). Potentially the most significant object relating to the history of Birmingham at this period is a knife found in the fill of a lime pit at Floodgate Street (10) in Digbeth. The knife, datable to the 16th century, appears unworn and, while it might have been dropped into the lime pit unused, it may represent an unfinished item discarded before it was hafted and prior to sale. If the latter, it provides a direct glimpse of the blade smithing trade.

By the 17th century, metal working trades are by far the best represented. Remains associated with cutlering or smithing were found at most sites near the Bull Ring and in Digbeth. Evidence of smithing in the form of hammerscale and hearth bottoms was found at both sites on Bordesley High Street (39, 40, 21 and Rátkai forthcoming c) and on Gibb Street. Three iron rods, potentially pieces of unused bar iron or objects in the early stages of manufacture, noted at Park Street (77) may represent a small fraction of the ironwork to be found lying around a blacksmith's forge. The dating for these objects is uncertain but the balance of probabilities suggests they belong to the late 17th or early 18th century. The archaeological record does not reflect the quantity of debris one might associate with a thriving centre of manufacture, but this may be the result of the evidence being dispersed by later activity.

Brass founding seems to have been concentrated on Park Street, although crucible fragments from the Birmingham Moat site and Heath Mill Lane suggest a somewhat wider distribution of this trade. Hutton (1783) suggests that brass founding was first practised in Birmingham in the reign of William III (1688-1702) and noted:

'It is not uncommon to see a man with green hair or a yellow wig, from his constant employment in brass; if he reads, the green vestiges of his occupation remain on every leaf, never to be expunged. The inside of his body, no doubt, receives the same tincture, but is kept clean by being often washed with ale. Some of the fair sex, likewise are subject to the same inconvenience, but find relief in the same remedy.'

A series of industrial pits found on Edgbaston Street and Park Street are thought to have been associated with metal working, although their exact function and the type of metal work being produced is uncertain. Clearly, from the 17th century, iron, copper alloy and lead objects were being manufactured. By the time of the Civil War, sword manufacture was second only to London and may even have been on a par with it. Other evidence suggests that ironwork was regularly exported to London in large quantities and increased building work in the aftermath of the Great Fire of London, provided a further stimulus to this trade.

More extensive evidence of the production of handles for knives and forks has been found at Park Street and Edgbaston Street. Ivory waste has been recovered from 17th-century deposits at Edgbaston Street and includes the rare find of a sawn offcut of elephant tusk. At Park Street, the cutlery trade was represented by the debris of bone and ivory working, with knife handles being the suggested end product. Of note was the large quantity of ivory offcuts, which although fragmentary and 'splintered', was not inconsistent with the manufacture of knife handles. If the debris from Park Street does represent cutlery production, it may indicate the beginnings of the post-Restoration surge in industry and the expansion of metal working trades from the Rea Valley into other parts of the town (Burrows et al 2009, 86).

5.3.2 **Tanning**

In the mid-16th century a 'Tanner's Row' was recorded in the town and William Hutton (1783) records the erstwhile importance of tanning:

'It may seem singular to a modern eye, to view this place in the light of one vast tan-yard. Though there is no appearance of that necessary article among us, yet Birmingham was once a famous market for leather. Digbeth not only abounded with tanners, but large numbers of hides arrived weekly for sale, where the whole country found a supply. When the weather would allow, they were ranged in columns in the High-street, and at other times deposited in the Leather-hall, at the East end of New-street, appropriated for their reception. This market was of great antiquity, perhaps not less than seven hundred years, and continued till the beginning of the present century. We have two officers, annually chosen, by the name of leather-sealers, from a power given them by ancient charter, to mark the vendible hides; but now the leather-sealers have no duty, but that of taking an elegant dinner'.

Hutton also offers up the following intriguing insight.

'…that the leather-market in Birmingham, for many ages, furnished him [the bellows maker] with sides; and though the manufacture of iron is allowed to be extremely ancient, yet the smith could not procure his heat without a blast, nor could that blast be raised without the bellows. Two inferences arise from these remarks, that the antiquarian will frown on this little history; and that bellows- making is one of the oldest trades in Birmingham.'

Tanning appears to have commenced at Floodgate Street from the 16th century, and continued into the 18th century, as will be discussed below. And at 170 Deritend High Street, the possible expansion of the tanning industry was evidenced by animal hair identified in environmental samples, although no structural features relating to the tanning industry were apparent; this archaeological evidence highlights the value of environmental sampling in providing information on past site use (19).

Tanning continued to be an important industry, evidence for which comes largely from Edgbaston Street and Digbeth. Tawyering, the preservation of skins by mineral tanning rather than vegetable tanning, may also have been practised on Edgbaston Street. At Floodgate Street, a 16th- to 18th-century tannery was excavated, located adjacent to the River Rea (Figure 5.3). A large tank or pool, measuring approximately 9m in width, 1m deep and at least 20m long had been constructed on what was then an island between two channels of the river. The tank contained large quantities of wood, pottery, leather, animal hair and animal bone, including horn cores. On opposite corners of the tank there were timber drains which would have filled and regulated the depth of the water within it. Dendrochronology showed that one of the drains had been constructed from wood from a tree that had been felled between 1519 and 1550. Lime pits at Floodgate Street also attest to the use of the site as a tannery in the 16th century (Hodder 2011, 138).

Figure 5.3 Excavations at Floodgate Street (Courtesy of Mike Hodder/Birmingham City Council)

In the 18th century, earlier pits at Floodgate Street were replaced with square brick structures, brick bases possibly for wooden vats, sunken brick vats and brick-lined wells; all of which are shown on William Westley's 1731 plan of Birmingham. On the opposite side of the River Rea, at Gibb Street, there were five successive 18th-century timber-lined tanning pits and three wells (Hodder 2011, 140).

Faunal evidence from Floodgate Street spanning the 16th and 17th centuries is open to more than one interpretation (Baxter forthcoming). At Floodgate Street, some cattle crania showed that the animals had probably been poleaxed with a hammer which would be an indication of butchery on or very near to the site. Cutmarks provided evidence of skinning and the removal of horncores, and two horncore tips would seem to indicate horn working.

At Gibb Street there was further evidence, probably dating to the 18th century, for the skinning of animals and the removal and processing of horn cores. Documentary evidence refers to a 17th-century bark mill and tannery in the immediate vicinity of Gibb Street and recut pits, interpreted as tanning pits, and quantities of bark and leather fragments were also identified and recovered through excavation at the site. The cattle horncores from both Floodgate Street and Gibb Street were derived from activities on an industrial scale.

Sawn cattle metapodials (foot bones) and one horse metapodial were recovered from Floodgate Street and indicate bone working on the site. At Floodgate Street a set of inter-related industrial processes can be seen taking place, which were centred on butchery and the exploitation of every aspect of the carcass. Beasts appear to have been slaughtered and butchered on the site and their hides, with the skull and feet still attached, removed for tanning. Prior to tanning, the heads and feet were removed from the hides and sold on. The horncores were detached from the skulls and soaked to remove the horn by the horn workers. The metapodials were cleaned and used for making knife handles and other objects. Other remains including the hooves would be sold on for glue. It is interesting to see the debris from several separate but inter-related industries on one site in this way.

Associated with the tanning pits at Floodgate Street was a small amount of other evidence for tanning and the production and repair of leather items. Waste leather was found associated with shoes datable to the mid-16th to mid-17th century. This waste leather included edges cut from a variety of hides and a leg cut from a cow hide directly after tanning but probably before the hide was sold on to a manufacturer of leather goods. The shoes had been cut up to salvage leather for reuse in cobbling repairs (10).

5.3.3 **Clay pipe making**

Smoking tobacco was particularly taken up by the English during the second half of the 16th century although, by 1600, it was still an expensive luxury. During the first few decades of the 17th century, however, the price of tobacco fell rapidly and smoking quickly permeated to all levels of society. Pipemakers established themselves all over the country to meet the new demand and, by the 1630s or 1640s, most areas were being supplied from local workshops. Smoking remained extremely popular until about the second quarter of the 18th century, when a vogue for taking snuff caused a temporary decline in the pipemakers' fortunes. It is against this background that the introduction and use of pipes in Birmingham from c.1600-1750 must be considered.

There is no evidence in the documentary record for pipe making in Birmingham during this period at all. This is surprising given the size and nature of the settlement and the fact that the necessary raw materials in the form of pipe clays, fire clays and coal for fuel are all available in the neighbouring region. Pipemakers were certainly active on the north Warwickshire coalfield to the east of Birmingham from at least the late 17th century (Melton 1997), while Plot, in his Natural History of Staffordshire (Plot 1686, 121), notes;

'As for Tobacco-pipe clays they are found all over the County, near Wrottesley House, and Stile Cop in Cannock-wood, whereof they make pipes at Armitage and Lichfield… There is Tobacco-pipe clay also found at Darlaston near Wednesbury, but of late disused, because of better and cheaper found in Monway-field betwixt Wednesbury and Willingsworth, which is of a whitish colour, and makes excellent pipes: as doth also another of the same colour dug near the Salt water poole in Pensnet Chase, about a Mile and ½ South of Dudley.'

This reference makes it clear that not only was suitable clay readily available but also that pipemakers were working in many places near Birmingham by the 1680s. The lack of documentary evidence for pipe making in Birmingham itself may simply be because the records do not survive or that they have not been systematically searched for references. The lack of any documentary sources underlines the importance of the artefactual record in establishing the evolution of pipe making and consumption in the city.

The most direct evidence for pipe manufacture itself comes in the form of a fragment of pipe muffle, the distinctive chamber in which the pipes themselves were fired, dating to the late 17th or early 18th century, that was recovered from Birmingham Moat. This appears to be one of two fragments of uncertain date noted by Peacey in his survey of British kiln debris (Peacey 1996, 199).

A survey of more than 80 recent archaeological reports has shown at least 24 of these projects produced pipe fragments and that most of these pipe groups included material dating from the 17th and first half of the 18th centuries (Figure 5.5). In all, the projects studied produced in excess of 2,781 fragments of pipe of which at least 189 had makers' marks on them, most of which date from the 17th or early 18th centuries. By far the largest pipe assemblages were recovered from Park Street (1,755 fragments) and Edgbaston Street (354 fragments). These two sites have been studied in detail, in conjunction with a smaller assemblage of 59 fragments from Moor Street (Higgins 2009). These three sites total 2,168 pieces of pipe, and account for some 78% of all the pipes recovered through recent archaeological work in the study area as a whole. As a result, they provide the benchmark against which other material from the city can be compared in future work.

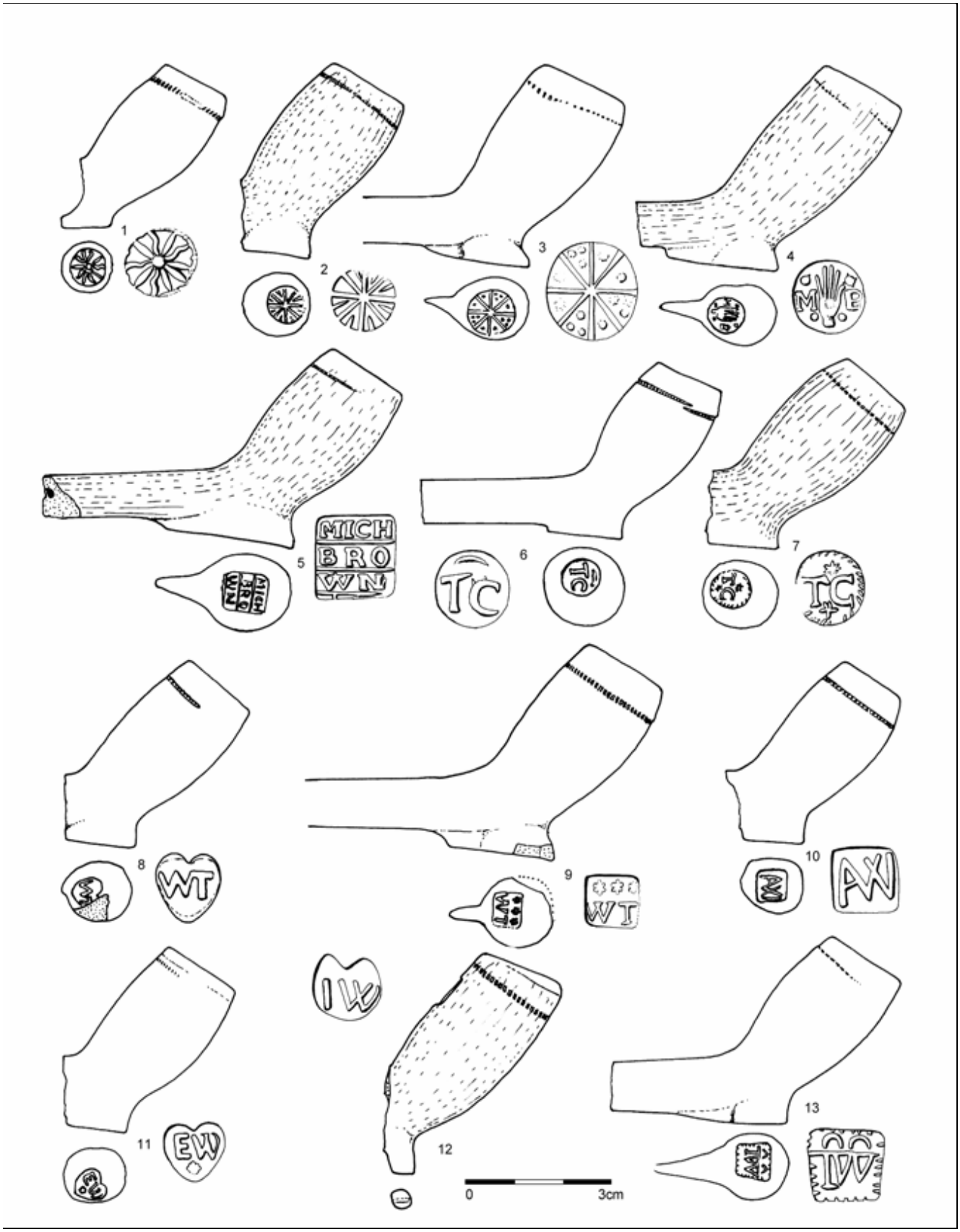

Figure 5.4 Examples of clay pipe bowls and stamps found during excavations in Birmingham (Rátkai and Forster 2008)

5.3.4 **Other industries**

Convincing evidence for brewing in this period has been found at both Edgbaston Street and Park Street. At Park Street, nutlets of hop, a beer additive, were present in environmental samples from an 18th-century pit, suggesting that brewing was undertaken on site. It is interesting to note that this sample came from a backplot at 3 Park Street, which was listed as a public house in a trade directory of 1767 (Ciaraldi 2009, 253). Numerous references to maltsters, hop sellers, and brewhouses on these two streets are found in documents belonging to the second half of the 18th century and presumably also reflect the situation in the first half of the century.

A general upturn in the economy in the 17th century may have provided an impetus to pottery production, evidence of which was found at Floodgate Street and on Bordesley High Street. Some pottery production is indicated by the presence of a small number of wasters on Floodgate Street and Connaught Square, probably dating to the 17th century; a possible wastered sherd and a saggar from Bordesley High Street (40 and Rátkai forthcoming c), and a wastered coarseware sherd found at St Martin's Church, all of which may hint at local manufacture.

Evidence for local pottery production may potentially come from archaeological work undertaken in 1995 at 131–148 High Street, Bordesley. During this work, a substantial 'pit' was revealed which had a stepped profile, but was relatively shallow (0.70m). It has been suggested that this feature may have been an extraction pit for clay, with the stepped side and generally shallow character being the result of extracting the clay in a plane, cutting into the natural along a broad face but avoiding the need to dig deeply. This feature may indicate a continuation of the medieval pottery industry in this area of Birmingham (40), or it may have been associated with the production of bricks, for the construction of the expanding town (39).

There is very little evidence for textile production in this period. The hemp and flax seeds recovered from The Row, 170 Deritend High Street and Deritend Bridge may belong to the previous period, although in the 17th and 18th centuries flax was an important regional crop and was still grown in considerable quantities in Warwickshire in 1794 (Stephens 1964). Two rope walks are marked on maps, one near Floodgate Street on what was to become Milk Street and a second off Coleshill Street to the north of St Bartholomew's Chapel (Figure 5.4), so some of the hemp fibre at least was presumably being used for rope making.

It is clear that by the 18th century, industrial activity was routinely present in many backplots. By this period there is evidence that grand houses such as 10 and 18 Park Street and Sampson Lloyd's house on Edgbaston Street were to the front of plots that had become industrialised. The houses were increasingly abandoned by their owners, and either turned into workshops or commercial properties; 10 Park Street, for example, was used as a shop by merchant John Humphries, or subdivided and sublet for domestic occupation. Tracing the change from domestic property to industrial or commercial use would form a useful avenue for further research.

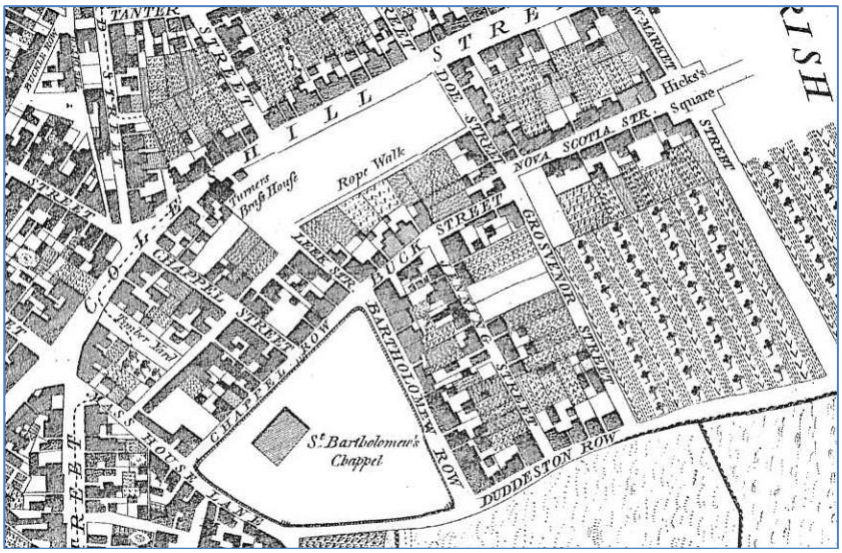

Figure 5.5 Extract from a Plan of Birmingham surveyed by Thomas Hanson 1778 showing a ropewalk to the north of St Bartholomew's Chapel

5.4 Industry c. 1750–1900

In this period the breadth and variety of trades, crafts and industries within Birmingham becomes apparent in the archaeological record. It is not possible within the confines of this study to provide a systematic synthesis of each and every trade which has been identified within the archaeological record; however it is informative to concentrate on a few industries, different in scale, two of which were new introductions to Birmingham's industrial repertoire and one which saw a high degree of specialisation of an existing trade.

5.4.1 Button making

Button manufacture was an important 18th and 19th century Birmingham industry. As well as metal, buttons were made from bone and shell. Pieces of bone from which circular button blanks had been cut by a stamping machine have been found outside the study area, at Soho Manufactory (South Road). Similarly, in the watercourse on Edgbaston Street, button blanks of discs of mother-of-pearl were recovered, as well as pieces of mother-of-pearl with the circular holes from which they had been cut. Pieces of shell with circular and semi-circular cuts have also been found at Gibb Street, and large pieces of unworked shell from Indian Ocean species have been identified at Floodgate Street, presumably brought in for button manufacture (Hodder 2011, 140).

The button making industry, in some cases, only manifests itself through archaeological work, and 18th and 19th century trade directories do not necessarily record the locations of the workshops. This has been highlighted recently at Moland Street, which was laid out at some point between 1779 and 1795 (based on historical map analysis) (92). A desk-based assessment undertaken in advance of new student housing noted the development of the street and the industries that were present throughout these centuries and into the 20th century.

As part of the desk-based assessment, trade directories were consulted for every 10 years from the end of the 18th century in order to provide an insight into the character of the industries that were housed on Moland Street. It was not possible to accurately plot individuals or industries as the early directories listed by trade; there may have been some renumbering of properties as the area developed; and many of the properties may have been residential, and would therefore not necessarily be included. However, some insights were gained. Trades such as those relating to gun manufacture featured heavily in the Moland Street area in the first half of the 19th century, along with brass founders and beer retailers, suggesting a mixture of small-scale industrial concerns and domestic properties (Hodgkinson and Wooler 2011).

As part of the planning consent for the new student housing, a watching brief was maintained in 2012, which observed structural and artefactual evidence for metal working on the site corresponding to that noted from the trade directories, such as a complete example of a crucible (Figure 5.6). However, perhaps more significantly, a total of 23 shell fragments were recovered, the majority of which were believed to have been European flat oyster shell. All the fragments were the waste from button manufacture as they had drilled holes along an edge (Figure 5.7). From the waste evidence, it was possible to note that the buttons being manufactured were a variety of different sizes, ranging from 8mm to 19mm diameter. No finished buttons were found on the site. The manufacture of such buttons was in decline by the late 19th century and had been replaced by buttons from other materials including plastic in the early 20th century. Therefore the buttons on the site are likely to have derived from waste products of a workshop dating to at least the 19th century (93).

Figure 5.6 Detail of crucible found during groundworks at Moland Street (Courtesy of Wardell Armstrong Archaeology)

Figure 5.7 Button manufacture waste recovered during a watching brief at Moland Street in 2012 (Courtesy of Wardell Armstrong Archaeology)

The evidence for button manufacture from Moland Street is interesting on a number of counts. Firstly, button manufacture would not necessarily leave significant archaeological trace, as it was a bench-top industry which could be undertaken in workshops to the rear of residential properties, with little in the form of structures or machinery, particularly for shell which, due to its fragility, would have been turned on a foot lathe (Buteux 2003, 81). Secondly, button manufacture did not show itself in the consultation of trade directories, although that was not comprehensive, but it does indicate that archaeological evidence can complement or enhance the historical record. And thirdly, the identification of button manufacturing waste at sites such as Moland Street, Edgbaston Street, Banbury Street (88) and at Deritend, indicates that the main focus of this industry was not necessarily centred on Snow Hill, the area it is traditionally associated with.

The only apparent building identified as a button maker's workshop was recorded during a rescue excavation by the Department of Archaeology, City of Birmingham Museum in 1984 (33). It was discovered in one area of a site in Deritend (SP080862 site 20614), containing brick-built features that formed part of a 19th-century button maker's workshop.

5.4.2 **Glass production**

Another industry new to this period was glass manufacture. Although glassmaking in the West Midlands in this period is normally associated with Stourbridge and Dudley, and not as readily associated with Birmingham as metal working and the toy trade, documentary research has identified 18 glassworks in Birmingham dating from the late 18th to the mid-19th century (Hodder 2011, 145). By the mid-19th century flint-glass making was concentrated in Birmingham and Stourbridge.

The earliest use of glass in Birmingham was an adjunct of the button trade where glass-pinchers prepared glass for setting in buttons and rings and also manufactured buttons (Cook 2001, 2). In 1770, six glass-pinchers were listed in Birmingham. It is interesting to note that one of the earliest glassworks, Oppenheim's Glass House, was situated in the button making heartland around Snow Hill (68). By the 1830s Stourbridge had the greater number of glassworks producing flint-glass but Birmingham achieved a greater output (ibid). Glass manufacture suffered several changes in fortune after the initial boom caused by the repeal of excise duty on glass in 1845 but, in the main, the industry flourished until c.1880 when an influx of cheaper continental imports put paid to many businesses. The Brierley Hill Advertiser (March 22 1879) reported:

'foreign decanters are being sold in the Midlands, completely finished, at a price which is little if any more than the cost of cutting would amount to in an English [work]shop'

One of the earliest sites within the study area was in Edgbaston Street, which included or adjoined the site of Hawkers glassworks, built in 1777–78, but gone by 1786–87; the name 'Glasshouse Court' on Sheriff's map of 1808 betrays its former location. During the archaeological work at Edgbaston Street, artefacts relating to glass manufacture were recovered from a former watercourse such as two almost-complete ceramic crucibles, along with fragments of other examples, and two clear moiles – the glass detached from a blown vessel or blowpipe (Bevan et al 2009, 178).

A slightly-later glassworks was the subject of an archaeological watching brief in 2000 on the south side of Broad Street, and east of Gas Street. The Aetna Glassworks was established here in 1836–37, and glass making continued on the site until the 1920s. During the monitoring of groundworks, it was possible to observe that most of the structures and deposits encountered appeared to have related to the glassworks, with two main phases of activity. The earliest phase of industrial activity took place in the early 19th century, and involved the construction of a series of brick and firebrick structures in the centre of the site; prior to this the ground had been levelled and compacted. The focus of the buildings was a long, east to west orientated range, possibly containing an annealing furnace (where glass was subjected to a process of heating and slow cooling to toughen and reduce brittleness).

At the site of Belmont Row and Belmont Glassworks, located to the east of the city centre, several phases of archaeological work have taken place in advance of proposed development. The first phase took place in 2001 in the form of a desk-based assessment and survey of the land and standing structures of the former Belmont Glassworks, along with the Ashted Pumping Station (62). The desk-based assessment revealed the first apparent direct reference to the glassworks occurred when the partnership of 'Hughes and Harris', established in 1799, was dissolved in 1803. By 1804 Harris had set up business as a glass maker on this own account, and it appears that two establishments were founded: a smaller one in Fazeley Street, called 'Thomas Harris and Co.', which came to an end in 1810, and a larger affair at Ashted, known as the Belmont Glassworks. Historical mapping dating to 1824–25 shows the Belmont Glassworks and the Belmont Row Glassworks. By 1899, the Belmont Row Glassworks is shown as vacant, indicating it had gone out of use and been demolished, whilst the Belmont Glassworks had gone by 1918.

A glass cone was excavated at Belmont Glassworks during archaeological investigations. This measured c.11m in diameter, with the footings 0.7m wide. It was noted that although these remains have been interpreted as a glass cone, the form and size of the structure could equally be explained as a bottle kiln, as the similarity of both visual and archaeological evidence for pottery and glass manufacture has previously been acknowledged. Perhaps supporting the interpretation as a pottery kiln, was the unfinished and unglazed pottery waste from within the area, along with several kiln props and a number of saggers which may have been used in pottery manufacture, although there were also crucibles which are more likely to have been used in glass making (Peachy 2010).

Of interest from the 2009 phase of archaeological work at Belmont Row Glassworks, was the subsequent analysis of industrial residues from the site. These indicated that the site was producing colourless flint glass, also known as white glass. However, the crucibles which were recovered were noted not to be consistent with glass making, but instead were probably used for melting brass. Previous phases of archaeological works at the Belmont Row site had not focused on the presence of metal working; however historical sources do appear to indicate that brass founders were located along Belmont Row in the 19th century (Paynter 2010).

Figure 5.8 Archaeological work in progress at Belmont Row Glassworks (Courtesy of Mike Hodder/Birmingham City Council)

5.4.3 Coffin furniture

A development in the metal working trades was the manufacture of coffin furniture. Recent archaeological work at St Martin's Church has identified examples of local coffin furniture manufacture through comparison with the company catalogue of CW & Sons of Birmingham, dated to 1837. This catalogue included a pattern for a depositum (breastplate) that was identical in almost every detail to the elaborate depositum on the excavated coffin of James Cockle (died 1833). Although the catalogue was issued after Cockle's death, the close similarity of the patterns to the excavated example, has led to supposition that CW & Sons may have been the supplier (Hancox et al 2006, 160).

At 131–148 High Street Bordesley, there had been a coffin furniture works, the only evidence for which was the Ordnance Survey Map of 1888, the building having been destroyed by the construction of a filling station. There are also references to Hector Richard Cooksey, coffin furniture maker at 148 High Street Bordesley in the post office directories of 1845 and 1856. No artefactual finds associated with the works were recovered (39), but this is unsurprising as a furniture maker is an example of a 'bench top' industry which would not manifest itself below ground.

6 STANDING BUILDINGS

Birmingham boasts a rich and diverse built heritage dating back to the medieval period. Various types and architectural styles are represented in Birmingham, ranging from a single timber-framed medieval house to fine examples of late 19th-century Board Schools such as the Birmingham Government School of Ornamental Art, now part of Birmingham Institute of Art and Design, on Margaret Street. It includes the narrow courts of the 18th century, and early 19th-century back-to-back houses in courts behind the front street, this being the common form of housing in the older parts of Birmingham (Muthesius 1982, 108).

The archaeological investigation of standing buildings and structures is a relatively new undertaking. The archaeological study of buildings, through the application of archaeological techniques as part of a programme of mitigation recording required as a condition of consent prior to alteration or demolition was effectively established under Planning Policy Guidance Note 15 (1994).

Formal archaeological assessment, primarily undertaken as a desk-based assessment supplemented with a site inspection has been the standard exercise in assessing the potential for the archaeological and heritage potential of a building and whilst the process is largely the same as an archaeological assessment (map regression, historic research, consultation), there are unique problems associated with the assessment of standing buildings, principally in the constant adaption, partial demolition, refronting of original facades, encasement or in some cases, removal and re-erection. It is exceptionally rare for buildings to survive, even relatively modern buildings, entirely unmodified.

The potential therefore exists for important architectural or structural information to be present within a building which, on initial inspection, appears unprepossessing. Similarly, a focus or bias towards the visually striking, particularly styled or obviously old runs the risk of missing valuable information contained in the more mundane or less remarkable structures.

There have been a number of archaeological buildings surveys undertaken as requirements of the planning process within Birmingham, although the surveys are unrepresentative of the historic building stock, with the majority of the buildings subject to survey dating from the 19th century and being, on the whole, commercial, industrial or relating to transport. Two projects are included in this chapter as case studies.

6.1 The Curzon Street station building

Regeneration in the vicinity of Curzon Street Station, as part of the Birmingham Eastside scheme and in advance of the arrival of HS2 has required a detailed level of study of the former station building in order to understand the significance of the structure and to guide appropriate redevelopment.

The significance of this Grade I listed building lies in 'its status as an important milestone in the treatment of station architecture' (84). It is one of the most important historic and iconic buildings in Birmingham. In addition, the destruction of the Euston Arch, the related building at the London end of the rail line, in the 1960s has made the preservation of the building all the more important. The continuing redevelopment of this part of Birmingham over the last 25 years or so has completely altered the character of the area. Once the centrepiece of a historic industrial and transportation landscape, Curzon Street Station now stands alone, almost devoid of historic context, an island of railway history amongst a modern architectural environment of largely concrete, steel and glass (Figure 6.1 and 6.2). Therefore it is important that the future use, development, alteration and conservation is appropriately and sympathetically managed, with due regard to the significance of, and the development pressures, on the building and its immediate environment. The best way to achieve this was to instigate a conservation management plan, to assess its significance and the vulnerability of that significance to change, to assist with planning future measures.

As part of the conservation management plan, in-depth recording of the Curzon Street Station building and its subsidiary structures was undertaken, including by laser scanning. The station building is constructed in ashlar with banded rustication at ground level, and faces west fronting New Canal Street (Figure 6.2). The basis of the design is a three storey, three bays, on basement, with a giant ionic portico dominating the western front. The listed building description describes it as 'austerely cubic'. The columns stand on a stone stylobate broken to accommodate the central doorway, above which is a semi-circular overlight with a web of radiating and concentric glazing bars. The cornice is dentilled to a plain coped parapet. Hardwick's original concept was for the existing building to be flanked to the north and south by a pair of entrances. A northern arch was constructed, but was demolished to make way for an extension to the station hotel in 1839. Scarring and blocked windows on the north wall signify where the former station hotel extension once stood.

Figure 6.1 Curzon Street Station in its modern setting (2007) (Rátkai and Forster 2008)

Figure 6.2 Curzon Street Station with Millennium Point in the background (copyright unknown)

6.2 The Central Business District

Parallel to the development of this transport and industrial infrastructure was the growth of commerce in Birmingham. Nowhere was this better architecturally expressed in the city than in its banks and business offices. The Central Business District grew up on the lands of the former Inge and Newhall estates to the north west of the medieval and 17th-century town. The development of these areas was swift and steady from the early to mid-19th century with the area predominately made up of merchant's warehouses, banks, and shops. Here, no expense was spared in producing a building which would be the physical manifestation of the image of the company. The best architects, materials, and fashionable styles were employed in an industry where image, style, and substance were entwined.

The Grade II listed former offices of the Birmingham Banking Company at 26–33 Bennett's Hill excellently exhibit the type of building being constructed here in the 1830s (Figure 6.3). Recording work was carried out in order to assess the archaeological implications of restoration work on the building and its adaptation for reuse (64). The building was designed by the architectural practice of Thomas Rickman and Henry Hutchinson in a neoclassical style, and it opened in 1831. Foster (2005, 127) describes this as the best surviving example of their work in Birmingham, and notes that its isolated formal quality is unusual in a commercial building. The original design is a classical box, five bays by seven articulated by plain pilasters. It is ashlar-built with five bays and an entrance bay on the corner which was inserted by Charles Edge in 1868, who also remodelled the interior at this time. The original porticos are intact; the northwest facing elevation featuring a Corinthian style tetrastyle portico to the entablature and pediment. The inserted corner entrance is flanked by bold Corinthian pilasters with a pedimented doorway with a leaf decorated frieze over the entrance incorporating the letters 'BBC' for the Birmingham Banking Company. A further three storey extension in a heavy French renaissance style was added to the south in the 1880s, probably by the firm Harris and Marten. The site is surrounded by original iron railings.

The impressive interior features red brick barrel-vaulted cellars, and a ground storey classical interior by Yeoville Thomason who carried out substantial alterations in 1877. This interior includes a north-south colonnade of paired Corinthian columns with gilt capitals, and a decorative plaster ceiling (Figure 6.4). The walls have a Greek frieze, and the ceiling itself is based on a framework of boxed-in riveted steel I-beams, the sides of which are decorated with rosettes. Between the beams are double coved and coffered ceiling panels with moulded borders including stylized leaf as well as egg and dart. The upper storey was added in the 1930s in an Art Deco style (64). It is worth noting that the gilt capitals, as shown on Figure 6.4, would not have been visible in ordinary circumstances due to the presence of the modern suspended ceiling; it is often not until a building undergoes a programme of redevelopment or alteration that historic features become visible, having been hidden behind inserted walls or ceilings such as this case at 26–33 Bennetts Hill.

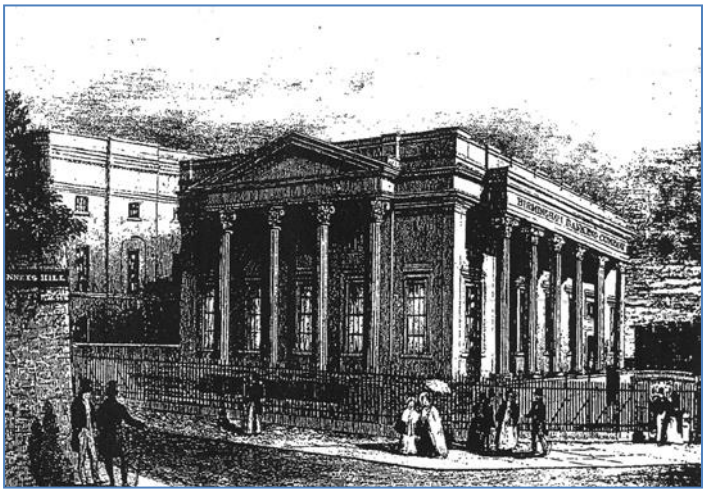

Figure 6.3 26¬–33 Bennett's Hill in 1834 (Rátkai and Forster 2008)

Figure 6.4 Interior detailing at 26¬–33 Bennett's Hill (Rátkai and Forster 2008)

The varied and impressive built heritage of the Central Business District was illustrated further in a historic building survey of 134/135 and 136/138 Edmund Street, located behind Colmore Row (63). Edmund Street was formally adopted by the council in 1871 following the end of 120 year leases on the Newhall Estate, and the redevelopment of the street was part of a broader attempt to transform late-Victorian Birmingham into a respectable, rational, and gentrified town. Architecture and the buildings constructed here became 'an expression of this change with solid Gothic commercial structures existing cheek-by-jowl with terracotta-clad Arts and Crafts chambers or consulting rooms and offices' (63).

The historic building survey was undertaken of the two distinct Grade II listed buildings in 2003 in advance of, and during, a programme of partial demolition that involved dismantling of structures to the back of the properties but the retention of the frontages within an office block.

136/138 was built by Flower and Sons brewers of Stratford-upon-Avon, as a beer distribution centre and offices in 1878. It is of four storeys and was built of pale red bricks laid in English bond, moulded brickwork, and terracotta in a Venetian Gothic style. It exudes mass and robustness 'as well as a certain muted grandeur, compared with its younger, more playful, and relatively lightweight neighbour' (63). Internally the basements and ground floor levels are supported on cast-iron columns linked with heavily bolted I-sections that in the basements support brick barrel vaulting, and at first floor level support a wooden floor. The rest of the internal structure is comprised of traditional mass brick walling and there is a mixture of king post and queen post assemblies that incorporate iron fixings and ties. Detailing, such as Maw and Company tiles were used to decorate the long corridor to the Flowers office, and even the scale of the rooms is very much status orientated, with each storey diminishing in size and status as they ascend.

134/135 was built by George James Eveson, head of the Eveson Coal and Coke Company Limited, as a suite of offices in 1897 (Figure 6.5). It is of three storeys with an attic and a basement and was built in an Arts and Crafts Gothic Style. The materials used in the frontage include thin red-facing brick, buff terracotta and distinctive diminishing courses of green-grey slate on the roof, with common brick everywhere else. The building style is traditional but does incorporate more modern elements such as Portland cement mortar, sawn deal timber, and electric rather than gas lighting. The basic plan of the building consists of two sets of rooms arranged front and rear around the central entrance at ground floor and slightly off-centred staircase to the floors above. The building is essentially a 'straightforward traditional design that incorporates stylistic and constructional detail that we have come to characterise as Edwardian, although the design was made some four years before the end of Victoria's reign. It also forms an important part of a class of terracotta building in central Birmingham that is representative of a particular school of architecture that was exciting and original in colour and profile and was particularly prevalent between 1880 and 1910' (63).

The archaeological recording of these properties concluded that although the significance had already been recognised through their listed building status, the survey demonstrated the historical importance of the buildings in terms of the story that they tell regarding the development of Birmingham's Central Business District. In this respect, they are representative of the different types of redevelopment that was taking place between 1878 and 1897 in Edmund Street (63).

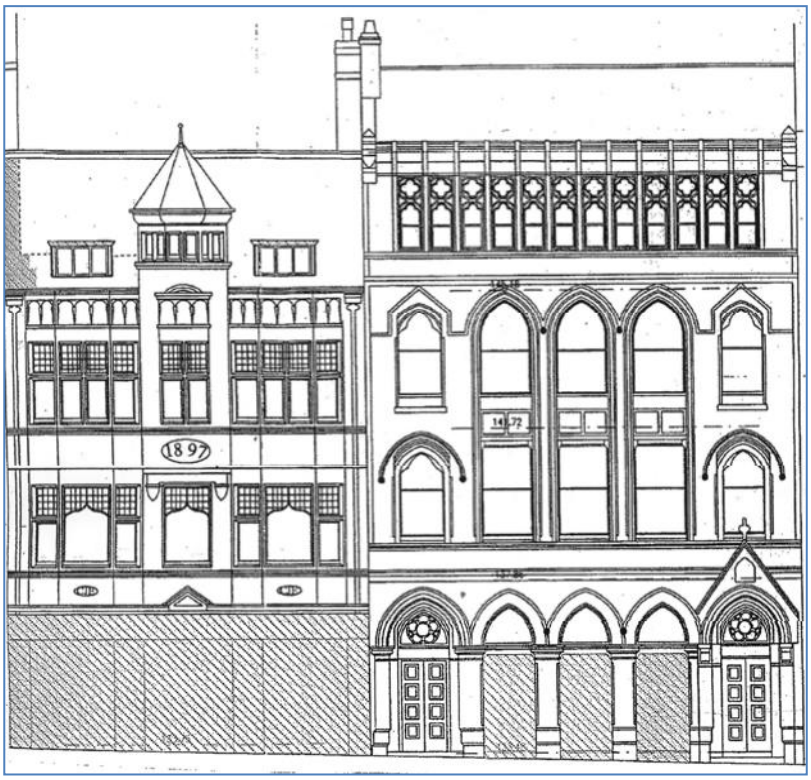

Figure 6.5 Principal elevation of 134-138 Edmund Street (Rátkai and Forster 2008)

These limited examples of buildings archaeology serve to highlight the lacuna in the evidence base, which is the absence of comprehensive studies of domestic buildings and lesser commercial structures. Birmingham has examples of this type of architecture which survive in surprising levels of completeness; witness the National Trust's back-to-back properties at Hurst/ Inge St. The recognition of the value of the common place, every day, unremarkable building types is clearly apparent in this preservation of the 'slum terraces' but appears not have been followed through as a requirement of the planning system. As with all archaeological projects, it is only possible to study structures which are within the development process; however it is crucial that this gap is recognised and closed as it is evident that evidence of the modification of Birmingham's building stock is going unrecorded.

7 FRAMEWORK AND STRATEGIES

The preceding chapters are a selective account of developer-funded archaeology within Birmingham city centre. It can be read in conjunction with the more detailed LWD project output (Rátkai and Forster 2008).

The overview has however provided a context to enable decision makers to consider appropriate archaeological responses to development proposals. It is essential that anyone with a responsibility for considering changes to the historic environment, either through submitting development proposals or determining applications is informed upon the archaeological potential for projects across the city, in terms of both likelihood, nature and potential significance of archaeological remains to be encountered and the variety of evaluative techniques availed in order to tailor their response.

The following chapter is therefore divided into two sections: the first section discusses the conclusions of the LWD project and presents an agenda of specific research questions to frame and shape archaeological investigations; the second presents a range of archaeological techniques which can be employed in devising an archaeological response to planning applications.

7.1 Life, work and death

The original LWD provided an overarching synthesis of developer-funded archaeological work undertaken within Birmingham city centre over a period of 15 years. The findings of the majority of the work had, at the time, had not been placed in the public domain. The authors, quite rightly, asserted that 'the project has allowed the overview and synthesis of work that PPG16, by its necessarily site focussed approach, cannot facilitate'.

LWD has therefore allowed a considered and reflective assessment of the findings of a considerable number of piecemeal investigations in a random sample of sites across the city centre. This unprecedented sampling 'strategy' has effectively self-selected areas where archaeological investigation has taken place and therefore trends and patterns should be treated with caution. For instance, is the general absence of ceramic evidence from the 14th to 15th centuries reflective of a downturn in the industry or merely a consequence of the pattern of sampling of archaeological sites across the city which is a feature of developer-led archaeology? Similarly, archaeological investigations along the Rea, whilst identifying a flourishing tanning industry in the post-medieval period, have not identified significant medieval deposits, despite documentary evidence suggesting they were well established by the mid-16th century Wise (1948, 181-182).

7.2 Future strategies

Throughout the course of the project, investigations into different areas of the Birmingham's archaeology have thrown up areas that would benefit from closer research and investigation if the opportunity arose. The following section discusses these under the themes included in the report.

7.2.1 **Palaeoenvironment**

To date, palaeoenvironmental remains have not played a considerable role in understanding the development of Birmingham and its environs from prehistory to the present. This is partly due to the shallow depth of stratigraphy identified in several areas of the city where very little protective cover exists to shield these remains from truncation during intrusive works (as opposed to cities such as London, Bristol and York where extensive alluvial deposits have acted as a protection).

In recent years, the recognition of deposits with palaeoenvironmental potential has improved significantly, both from a curatorial and a field perspective, and consideration for the mapping, sampling and preservation of these deposits is reaching parity with 'standard' archaeological deposits.

Although only a handful of sites to date have been able to contribute significantly to our understanding of the palaeoenvironment of Birmingham, this increased recognition means that palaeoenvironmental studies have a significant place in future fieldwork and research, both in isolation and in association with traditional archaeological remains.

7.2.2 **Pleistocene and Palaeolithic**

The presence of deeply buried Pleistocene deposits at Nechells and Quinton has shown that there is potential for the preservation of deposits with palaeoenvironmental potential that will not have been affected by the later development of the city.

Whilst these deposits would not be accessible through traditional archaeological means, the application of geotechnical methods such as window sampling and cable percussion boreholes would enable the recovery of these deposits to inform about the climate and landscape of the area during the Pleistocene and give a much needed boost to the study of this poorly understood period in the West Midlands.

7.2.3 **The River Rea and its tributaries**

The evolution and development of the River Rea and its associated tributaries is poorly understood in comparison to many other rivers that drain the Midlands Plateau. Whilst water management and culverting of watercourses is evident throughout the city, particularly of the River Rea in the study area, this does not preclude the survival of environmental remains both alongside or deeper below these managed courses.

Understanding the development of the Rea and its tributaries, mapping their 'natural' courses and identifying the migration of channels through time, both through natural and human means, would greatly enhance our understanding the evolution and development of the city and its environs but also assist in targeting archaeological remains more effectively as the river would have acted as a focus and corridor for human interaction in all periods.

7.2.4 **Woodland clearance, agriculture and industry**

Given the close proximity to the Forest of Arden, it remains a point of frustration that a sequence or series of sequences have not been identified that would enable a chronology and pattern for the commencement of anthropogenic clearance to be discussed. The identification of such a suitable sequence, either in isolation or combined with existing palaeoenvironmental datasets from the immediate vicinity and the wider West Midlands, would go a considerable distance in addressing key questions that remain elusive for the city.

These questions include:

- The natural extent and woodland composition of the Forest of Arden.
- The timing, nature and extent of prehistoric woodland clearance.
- Was clearance maintained and long-lived or were the woodland interactions temporary?
- Evidence for, chronology and nature of prehistoric agriculture .
- Is preferential clearance occurring as has been identified with lime and alder carr woodland in other areas of the West Midlands from the Neolithic onwards?
- Does the Roman occupation of the area have a noticeable impact upon the palaeoenvironmental record i.e. intensification of woodland clearance, intensification or change in agricultural practices?
- Does the departure of Roman influence result in woodland regeneration or is there a continuation of the landscape practices previously established?
- Do prehistoric and later woodland clearance have a noticeable impact on the fluvial development and sediment regime of the Teme and its tributaries including the River Rea?
- Is there evidence for an Anglo-Saxon presence through renewed woodland clearance or a variation in the cereal species cultivated and what date can this be identified?
- The dating for the commencement of industry activities within the area.
- Are woodland resources selectively exploited for particular industries and what affect does this have both on the sediment regime?
- Can the commencement of watercourse management be dated and what effect does this have on the flow regime of the study areas rivers?
- Does industry have an impact upon the water quality of the Rea perhaps hinting at types of industrial processes?
- If animal bone is recovered, isotopic analysis could be applied to study whether local livestock is being utilised for diet and industry or whether wider trade networks can be identified. Changes and patterns in these isotope signatures could be analysed thus identifying whether Roman or Anglo-Saxon presences fundamentally alter the local trade networks, this may also assist in the dating of these arrivals.

Targeted sampling strategies for pollen, beetles, plant macrofossils, animal bone and other palaeoenvironmental proxies associated with robust radiocarbon dating programmes must be considered a priority.

7.2.5 **Birmingham's parks and open spaces**

Both within the study area and on its periphery, Birmingham has several areas of park and open space that could be utilised for limited intrusive works, such as window sampling boreholes or trial pits to test for and recover palaeoenvironmental remains. The potential for these deposits could be estimated through construction of ground models from existing datasets as has been successfully applied at Droitwich (Hurst et al 2014) and other locations around the UK.

Locations such as Cannon Hill Park, Edgbaston Pool, Calthorpe Park, Moseley Bog, Millennium Point/Curzon St, Nechells Green and other limited green or open spaces, particularly those alongside the Tame, Rea, the Cole or their tributaries, could prove to be invaluable at identifying areas of archaeological and palaeoenvironmental potential.

7.2.6 **Agriculture and gardens**

Perhaps again the result of a geographical bias in the areas of developer-led investigation, our knowledge of production of foods in Birmingham is extremely limited. Historically we have good evidence for market gardens and, to a lesser extent, to the production of crops in the city's environs, but archeologically we have recovered very little evidence for either. In addition, the many gardens of Birmingham's middle and upper classes, well evidenced on historic maps, have also remained elusive in the archaeological record.

- **Agricultural soils and cereal crops**; the agricultural potential of the area immediately surrounding Birmingham is poorly understood. Greater and more in-depth research into historical accounts and resource potential (perhaps based on geological information) would provide a much more substantial platform from which to discuss associated archaeological evidence. Such work should combine the use of the landscape analysis from an historical perspective with other environmental techniques, such as soil micro-morphology and pollen, beetle and plant macrofossil evidence.

- **Market gardens and orchards**; Evidence from historical sources suggests that there were plenty of gardens and orchards located within the city, yet archaeological evidence has produced little evidence for such production. Where there may be potential for any domestic evidence of consumption of locally produced goods, it would be useful to implement an intensive sampling strategy to maximise potential of deposits with the question of this very local production in mind. Likewise, and as previously mentioned, the combination of historical evidence with environmental techniques may shed light as the presence of producing plants and trees within the locality.

- **Gardening**; a further aspect of the cityscape which has largely escaped the archaeological record are the many gardens which can be seen littering the map evidence. Hutton (1783) provides us with a small insight into gardens designed more for amusement than produce; 'A small part of the land near the town, is parcelled out into little gardens, at ten or twenty shillings each, amounting to about sixteen pounds per acre. These are not intended so much for profit, as health and amusement. Others are let in detached pieces for private use, at about four pounds per acre'. Artefactual evidence, such a plant pots recorded at Park St, and the manufacture of plant pots recorded at Floodgate Street provide only fragmentary insight into this more recreational aspect of the medieval and post-medieval city.

7.2.7 **Industry and economic growth**

- **Development of water-based industries**; unlike some aspects of Birmingham's archaeology, the presence of industries operating within the city has been recorded in more than one of the larger excavations undertaken. Increased awareness of the value of targeted sampling strategies will, again, vastly increase our knowledge and ability to discuss in greater depth water-based industries such as tanning, retting etc. Samples recovered from Floodgate St and Deritend Bridge included finds of animal hair and bark and fragments from Upper Dean Street and show the value of thorough sampling, assessment and reporting. The need to tie together a good sampling strategy with datable material is essential to document the growth of such industries in the city.

- **Non water-based industry**; The location of archaeological projects to the south and east of the town centre and the Birmingham Fault has put particular emphasis on the importance of the River Rea and other watercourse, and their associated industries. Further research needs to acknowledge the potential non-water dependant industries that may have characterised the industry to the north of the medieval town. The may be quite different, and thus leads to a different industrial character in areas not yet covered by PPG16 work.

- **Cloth production**; to date, no single item associated with cloth production has been found, even though textiles were important to Birmingham in the medieval period and the continued importance of flax in Warwickshire is attested almost to the end of the 18th century. Penalties in the 17th and 18th centuries for enclosing flax plecks are frequently mentioned in deeds and court rolls (Stephens 1964). Remains of flax (and hemp) have been routinely found in Birmingham in medieval and post-medieval contexts and flax dressers, thread-makers, sacking weavers, linen drapers and dyers are found in the 18th century and as late as the 19th century.

- **Clay pipe industry**; prior to the mid-18th century, evidence suggests that suitable clay was readily available in and around Birmingham for early production and that pipemakers were working in many places near Birmingham as early as the 1680s. The lack of any documentary sources underlines the importance of the artefactual record in establishing the evolution of pipe making and tobacco consumption in the city. From the mid-18th century onwards further analysis examination of the documentary record including the later census returns is needed to explore the actual scale of the industry more fully. As well as examining the physical remains and layout of the workshops, there is also scope to examine the social history of the industry from documentary sources. Turning to the pipes themselves, there is a relative paucity of information for this period and the collection of more material is clearly a priority. Despite the national significance of the 19th century Birmingham pipe making industry, very little work appears to have been done on the actual location or form of the workshops themselves. The lack of information on pipe making sites is a serious constraint to understanding and interpreting the industry, whilst the failure to identify workshop locations means that they cannot be monitored or investigated as part of the planning process. Further work on trade directories to collate a list of addresses where pipemakers worked, corresponding archaeological work to examine the products of a number of different manufacturers over a period of time would have potential.

7.2.8 **Domestic and social life**

One of the key findings of this project has been the confirmation that there is a paucity of artefactual evidence for domestic life within the city centre's archaeological remains (to date). As to why there is such a sparse showing for domestic groups before the 17th century, is a question worthy of more detailed consideration. Many of the sites investigated were associated with tanning or skin-working. Shaw (1996) notes that the Northampton tanneries may have been in a derelict area, which pottery analysis goes some way to support. This attractive theory might go some way to explain the situation in Birmingham, where most of the medieval and early post-medieval sites appear to be connected with tanning or pottery production (another industry which is unlikely to generate much domestic waste).

- **Burials;** one area that has given an insight into domestic life, especially for the post-medieval period, has been burial archaeology (explored in the full LWD report). The use of historical research maximises knowledge prior to any excavation and in relation to those at St Martin's has proven its necessity as part of the archaeological investigations. In addition, making provision for scientific analyses both in terms of funding and also as regards the amount of time permitted for investigation of human remains prior to reburial, would substantially increase the potential of such assemblages for answering some key questions.

- **Structural evidence;** none of the work so far has uncovered physical evidence of domestic structures in the medieval period, with the exception of a possible sandstone wall on Freeman Street. This is clearly an area which needs to be addressed. Some of this evidence may, of course, lie beneath modern roads and buildings, and be either inaccessible or destroyed. By the 17th century there are traces of buildings, for example, a construction trench pre-dating the skinyard on Edgbaston Street, but it is not until the 18th century that buildings can be more certainly identified. Even so, there has been a tendency to assume that all brick-built structures date to the 19th century, although the first courts were constructed in the later 17th century (McKenna 2005) and 18th century maps show that backplot infilling was visible quite early in the century. The recording of structural remains has to date seen the majority of focus concentrated upon industrial structures as part of clearance and regeneration programmes and listed buildings as part of alterations. This has left a discrepancy in the record, with a considerable number of building types not being represented in the record. These generally relate to residential and small scale commercial properties.

- **Social buildings;** with the exception of Dowell's Retreat, there has been no archaeological work on almshouses, hospitals and workhouses nor on the Dissenting Schools and Board Schools, all vital parts of the social fabric of Birmingham.

- **Personal possessions;** one of the most salient facts which has emerged from this project is just how poor the artefactual assemblages are in some ways. The lack of personal items commonly found on other urban sites is difficult to explain. It could be argued that the importance of metal working trades has resulted in many of the metal items being more assiduously recycled than elsewhere but this cannot be the whole story, since, for example, items of bone are also infrequent. Of the artefacts which have survived, nearly all are associated with crafts or industries.

- **Domestic pottery assemblages;** in tandem with the paucity of good artefactual assemblages, is the surprising shortage of good groups of domestic pottery before the 17th century. Many of the larger medieval groups appear to contain primarily pottery production waste, and what domestic groups there are, are often very small, so it has been quite difficult to gauge what would constitute 'normal' domestic pottery usage. The even greater infrequency of pottery of the 15th and 16th centuries compounds the issue. The only real exception to this is the assemblage from 'the pool' at Floodgate Street, seemingly deposited in the 16th and 17th centuries. This group has yet to be fully studied (Rátkai forthcoming a) but the presence of some undoubted wasters in this group means that it is certainly not all domestic. By the 17th century fairly typical domestic assemblages are present and this trend continues into the following two centuries. To date the 19th-century ceramics have not been studied in detail and this should be rectified in future work, since this is exactly the period when it is most easy to tie in the pottery with the type of person or persons likely to have used it, through documentary research, utilising the Rate Books, trade directories and census returns. At Park Street, a small group of 19th-century ceramics was studied (Barker and Rátkai in press) and the apparent downgrading in the type of pottery used was matched by the documented general downgrading of the street.

- **Health and diet;** whilst the multi-disciplinary work on sites such as St Martin's constitutes a considerable achievement, a point that should be born in mind when planning future projects of this nature is the rapid rate of development seen within the field of biological anthropology during recent years. In particular important advances have been made in areas involving chemical methods such DNA analysis, geochemical profiling from stable isotopes preserved in bones and teeth and improvements in radiocarbon dating. A further area subject to ongoing refinement is the area of imaging techniques both at gross and microscopic levels which permit improved recording and visualisation of remains in addition to histological analyses of disease processes. Consideration should be given to making provision for such analyses both in terms of funding and also as regards the amount of time permitted for investigation of human remains prior to reburial. This last point is iterated by Mays et al (2002) who point out that it is impossible to anticipate all the likely questions that may arise during future research and consequently the long term retention of excavated remains or at least provision for longer periods between excavation and reburial are highly desirable.

- **Prosperity and depression;** the ebb and flow in Birmingham's prosperity may be traceable in the archaeological record. Many writers of the 18th and early 19th century comment on the high wages paid in Birmingham and any slump in the economy was keenly felt, since income could fall massively. Many Birmingham men during the time of the Napoleonic Wars, a time of severe economic slump, were forced to choose between the army or destitution. This may explain the comment by Thomas Morris 'The male population of Birmingham contains a greater number of old soldiers than any other town in the kingdom, and in war time they furnished double the quantity of recruits of any town in the kingdom'. It would seem that economic necessity rather than bald patriotism drove them to it. This reversal in fortune may partly explain the apparent difference between the 'gentry' ceramics of the later 18th century and the abrupt change to ceramics typical of the artisanal classes in the early 19th century. It may not be simply that the more wealthy elements were moving away from the centre of Birmingham and being replaced by the lower orders, it may also in part be the same people whose circumstances have become much reduced.

These specific research questions are aligned with the overarching regional research framework for the West Midlands which was published following the completion of the original LWD project.

7.2.9 Archaeological responses and strategy

There are a suite of archaeological responses available to investigate the potential for, and significance of, archaeological remains in the Birmingham city centre. These range from the traditional archaeological responses of desk-based assessment and trial trenching through to more sophisticated approaches applied to geomorphological assessments to address early prehistoric potential in the river corridors for instance.

The publication of the Birmingham City Historic Landscape Character study in 2015 provides a character map of the entire Birmingham conurbation based on historic landscape uses and has demarked the area into a series of zones. This serves to identify areas of distinctive character, reflecting historic survival of street patterns, burgage plots and later historic land uses through the sequential overlay of historic mapping. The LWD study area occupies, either wholly or partly eight of the HLC areas:-

BCA76	Entertainment District
BCA40	Jewellery Quarter
BCA98	Civic Colmore
BCA42	Gun Quarter
BCA43	Learning Quarter
BCA107	Eastern Nechells
BCA59	Digbeth/Deritend
BCA106	ommercial and Historic Core

The use of the HLC data as a touchstone in the development process can inform upon and justify the need for archaeological works to as part of the determination process. Dependent upon where the sites are located within the HLC specific archaeological responses, tailored to establish the presence for and the significance of archaeological remains can be deployed.

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