

An Archaeological Resource Assessment of Modern Northamptonshire (1750 onwards)

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Note: For copyright reasons the figures are currently omitted from the web version of this paper. It is hoped to include them in future versions.

1. Introduction

1.1 This document has been prepared as part of the East Midlands Regional Research Frameworks Project to provide a brief statement of the current state of knowledge about industrial archaeology in the county. The document aims to provide some discussion points about the contribution that archaeology can make to the study of the period of the Industrial Revolution.

1.2 The title of the session is “Industrial Archaeology”; however, given that industry, technology and trade have been considered in detail in the other period seminars for the Regional Research Frameworks process this paper will consider the archaeology of the industrial period. The broad period band for the industrial period is 1750 to the present day. The major emphasis is upon the process of industrialisation in Northamptonshire including the development of industry, agriculture, settlement, transportation networks, social organisation and administration.

1.3 The archaeological study of the industrial period, from a national perspective, is in its infancy. It has yet to become a fully established element of mainstream professional archaeology, although there has been a tremendous amount of work undertaken by amateurs, local societies and enthusiasts. Recent developments have included a conference organised by the Association for Industrial Archaeology and the Post-Medieval Archaeology Society on the *Archaeology of Industrialisation* and two books which consider the contribution archaeology can make to the study of the industrial period: *Industrial Archaeology: Principles and Practice* by Marilyn Palmer and Peter Neaverson (1998) and *The Familiar Past?* Edited by S Tarlow and S West (1999). It is hoped that the Research Frameworks Process will highlight the issues and develop a way forward for the integrated study of our recent past.

1.4 The situation in Northamptonshire is very similar to the national perspective with a tremendous amount of work by amateurs, but little interest by professional bodies until recent years. Northamptonshire Industrial Archaeology Group (NIAG) was established in 1966 and has played a pioneering role in the research and recording of the industrial archaeology of the county through to the present day. There are also a number of other amateur groups who are interested in particular aspects of the industrial archaeology of the county, but until the 1990's NIAG was the only organisation in Northamptonshire with a countywide interest in industrial archaeology. In recent years the profile of industrial archaeology in the county has been raised considerably. In 1993 an undergraduate course in Industrial Archaeology was established at University College Northampton; the course has continued to develop with a postgraduate course also being established and a number of dissertations have been undertaken on various aspects of the archaeology of the county.

Northamptonshire Heritage, the organisation that has curatorial responsibility for the archaeology, historic landscapes and historic buildings of the county, has become increasingly involved in the archaeology of the industrial period. The subject was first mentioned as an area of interest in the 1994-97 Northamptonshire Heritage business plan. Since that date various thematic programmes (outlined below) have been established and the weekly planning lists have been routinely checked for buildings of industrial archaeological interest since January 1998.

2. Sources

Traditional archaeological sources for the county including fieldwork reports and the former Royal Commission of Historical Monuments of England (RCHME) Inventories have not dealt with industrial archaeological issues in depth, however there are a number of sources that deal with this subject.

2.1 Overviews

Steane J, 1974 *Northamptonshire Landscape*, Hodder and Stoughton
Good overview of 18th, 19th and 20th century landscapes, communications routes and townscapes.

Victoria County History, 1906, *The Victoria History of the County of Northampton Vol 2*
Description of some of the key industries in Northamptonshire. A volume of 20th-century industry and transport to be produced by Victoria County History in the near future.

Palmer M and Neaverson P, 1992, *Industrial landscapes of the East Midlands*, Philimore
Considers Northamptonshire within East Midlands context for manufacturing regions, extractive region and townscapes.

Trinder B, 1998, *Industrial Archaeology in Northamptonshire: A report for Northamptonshire Heritage*, Unpublished
Overview of current state of knowledge about industrial archaeology in Northamptonshire includes textile industry, boot and shoe industry, ironstone smelting/quarrying, transport, rural industry and market towns.

Ballinger J, 1999, *Extensive Urban Survey (Industrial) Overview and Strategy*, Northamptonshire Heritage, Unpublished.
Overview of urban settlements in Northamptonshire including industry, housing, commercial activity, public utilities, education, religion, recreation and transport. It also provides a research agenda and management strategy for each town and for urbanisation in the county as a whole.

There are also a number of works that deal specifically with particular aspects of the industrial archaeology of the county for example:

Tonks E, 1988-1992, *The Ironstone Quarries of the Midlands: History, Operation and Railways, Part 1-6*, Runpast

Brown M, 1998, *Brewed in Northants: A Directory of Northamptonshire Brewers (including the Soke of Peterborough) 1450-1998*, Brewery History Society Publication

2.2 Recent and Current Initiatives

A number of initiatives have been established in recent years, which are aimed at developing our understanding of industrial archaeology in Northamptonshire. Northamptonshire Heritage has been the lead body on many of these initiatives including the commissioning of a report by Barrie Trinder of University College Northampton to provide an overview of the industrial archaeology of the county; the industrial element of the Extensive Urban Survey which has provided a rapid survey of eighteen industrial period towns in the county; the establishment of a project by English Heritage (formerly Royal Commission of Historical Monuments of England) on the boot and shoe industry of Northamptonshire and the co-ordination of the Defence of Britain project for the county. An industrial archaeological strategy is currently being produced to plan for the management of the industrial historic environment over the next five years.¹ Northamptonshire Industrial Archaeology Group is in the process of producing a gazetteer to the major industrial sites in the county, which is due to be published in 2000.

2.3 Northamptonshire Sites and Monuments Record

The Sites and Monuments Record has a patchy coverage of industrial archaeological monuments based on ad-hoc entries from varied sources. There have, however, been a number of specific enhancement projects conducted within the last few years including ironstone quarries, Defence of Britain, parks and gardens, CBA record cards, some listed buildings and industrial period monuments identified by the Extensive Urban Survey. Further enhancement projects are required, which can in some cases utilise already existing sources such as NIAG newsletters and the English Heritage survey of the boot and shoe industry, but in other cases will require extensive survey to determine the extent of the resource.

¹ See Appendix A for summary of proposals

2.4 Fieldwork

In this context archaeological fieldwork is taken to mean the full range of techniques which can be employed to investigate the physical surviving remains of the past. This includes below ground excavation, building survey and topographical analysis. A consideration of the contribution that each of these techniques and sources can make to the study of the industrial period is outlined in Appendix B.

There are essentially two types of fieldwork required for the industrial period in Northamptonshire. Extensive survey, on a thematic basis, to determine the nature, extent and survival of the resource and intensive archaeological survey of individual sites to answer particular archaeological questions.

Extensive survey has been conducted on a number of monument types in the county including the boot and shoe industry², windmills and watermills³, iron foundries⁴, brickworks⁵, breweries⁶ and non-conformist chapels⁷. Much of the work that has been conducted has been of a documentary nature and follow up work is required to determine the nature and survival of the archaeological remains. Northamptonshire Industrial Archaeological Group is to produce a gazetteer in 2000, which will list the remaining important archaeological monuments in the county; although it should be noted that sites are included in the document for their amenity value and not academic importance. A standardised methodology needs to be established for future extensive survey this should take into account national initiatives including the Monuments Protection Programme and English Heritage thematic listings surveys.

There have been a number of intensive surveys of varying kinds including recording of industrial processes before businesses close⁸ and undergraduate dissertations on individual factories and towns.⁹ A number of recording conditions have been placed upon planning applications effecting industrial archaeological sites in the county.¹⁰ Intensive surveys conducted by students and amateur enthusiasts can continue to be conducted on an ad-hoc basis according to individual interest and will contribute to an overall understanding of the industrial archaeological resource of the county. Work, which is conducted through the planning system, must, however, be strongly linked to a defined research agenda for the period.

3 Overview of Northamptonshire in the Industrial Period

The industrial period in Northamptonshire can seemingly be divided into two distinct phases. In the period between 1750 and 1850 the county remained largely rural and in many respects little altered since the post-medieval period. The period following 1850 was in contrast characterised by dramatic change as the county underwent a belated process of urbanisation and industrialisation. There is also a third phase of development in the county, the period from 1960 onwards, which was characterised by the demise of manufacturing industry and the rise of the service and leisure industries. This will be discussed briefly in this section, but will not form part of the body of the discussion. The following is a brief model of the development of Northamptonshire in the period following 1750 against which archaeological investigation can be considered.

²Starmer G, 1982, Northamptonshire Footwear Building Survey, NIAG newsletter No 9. ;English Heritage, (ongoing) Survey of boot and shoe buildings in Northamptonshire and Leicestershire.

³Starmer GH, 1970, A Checklist of Northamptonshire Wind and Watermills, *CBA Group 9 Bulletin of industrial archaeology XII*

⁴Instone E, 1970, Northampton iron foundries, *CBA Group 9 Bulletin of industrial archaeology XII*

⁵O'Rourke R, 1970, Some Northamptonshire Brickworks, *CBA Group 9 Bulletin of industrial archaeology XIII*,

⁶Brown M, 1998, *Brewed in Northants: A directory of brewers in Northamptonshire (including the Soke of Peterborough) 1450-1998*

⁷Royal Commission for Historical Monuments of England, *Non-conformist Chapels in Northamptonshire and Oxfordshire*

⁸Northamptonshire Industrial Archaeology Group newsletters

⁹See bibliography for list of dissertations etc.

¹⁰See appendix B for full list of industrial archaeological sites recorded through the planning process.

3.1.1 Northamptonshire in the Period 1750-1850

In the period immediately following 1750 Northamptonshire was a rural county, which was only marginally effected by the beginnings of the industrial revolution. One of the major reasons for the lack of industrialisation in the county was the geological absence of coal; the major fuel associated with industrial processing. Settlement was largely in nucleated villages, although some dispersed farmsteads had begun to appear in the enclosed fields and the market towns which were in existence were those which had been established in the medieval period. Industry was primarily domestically based with a range of cottage industries including weaving and the woollen industry, lace making and the boot and shoe trade. Natural sources, including wind and water, were predominantly used for industrial processing and larger scale manufactures such as Eyre's bell foundry in Kettering, a carpet factory in Burton Latimer and Northampton cotton mill were in the minority. Agriculture was in the middle of a major transition with the continuation of parliamentary enclosure in the county into the 1850s and 1860s. Administration was primarily based around hundreds and parishes which had been established in the late Saxon period and modified in the Elizabethan period dealt with the settlement of the poor and a number of other issues. New systems of local government were beginning to be developed in the early 19th-century; the most important of which were undoubtedly the Poor Law Unions, which were established in 1834.

The greatest change in the county during this period was the development of new systems of transport. Turnpike roads were established throughout the 18th century and were of considerable importance in developing communications links both within and outside the county. The central geographical position of Northamptonshire meant that the county benefited considerably from the coaching era in the 18th and early 19th centuries; individual settlements such as Towcester, Brackley and Daventry were particularly effected by this development. The development of the canal network was also important. The River Nene was made navigable between Peterborough and Northampton during the mid-18th-century with wharves established at Oundle, Thrapston, Higham Ferrers, Wellingborough and Northampton. The Grand Union and Grand Junction canal network was opened in 1815 with the development or expansion of several settlements including Long Buckby wharf, Braunston and Stoke Bruerne.

3.1.2 Overview of Northamptonshire 1850-1960

The period following 1750 in Northamptonshire was characterised by rapid and continuing change. The two main features were the large-scale development of the boot and shoe industry and the widespread process of urbanisation. The boot and shoe trade had been a cottage industry in the 18th century and had begun to increase considerably in the early 19th-century. The large-scale development of the industry in the county was, however, linked to the process of mechanisation after the sewing machine was introduced in 1857. Large numbers of boot and shoe factories began to be developed in the main towns in the county (Northampton, Wellingborough and Kettering) and in many of the villages. Settlements with a substantial boot and shoe industry underwent a considerable growth and many former villages became industrialised towns by the end of the 19th-century. The population graph of Northamptonshire as a whole shows a steady rise in population, continuing a trend from the early 19th-century. However the populations of individual settlements, noticeably Northampton, Kettering and Rushden, underwent a phenomenal growth during the second half of the century. Ironstone quarrying also became a major industry in the late 19th-century and employed a considerable proportion of the population of the county. The development of the railway network through the county from the 1830s onwards had a major effect on communication systems. The coaching era came to an abrupt end having a major impact on the settlements which had relied so heavily on the passing trade this had brought; canal and river traffic continued in operation, but gradually declined in importance. The Midland Railway line, in particular, appeared to have a major impact on settlement and industry in the area. A large number of local government functions including school boards, burial boards, boards of health, sanitary authorities, town councils and urban and rural district councils were developed during the late 19th- and early 20th-centuries. Schools, hospitals, local government offices and cemeteries were established by these organisations. The urban environment of the county was characterised by the development of large mixed zones added to the original core of settlements. These zones contained a mixture of houses, shops, factories, schools, chapels and social clubs. The rapid rate of social change in the period following 1850 was clearly instrumental in developing a form of working class consciousness. During the late 19th-century a number of working class movements developed in Northamptonshire including the temperance movement, a large number of co-operative societies and a network of working men's clubs.

3.1.3. Northamptonshire in the period following 1960

A further change has been experienced in Northamptonshire in the latter part of the 20th-century. The county has seen the decline of its two main industries – ironstone quarrying and the manufacture of boots and shoes. The former industry has ceased completely, whilst the latter remains in existence with a few key firms still in operation, but the scale of the industry has declined considerably. The railway infrastructure has also been considerably depleted, with the closure of a large number of branch lines in the 1960s. The main lines through the county have, however, remained in operation. The central location of the county has remained important to its development. The county has good communication links with the M1 motorway passing through its boundaries and the recent development of Daventry International Rail Freight Terminal. Distribution is one of the key industries in the county, in addition to light engineering. Northamptonshire is also part of the extended commuter belts around London and Birmingham. Other developments have included the expansion of the leisure and service industries, the growing importance of information technology and the segregation of commerce, business, sport and leisure from domestic life. The latter can be seen in the physical development of the county with the creation of specialised housing estates, industrial estates and out-of-town retail and entertainment complexes. The changes that have occurred in Northamptonshire in the past 40 years have been mirrored across the Great Britain. There is now a far greater homogeneity of our social and economic life and greater uniformity of the built environment than ever before. This period in Northamptonshire's development will not be considered further in this paper.

5 Industry

5.1 Craft industry 1750-1850

In the period between 1750 and 1850 there were a number of different cottage industries operating in Northamptonshire including the woollen industries (weaving and woolcombing), lace making, silk making and the boot and shoe trade. The work that has been conducted on these craft industries in Northamptonshire has been from a primarily documentary perspective and there has been little archaeological investigation.

The majority of industry in this period was craft based and conducted within a domestic setting. The key issue is whether the houses of domestic workers had any distinctive characteristics. Craft industry in Northamptonshire was poverty based hence there was little large-scale investment. Many buildings would have been of low status and poor construction and therefore do not survive. There was a large weaving industry in the county, but few known examples of 'weavers windows' probably due to the lack of survival rather than building patterns in the county. Different industries were based in different geographical areas of the county; the Kettering area was renowned for its weaving industry, Wellingborough had a large boot and shoe industry at this early date and Long Buckby was a major centre for woolcombing and later developed a boot and shoe industry.¹¹ There are a large number of surviving small and medium sized outbuildings and workshops in Long Buckby, which have yet to be identified to particular functions.¹²

There were centralised processes for these industries including fulling mills, dye works¹³ and tanneries. A combination of documentary and archaeological work needs to be undertaken in order to identify the location of these monuments. It is possible that some of the watermills and windmills in the county were used for industrial processing before being converted for use as corn mills, detailed work on individual buildings is required to determine whether this information can be studied archaeologically. There were also a number of large individual manufactures in the county in the 18th and early 19th centuries including the bell foundry at Kettering, the carpet factory at Burton Latimer¹⁴, the cotton mill in Northampton and woollen mills at Burton Latimer and Brigstock¹⁵. The majority of these structures have either been demolished or have not been located.

¹¹Based on data taken from Hatley VA, 1973, Northamptonshire Militia Lists 1777.

¹²Ballinger J, 1999, Draft Extensive Urban Survey report for Long Buckby, Northamptonshire Heritage

¹³Raybould W, pers comm – only 2 rural dyers have been identified through documentary sources.

¹⁴Ballinger J, 1999, Draft Extensive Urban Survey for Kettering and Burton Latimer

¹⁵Raybould W, pers comms

5.2 Mechanised industry 1850 onwards

5.2.1 Boot and shoe

The boot and shoe industry, which had been an important craft industry in Northamptonshire in the 18th- and early 19th-centuries, underwent a massive expansion during the late 19th-century and became the major industry for the county. The industry was the central factor in the industrialisation of Northamptonshire. The main period for growth was between 1851 and 1901. This coincided with the mechanisation of the industry after 1857 when the sewing machine was introduced. The factory system was established gradually between 1857 and 1895 - during this period domestic manufacture and factory manufacture existed side by side.¹⁶ There was also a large supporting industry for the boot and shoe trade in the county. Tanning and leather dressing and preparing were major elements of this and the manufacture of specific elements of boots and shoes including heels, lasts, laces, uppers, ink, wax, buttons and buckles, Dubbin and polish were also a substantial offshoot. Companies also existed for the specialised manufacture of machinery, tools and even cardboard boxes for the shoe trade. The boot and shoe industry had a substantial impact on a large number of towns and villages in the county, with particular reference to Northampton, Kettering, Wellingborough, Rushden and many of the villages in the surrounding area.

There has been a substantial amount of work undertaken on the boot and shoe industry in Northamptonshire with particular emphasis on documentary research and on the products of the industry; Northampton Museum and Art Gallery has a nationally important collection of boots and shoes. Some work has been conducted on the buildings associated with the boot and shoe industry in Northamptonshire including a survey by NIAG in the 1980s¹⁷ and several dissertations by students at Leicester University and University College, Northampton. A county-wide survey of the industry is currently being undertaken by English Heritage (the former emergency recording team of Royal Commission of Historical Monuments of England). The survey was conceived in three stages. Stage one was preliminary documentary research to establish the context of the industry and identify sites. Stage two was a rapid survey of extant sites, leading to the production of brief individual site reports and a short summary document. The first two stages of the project are now complete. Stage three was to provide a more detailed investigation and research into selected sites, possibly leading to a thematic publication. The details of stage three of the project have yet to be agreed.

5.2.2 Brewing and malting

The history of brewing in Northamptonshire has been fully documented by Brown¹⁸. The book provides a detailed business history of all known breweries in the county from the late medieval period to the present day. There has, however, been little archaeological work on the surviving remains of the industry in the county. Prior to the 19th-century brewing was primarily a domestic industry or conducted on a small commercial scale by landlords and publicans. There was a substantial growth in commercial brewing in the early 19th-century and a technological revolution from the 1850s onwards. Northamptonshire, like most counties, had a number of large commercial breweries in the 19th-century, which were located in the traditional market towns of Wellingborough, Kettering, Brackley, Towcester and Oundle. There were also a number of large malt houses in the county particularly in Wellingborough and Oundle.

5.2.3 Foundries and Engineering

There were a substantial number of foundries and engineering works established in Northamptonshire during the 19th century. Foundries were attached to some of the iron smelting works in the county, but the majority were separate establishments which specialised in the production of castings. There were others that had a joint role as engineering works. Engineering works in the county were often established with a particular market in mind. A large number of firms provided machinery for the boot and shoe trade, but there were other specialisms

¹⁶Trinder B, 1998, *Industrial Archaeology in Northamptonshire: A report for Northamptonshire Heritage*

¹⁷Starmer G, 1982, Northamptonshire Footwear Building Survey, NIAG newsletter No 9.

¹⁸Brown M, 1998, *Brewed in Northants: A history of brewing in Northamptonshire 2450-1998*

including the manufacture of playground equipment at Wickstead works in Kettering. Starmer has conducted extensive survey work on foundries; this involved a combination of documentary research and a description of the surviving buildings and products¹⁹. Intensive survey has included the recording of working practices in foundries prior to closure (by Northamptonshire Industrial Archaeology Group) and an undergraduate dissertation on the Smith and Grace iron works in Thrapston.

5.2.4 Clothing manufacture

The manufacture of clothing was an important industry in a number of towns along the Ise Valley in Northamptonshire including Kettering, Rothwell, Desborough, Burton Latimer and Wellingborough and there were also factories in Brigstock and Cottingham. The manufacture of stays and corsets appeared to be a particular local specialism. The Co-operative societies were involved in the industry as well as a number of private entrepreneurs. There has been no substantial archaeological or documentary work conducted on the clothing manufacturing industry in Northamptonshire.

5.2.5 Other

There are a number of individual industries of importance to Northamptonshire, which have an input into national and regional markets. These include the Smith and Grace Pulley Works at Thrapston, Express Lifts in Northampton, Elementis dye works at Deanshanger²⁰ and the Portland Cement Works at Irthlingborough some of which have already been considered as part of the work of Northamptonshire Heritage.

5.3. Extractive industries

The major issue in relation to the extractive industries in Northamptonshire was the lack of coal seams in the county. The absence of this raw material contributed to the slow process of industrialisation in Northamptonshire. The lack of coal was a real geological shortage rather than a lack of initiative or entrepreneurs in the county. There were several failed attempts at coal exploration in Northamptonshire including one by the New Great Central Coal Mining Company in Kingsthorpe in 1854.²¹

5.3.1. 1750-1850

The main extractive industries operating in the period were the stone and slate quarrying industries. Regional and even nationally important quarries were located at Weldon, Helmdon and Collyweston and there were substantial quarries for more local distribution of stone at Kingscliffe, Stanion, Raunds (marble), Watford (marble) and Duston (slate)²². In the 18th and 19th-centuries “parish stone pits” were opened up to provide stone for local building purposes.

The Collyweston slate industry, based in Collyweston, Duddington, Easton-on-the-Hill and Kirby, was of national importance, with slates having been quarried from the Roman period onwards. The peak years for the industry were between 1715 and 1730 with the re-building of Stamford and Oundle. The industry declined during 1850-1870 with competition from Welsh slate (which was made easily available through the railway system), but was revived in the late 19th and early 20th centuries. Collyweston slate was mined underground rather than being subject to open cast quarrying. The slate quarriers did everything on the site including mining the logs, bringing sand and limestone to the surface, dressing the slates, burning the lime, making the laths and fastenings and transporting the slate to individual buildings to be attached to the roof. The ‘logs’ of Collyweston slate are located between sand and limestone and a large amount of the slaters time was spent excavating sand and providing permanent support for worked out areas; the slate itself is split through frost action. Large number of former quarries shown on ordnance survey maps indicating that farmers had their own individual slate pits.

A considerable amount of work has been conducted on stone types in the county and their use in individual

¹⁹Starmer G, 1981, A checklist of Northamptonshire Foundries, NIAG Newsletter No 4

²⁰Archaeological planning briefs, Northamptonshire Heritage

²¹Northampton Mercury, August 1854

²²Victoria County History, 1906, *The Victoria History of the County of Northampton, Vol 2*

buildings.²³ The work by Sutherland and Hudson has been conducted from a primarily geological point of view, but is likely to be of considerable importance to an archaeological understanding of the industry. Quarries were identified from documentary sources, surviving remains were located and geological samples taken; the samples have been used to identify the stone used in individual buildings in the county.²⁴

5.3.2. 1850 onwards

5.3.2.1. Ironstone quarrying

The modern ironstone quarrying industry in Northamptonshire originated in the 1850s and continued in operation into the 1960s. The development of the industry in Northamptonshire coincided with the recognition of the limitations of the ore deposits in the traditional iron-working regions of Coalbrookdale in Shropshire and the Black Country. The large-scale mechanisation of quarrying commenced with the introduction of the county's first mechanical digger in 1895. The ironstone quarries and mines and their associated railways and machinery had a dramatic impact on the landscape of Northamptonshire during their period of operation. The land has however been re-developed in order to enable re-use and there are few remaining traces of the industry.²⁵

The ironstone industry in the county has been subject to a considerable amount of study. Stanley Beaver studied the history and development of the site and recorded working practices in the 1930s, Geoffrey Starmer undertook a photographic survey of industry in the latter part of the 20th-century and Eric Tonks has undertaken a comprehensive survey of the historical development and surviving archaeological remains of the industry. Francis Scopes has chronicled the development of the Corby works in the late 20th-century. Remains of the iron ore quarrying industry in the 1980s and 1990s included disused quarries, bridges, derelict cutting and embankments of the associated railways, remains of tunnels and the ruins of buildings.²⁶ Sites of particular importance include Irchester Country Park and narrow gauge railway and surviving ropeway, tippers and winding gear at Easton on the Hill.

5.3.2.2. Ironstone smelting

Iron smelting was closely linked to ironstone quarrying in Northamptonshire in the 19th and 20th-centuries. Iron ore was smelted at a total of 12 sites over a 124-year period beginning in 1857 and ending in 1981. By the end of World War II only four iron furnaces remained in operation. The majority of iron ore furnace sites in the county have been largely destroyed, however there are three sites (at Towcester, Heyford and Corby) which are of potential archaeological value.²⁷

5.3.2.3. Brickworks

Bricks have been made in the county since the Roman period and there have been references to brickworks in the modern sense since the 17th-century, but the only recorded examples in the county are from the 19th-century. There were a large number of brickworks in operation in the county in this period. These were located on country house estates, along communication routes (including the Grand Junction Canal) and on the periphery of a large number of towns and villages in the county. Documentary research conducted by Richard O'Rourke in 1970 indicates that there were at least 139 brickwork sites in the county in the late 19th- and early 20th-centuries. The potential of both geophysical survey and excavation for the study of brickwork sites in the county

²³Hudson J.D. & Sutherland D.S., 1990, "The Geological Description and Identification of Building Stones: Examples from Northamptonshire", *Stone: Quarrying and Building in England AD 43-1525*; Steane J, 1974, *Northamptonshire Landscape*, Hodder and Stoughton; Parry, E G, 1986-87, 'Helmdon Stone', *Northamptonshire Past and Present*, VII (4), 158-70.

²⁴Sutherland D, pers comms

²⁵Trinder B, 1998, *Industrial Archaeology in Northamptonshire: A report for Northamptonshire Heritage*.

²⁶Tonks E S, 1988-1992, *The Ironstone Quarries of the Midlands: History, Operation and Railways Part 2-6*

²⁷Trinder B, 1998, *Industrial Archaeology in Northamptonshire, A report for Northamptonshire Heritage*

has already been tested at Weekley and Faxton respectively.²⁸

Very few brickwork sites were still in existence by the mid 20th century. Raunds Manor Farm brickworks was the notable exception as it remained in operation until the late 1970s. Many 19th-century brickwork sites, in close proximity to towns and villages, were built over by successive waves of settlement development. There are some surviving brickwork kilns (at Brixworth, Castle Ashby, Spratton, Great Doddington, Harlestone and Raunds)²⁹ and a larger number of earthworks created by clay extraction. It is possible that a number of buildings associated with works, such as offices or managers house, may survive.

5.3.2.4. Cement works

There was just one Portland Cement Works in Northamptonshire, which was located in Irthlingborough. Cement production began on the site in 1898 and continued in production until 1928. There are a number of buildings and earthworks associated with the site still in existence, although the main works have gone. It is, however, likely that other regions including Kent and Gateshead with far larger numbers of works will have a greater contribution to make to an understanding of the cement production industry.

²⁸Dix B, Masters P, Jones S, Kettering Northern bypass: Earthwork survey at Boughton Estate near Weekley, Northamptonshire Archaeology Unit, 1992; Bellamy B, 1985, A nineteenth century bottle kiln at Faxton, *Northamptonshire Archaeology Vol 20*.

²⁹Cadman G, pers comms

5.4. Power

5.4.1. 1750-1850 The main source of power in the period 1750-1850 was wind or water; with the majority of parishes having a windmill or watermill in close proximity to the main settlement. Many of these structures remained in use throughout the 18th and 19th-centuries, but were becoming redundant by the early 20th-century. A large number of mills in the county have been identified by Starmer through documentary sources and could be traced to determine how many have above or below ground survival.¹ A number of wind and watermills (including the windmill at Blakesley and the watermills at Blatherwyke and Perio Mill, Fotheringhay) have been assessed by Northamptonshire Heritage buildings team in relation to listed building applications.

5.4.2. 1850 onwards

The potential sources of power for industry increased dramatically during the course of the 19th-century. The steam engine was developed in the 18th-century and was in wide-scale use by the 19th-century, town gas or coal gas was in use for powering engines from the early 19th-century with gas works being established in many settlements in the county between the 1820s and 1870s. Electricity was developed for industrial purposes in the 1880s and electricity works appear to have concentrated in the larger industrial settlements in the county with works at Northampton, Kettering, Wellingborough and Rushden.

The power sources for factories and other industrial complexes in Northamptonshire for the period following 1750 has not been systematically investigated; although the NIAG boot and shoe survey conducted in the 1980s challenged the previously held view that gas engines were powering the majority of factories in the county. Documentary evidence indicates that steam engines were used in a number of factories in the county.

6. Public utilities

6.1. 1750-1850

Little is known about the provision of water and sewage facilities in the period immediately following 1750. No extensive documentary or archaeological work has been conducted on the subject. Provision was local and tended to be based on natural sources such as wells, streams and ponds; village pumps were also developed. There are documentary references to health problems caused by the misuse of these water sources. In the early 19th-century 'Improvement Acts' were enacted in some settlements in the county including Oundle and Brackley; these acts were a first attempt to improve sanitary conditions in the county. Archaeological investigation including detailed topographical survey and excavation may be able to determine whether and at what date the provisions of these acts were carried out.

6.2. 1850 onwards

There was a large-scale expansion of the provision of public utilities from the early 19th-century with the majority of towns and villages gaining provision for gas, water, sewage and fire; although the later development of electricity was concentrated in large urban areas. There is a considerable amount of detail about these utilities for individual parishes in the trade directories of the period, but there is no published information bringing together all the detail.

7. Agriculture

Dramatic changes were occurring in agriculture as well as in industry in the period following 1750. These

¹ Starmer G, 1970, A checklist of Northamptonshire Wind and Watermills, *CBA Group 9 Bulletin XII*

development do not fit neatly into the two period bands being used for this paper, but the process of enclosure was a distinctive feature of the earlier period whilst improvements in agricultural methods and technology gathered pace during the latter period.

7.1. 1750-1850

Parliamentary enclosure was being enacted in Northamptonshire throughout the period 1750-1850 and had a dramatic impact on both the landscape and the social and economic situation in the county. An extensive survey has been conducted on the enclosed fields of Northamptonshire, but this and the full impact of enclosure in the county is addressed in the paper on the post-medieval period.¹

7.2. 1850 onwards

Improvements in farming methods began to develop in the 18th-century, but were being used on a national level by the 1820s and 1830s. A variety of changes and improvements were brought about in agriculture including scientific systems for cattle breeding and new approaches to crop rotation and drainage systems. Many of these developments are unlikely to have left substantial physical remains, but there are some aspects that can be studied archaeologically.

New buildings were being erected during this period of agricultural change. Planned farms were being developed away from nucleated villages in the centre of large areas of land. These farms were built to fulfil the functions required by new agricultural methods and techniques without the constraints of earlier development or restricted plots of land. Northamptonshire took an active part in the English Heritage Historic Farm Buildings programme that studied planned farms, which were described as “farms built at one time to a previously determined plan, often, but not always, designed by an architect”. A number of Northamptonshire farms were studied, although the selection was based on known examples and there was no systematic countywide survey. Tentative conclusions indicate that the farms were associated with late enclosure and large estates².

New machines for agricultural processing were developed during the 18th- and 19th- centuries and remnants of these early machines are often found lying disused in farmyards etc. Agricultural machines had to be manufactured and during the 19th-century many towns in Northamptonshire had “agricultural implement makers” listed amongst their tradesmen. The buildings for these works are often indicated on early Ordnance Survey maps. A combination of archaeological and documentary study of the manufacture and distribution of these machines should provide information about the inter-relationship between towns and the rural environment, the date of production and use of these machines and their effectiveness for agricultural improvements. The survey work conducted by Geoffrey Starmer on foundries in the county may prove useful in this context³.

8. Settlement

8.1. 1750-1850

The settlement pattern of Northamptonshire in the period 1750-1850 remained relatively consistent from the medieval and post-medieval periods. The population was primarily rural and was based in nucleated villages, although there was some dispersal with farms moving out into the countryside following enclosure. The majority of market towns, which were identified from documentary sources in the mid 18th-century, continued in existence as urban centres. The markets at Rockingham, West Haddon and Weldon had, however, gone out of use by the mid 19th-century. The profile of these market towns remained largely the same, although a select number of towns including Towcester, Daventry and Brackley benefited considerably during the coaching era. A number of towns and villages of this period were studied as part of the Extensive Urban Survey in the county, but they were chosen for their characteristics in the late 19th and early 20th centuries and are therefore unlikely to be

¹Hall D, *Enclosed Field Systems of Northamptonshire*; Hall D, *East Midlands Regional Research Frameworks, Northamptonshire Post Medieval period*.

²Bond A, pers comms

³Starmer G, 1981, *A checklist of Northamptonshire Foundries, NIAG newsletter No 4*

representative of settlements at this earlier phase. Further work is required on other settlements in this period to reflect the important places during the 18th and early 19th-centuries.

8.2. 1850 onwards

The mid 19th- to early 20th-century is characterised by substantial changes in settlement patterns; the main feature of which was a process of urbanisation with a high proportion of the population shifting from a rural to an urban environment. The process of urbanisation in Northamptonshire at this time was linked to the accumulative effect of enclosure and the mechanisation of industry, which was providing employment in urban areas. The large towns of Northampton, Kettering and Wellingborough underwent a substantial growth in the late 19th-century, but many of the other traditional market towns such as Daventry, Brackley, Towcester, Oundle and Thrapston did not experience such substantial development. The industrialisation of the boot and shoe industry had a major effect on settlement patterns; a number of villages such as Rushden, Raunds, Irthlingborough, Desborough and Earls Barton expanded rapidly due to the domination of this trade in the settlement. Rushden, in particular, developed from an average village into a substantial Victorian town due to the influence of the boot and shoe industry. The market towns of Higham Ferrers and Rothwell also underwent substantial growth based on boot and shoe production. The Extensive Urban Survey funded by English Heritage surveyed 16 industrial towns in Northamptonshire to assess their character and development, but further work is needed to consider the effect of rapid urbanisation on settlements.⁴ Key settlements which have not been studied include Northampton, the canal settlements of Braunston and Stoke Bruerne, Weedon Bec as the location for the Napoleonic Barracks, the railway settlement of Woodford Halse and the large boot and shoe villages of Earls Barton and Wollaston. Rural settlement in the late 19th-century has not been subject to survey, but it is assumed that there was a relative depopulation of smaller villages due to urbanisation and the development of farm complexes in the open countryside.

9. Communications

9.1. 1750-1850

Northamptonshire was effected by both of the transport revolutions of the period 1750-1850 period - the coaching era and the canal era - and to a considerable degree became a thoroughfare county. The key question which needs to be addressed when considering the transport networks in Northamptonshire in the period 1750-1850 is why did the success of these routes not lead to an earlier process of industrialisation in the county.

9.1.1. Roads

There was a substantial change to the road network in the period following 1750. A number of new roads were established by enclosure awards and these were built to standard specifications and widths. Turnpike roads were established in the 18th century and Northamptonshire (including the Soke of Peterborough) had a total of 36 turnpike trusts, which were created by Act of Parliament between 1706 and 1826. The London to Holyhead road was established through the county, on the alignment of the former Roman Watling Street, in the early 19th-century. There were a number of road improvements and civil engineering works conducted on the road through the county. The alignments of the majority of these roads remain in place as modern roads, but no detailed work has been undertaken to determine how many associated buildings, such as toll houses and inns and alehouses to service travellers, remain. There has been some work conducted on turnpike roads in the county by Cossons, but this has been primarily based on documents.⁵

9.1.2. Canals

Water transport was an equally important communication link through the county in the late 18th- and early 19th-centuries. The River Nene was made navigable following an Act of Parliament in 1756. Work progressed upstream and the river was eventually made navigable to Northampton in 1761. The river made Northamptonshire accessible to the East Coast and was a commercial success. A number of wharves were

⁴Ballinger J, 1999, Draft Extensive Urban Survey Overview and Strategy.

⁵Cossons A, 1950, 'The Turnpike Roads of Northamptonshire and the Soke of Peterborough' *Northamptonshire Past and Present* 1(3) 29-46

established along the route including at Oundle and Higham Ferrers. The canalisation of the River Nene also altered communication routes in the county through the abandonment of many cross-valley tracks and causeways which had been used previously. Three canals traverse Northamptonshire; the Oxford Canal constructed between 1769-1793 and straightened 1831-4, Grand Junction Canal constructed between 1793-1815 with the Northampton Arm completed in 1815 and the Grand Union Canal built between 1810-1841. The early alignment of the Oxford Canal survives in part as an earthwork and the remaining canals are still in use.⁶ In addition to the canals themselves there are a substantial number of surviving locks, tunnels, bridges, pump houses, canal workers cottages, wharves and warehouses in association with the route. There are a number of books that have considered the historical development of the waterways of Northamptonshire, but not from a primarily archaeological perspective. Some archaeological recording has been undertaken on the tunnel between Stoke Bruerne and Blisworth and on the tramway which was erected over the top of it whilst it was under construction.

9.2. 1850 onwards

9.2.1. Railway

The railway network through Northamptonshire was established from the mid 19th-century onwards. The London and Birmingham Railway opened in 1838 and the Midland Railway opened through Kettering and Wellingborough to Bedford and Hitchin in 1857 and to London St Pancras in 1868. There were a substantial number of passenger branch lines established within the county boundary and railway systems were also used extensively for the ironstone quarrying industry.⁷ The railways had a major impact on industry and settlement in Northamptonshire and are important as transport networks and feats of engineering. Only the London and Birmingham route, the Midland mainline and some sections of the Great Western routes to the south of the county remain in operation following the Beeching cuts of the 1960s. There are, however, a number of surviving alignments complete with earthworks, embankments, bridges and tunnels; a number of buildings associated with the railway also survive. The historical development of the railways in the county has been well documented, but there has been little archaeological work. Some archaeological work has been conducted at Southbridge in Northampton, which has placed railway buildings within their wider context. The construction of the railways is also an important issue and Barrie Trinder of Northampton University College has outlined a research agenda for the study of navy camps in the county.⁸

10. Commerce

10.1 1750-1850

In the early phase commercial activity remained centred around the traditional market towns in the county. In the mid-18th century markets were still in operation at West Haddon, Higham Ferrers, Northampton, Daventry, Kettering, Oundle, Rockingham, Rothwell, Towcester, Wellingborough, Brackley, Weldon and Thrapston.⁹ Analysis of carrier networks within the county from trade directories indicates that the majority of journeys were to towns on market days. The market place tended to have a central location within the topography of the town which had been established at an early date. Public houses and inns were located in most settlements in the county, but were particularly numerous in market towns and settlements with a large through-trade in the coaching era. Traditional retail trades such as butcher, bakers and tailors were found in many villages as well as the market towns. Shop frontages were inserted into existing buildings from the 18th century onwards. The precise nature and function of early retail premises has not been systematically studied.

10.2 1850 onwards

The mid-19th century saw an expansion in commercial activity with the development of a diverse range of retail functions including specialised shops and services such as jewellers, musical instrument dealers, furniture outlets, hat renovators, photographic materials dealers, oil and colour merchants etc.¹⁰ Large purpose-built shops and

⁶ Blagrove D, 1990, *Waterways of Northamptonshire*,

⁷ Trinder B, 1998, *Industrial Archaeology in Northamptonshire: A report for Northamptonshire Heritage*.

⁸ Trinder B, 1998, *Industrial Archaeology in Northamptonshire: A report for Northamptonshire Heritage*

⁹ 1756 War Office statistics

¹⁰ Taken from 19th century trade directories.

department stores and architecturally distinctive banks and post offices were erected in the larger towns and corner shops on the end of rows of terraced houses were developed as part of urban expansion in the late 19th century. Many of the developing Co-operative Societies had an interest in retail and erected large, elaborate commercial premises.

11. Administrative and Social organisation

11.1. 1750-1850

The main bodies for administrative organisation in the period following 1750 continued to be the hundreds and the parishes. Justice was primarily administered through the hundred system and the parish was involved in a range of issues including provision for the poor and the maintenance of roads. The majority of these administrative functions would not have had material remains that could be examined by archaeological study. The main exceptions were the early workhouses, which were administered by the parish and were forerunners to the workhouses of the post-1834 Poor Law Unions. The total number of such institutions in the county is not known, although there were examples at Kettering and Oundle.¹¹ These structures should if possible be examined archaeologically in order to determine the layout of these buildings, the conditions of life for the poor who lived within them and the similarities and differences between these structures and post-1834 workhouses.

There was no large-scale development of social organisation in this period. Non-conformity continued to develop and a number of non-conformist chapels were erected in the county in the 18th- and early 19th-centuries. These were primarily for Baptist, Independent and Methodist denominations, although there were also some Quaker Meeting Houses established. The Royal Commission of Historical Monuments of England conducted a survey of 85 non-conformist chapels in the county in the 1980s, but the survey was primarily architectural and there was little analytical consideration of these structures as a building type.¹² The Extensive Urban Survey revealed that there were a large number of non-conformist chapels in the settlements throughout the county, with a minimum of three in some of the smaller settlements and over 20 in the larger settlements of Kettering, Wellingborough and Rushden. A large number of chapel buildings survive, but many have been converted for alternative uses. Extensive survey is required to determine the number and type of chapel buildings in Northamptonshire.

11.2. 1850 onwards

The mid-19th-century onwards was characterised by increasing complexity in administrative and social organisation. These were primarily associated with national initiatives, but this also coincided with the period of urbanisation in Northamptonshire. A wide range of administrative organisations were established during the course of the 19th-century. These included Poor Law Unions, borough, rural and urban councils, school boards, burial boards, boards of health and sanitary authorities. A vast range of buildings were erected by these organisations including workhouses, town halls, schools, cemeteries, hospitals, police stations, water and sewage works. There was also a tremendous expansion in the number of social and recreational facilities provided including libraries, parks, art galleries, sports facilities, working men's clubs, theatres, cinemas and non-conformist chapels. There has been no known archaeological work conducted on these structures in Northamptonshire.

11. Military

Three factors help characterise the military presence in this era. Firstly, the modern army whose origins may be traced to shortly before the start of the period, experienced a cycle of wartime expansion and peacetime contraction allied to a series of army reforms. Secondly the traditional billeting system was swamped by the increasingly large scale of war with its new tactics and all year campaigning. Thirdly, Northamptonshire's position far removed from the coast and the immediate threat of raids and invasion placed it, until the arrival of the Cold War, well behind any notional 'front line'. The resultant archaeological legacy may be meagre in comparison with other parts of the country, but is not without interest providing an opportunity to trace the

¹¹Ballinger J, 1999, Draft Extensive Urban Survey reports for Oundle and Kettering.

¹²Royal Commission for Historical Monuments of England, Non-conformist Chapels in Northamptonshire and Oxfordshire.

growing impact of the military on the landscape of a Midland shire county.

11.1. 1750-1850

In the absence of any contemporary fortifications or battlefields, physical interest is primarily restricted to two newly emerging classes of military buildings, Gibraltar Barracks in Northampton and the Royal Ordnance Depot at Weedon Bec.

The demands of the Napoleonic Wars and the increase in radicalism at home led to an acceptance of the need for barracks late in the 18th century. Gibraltar Barracks, erected in 1797 for cavalry and subsequently modified and expanded for infantry, was amongst the first wave of permanent barracks built by the new Barracks Board in England¹³. Only two ranges, (both from late phases?) with some ancillary remains still stand. Whilst much less well preserved than some of its contemporaries, it is potentially of county importance, offering a last opportunity to record and investigate standing parts of the county's earliest permanent barracks. Much of the northern part of the site was destroyed without record, by the construction of the town's modern GPO Sorting Office.

The extensive and nationally important grade II* listed complex of Weedon Depot built by Board of Ordnance in the early 19th century, incorporating massive storehouses and magazines, has been subject to recording by RCHME who have observed that "away from the nation's coasts there are few more impressive reminders than Weedon of the scale of military planning which was undertaken under the threat of Napoleonic invasion"¹⁴. Considerable scope exists to extend understanding of the development and operation of the Depot along with its wider impact on the development of Weedon village and on the surrounding landscape including the site of a redoubt, believed contemporary with the Depot¹⁵. Up to five 19th century military encampments, some possibly associated with canal transshipment and with Watling Street, are known from metal detecting but await full publication (pers comm D Derby). More such temporary military camps can be anticipated though whether directly associated with Weedon or local militia or with passage of soldiery through the Watford Gap is unclear. Such sites have been little studied. The extent of contemporary documentation has yet to be determined but it may be that archaeological fieldwork and recovery of military metalwork provides the best means of recognising and understanding such sites and their context.

11.2. 1850 onwards

In 1859 the Clare Street Militia Store (recently listed) incorporating sergeant's accommodation and a small hospital with later Drill Hall, was built in response to demands to increase both military accommodation and recruitment. Externally striking in its guise of mock castle it may well warrant a recording assessment before its inevitable retirement from military service. Drill halls also became a feature of many other towns, though their numbers are now rapidly declining with minimal study.

The potential in respect of military encampments has been dealt with above. Evidence for military fieldworks is even more scarce. Some potential may exist, if not on the scale found in some parts of the country¹⁶. Military manoeuvres and training exercises intensified (for example, Yeomanry summer camps becoming compulsory from 1901), and limited remains may be identifiable as earthworks or cropmarks, the latter possibly at Charwelton and Boughton.

The increasing technological and industrial sophistication of 20th century conflict is evidenced in increased local war production. Major munitions factories from WW1 at Warkworth, now represented by extensive earthworks, and in both world wars at the Abbey Works in Northampton, are the subject to recent reporting¹⁷. Other examples of wartime manufacturing and storage have been little investigated though it is clear that scope exists, for example at Weedon Depot and its dispersed sites, for aircraft parts assembly and repair in Northampton and at Armstrong Whitworth's Sywell plant, for work at Corby on 'Pluto' and the Mulberry harbours and for specialist boots and uniform production at various locations. Borough Hill was a focus for development of radar and the operation of

¹³ Douet J (1998) *British Barracks 1600-1914, Their Architecture and Role in Society*. English Heritage

¹⁴ Menuge A & Williams A (1999) *Royal Ordnance Depot, Weedon Bec Northamptonshire*. Unpub.RCHME survey report.

¹⁵ RCHME (1981) *An Inventory of the Historic Monuments in the County of Northampton Volume III Archaeological Sites in North-West Northamptonshire*. HMSO p194-195

¹⁶ See for example Smith N (1995) Military Training Earthworks in Crowthorne Wood, Berkshire: A Survey by RCHME. *Archaeolo.J.*, 152 422-440

¹⁷ Northamptonshire Archaeology (1999) *Evaluation of the Archaeological Potential of the Former Express Lifts Abbey Works Site, Weedon Road, Northampton. Stage 1: Desk-Based Assessment*. Cocroft W (forthcoming) *Dangerous Energy Survey* RCHME/English Heritage

aircraft navigation systems¹⁸.

WW2, and the age of 'total war' engulfing entire populations, witnessed a considerable intensification in military activity with consequent impact on the landscape, including that of Northamptonshire. The nature and scale of this varied greatly; many of the sites are very prone to decay and loss, being built at a time of emergency with no thought of permanence. Northamptonshire lay behind the static anti-invasion defences established in 1940 and thus lacks evidence for fixed stoplines or associated defences though part of the anti-invasion 'mobile reserve' for a while occupied an area north of London embracing Northamptonshire. Northampton and Kettering were designated as anti-tank islands with all round defences. There was a considerable RAF and US airforce presence in the county, with associated bombing ranges and decoy sites, along with a wide range of training, storage and Civil Defence activities. Key surviving sites include select airfield defences, Weedon Depot, and the two Cold War Thor missile sites at Polebrook and Harrington.

Largely due to Defence of Britain Project volunteer recording and the CBA conducted MPP archive based project, the county SMR now holds details in excess of 400 20th century military sites, compared with barely a handful 5 years ago. The rate of loss remains high and though fieldwork has a role in recording and understanding military concrete, including anti-invasion and a wide range of other structures prior to vandalism or conversion, it is clear that documentary sources together with AP work, provides a major way forward¹⁹. However, recent fieldwork on that most ubiquitous of military structures, the pillbox, has demonstrated that a greater variation in execution than is necessarily indicated by the documentary record (pers comm M Osborne). Whilst research and conservation strategies for some classes of monument, such as airfields and the remains of the Cold War (when Thor missiles sites placed the county in the front line for the first time), is being led by national initiatives, there is with other classes, considerable scope for more locally based investigation, such as that pioneered in the county by Hollowell on Northampton's anti-invasion defences²⁰.

The impact of military activity on activity on earlier landscapes, such as historic parks and country houses with the imposition of storage (fuel and even works of art), hospitals and training centres, has received little attention to date.

Conclusion

The study of the industrial period lags far behind that of other periods and a considerable amount of work is required to ensure that industrial and modern sites and monuments are considered as of equal importance as all other archaeological remains. A draft Industrial Archaeology Strategy for Northamptonshire has been prepared and the main objectives have been summarised in Appendix A. The essential pre-requisite for the study of the industrial period in Northamptonshire is that any work carried out is related to a clearly defined research agenda.

The key questions which need to be considered for the development of Northamptonshire in the period following 1750 are: Why did the county not experience large-scale industrialisation until after 1850? Were the factors behind industrialisation / urbanisation in Northamptonshire similar or different to those in counties that had experienced industrialisation at an earlier date? What does industrial archaeology have to contribute to these research themes?

The research agenda which should underpin any work on an archaeological monument of the period following 1750 needs to centre around what was driving the process of industrialisation at such a late date in Northamptonshire. Central questions to be addressed in considering individual buildings and site are: Who it was built by? Who it was built for? When it was built? Where the capital came from? And how did this relate to the overall process of industrialisation in Northamptonshire and the country as a whole?

Potential research topics

Link between craft industry and larger scale manufacturing in the period prior to 1850.

Research into the type of accommodation used for domestic industry in the period prior to 1850.

¹⁸ Gibson M L (1982) *Aviation in Northamptonshire, An Illustrated History*. Northamptonshire Libraries

¹⁹ Dobinson C, Lake J & Schofield A J (1997) Monuments of War: Defining England's twentieth century defence heritage, *Antiquity* 71.272, 288-99.

Schofield J Edt (1998) *Monuments of War, The Evaluation, recording and management of twentieth-century military sites*. English Heritage

²⁰ Hollowell S (forthcoming) Northampton's WW2 Defences. *Northamptonshire Archaeology*

Understanding of the organisation of the boot and shoe industry in Northamptonshire with particular emphasis on pre-1857 industrial buildings, the longevity of outworking, the effect on building design of changing technology, the effect on building design and location of local government building bye-laws, the relationship between factory, outworking and domestic units, the endurance of on-site housing.

Use and distribution of building stone in the county and its relationship to status.

Extraction and craft techniques relating to Collyweston slate industry.

The relationship between urbanisation / communications revolution within the county and the production of bricks with particular emphasis on the distribution of bricks.

Development of watermills along the River Nene and their link to the river as a transport system.

Power sources for factories and other industrial complexes in Northamptonshire.

Relationship between development of planned farms, enclosure, land ownership and new 'scientific' methods of farming.

Continuity and change in settlement patterns in the county with particular emphasis on urbanisation. Particular emphasis on whether industrialisation / urbanisation improved or worsened living conditions for the population of Northamptonshire.

Successive development of transport networks through the county and their impact on the development of industrial and commercial networks, the expansion of settlements and technological advances.

Impact of Co-operative Movement on the social, economic and physical development of Northamptonshire.

Types of buildings associated with urbanisation and the development of administrative organisations.

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Appendix A

Objectives identified for industrial archaeology strategy in Northamptonshire

Objective 1: To develop a full understanding of the nature, type, extent and location of industrial and modern sites, monuments, buildings and landscapes in Northamptonshire.

Objective 2: To understand the relative importance of individual sites, monuments, buildings and landscapes of industrial and modern interest in Northamptonshire.

Objective 3: To ensure that an appropriate level of protection is given to industrial and modern sites, monuments, buildings and landscapes in Northamptonshire.

Objective 4: To ensure that any alteration or conversion of industrial and modern sites, monuments, buildings and landscapes in Northamptonshire take full account of the historic character and setting of the structure.

Objective 5: To ensure that appropriate recording is undertaken on sites, monuments, buildings and landscapes which are to be demolished or substantially altered.

Objective 6: To ensure that any recording work which is undertaken on industrial and modern sites, monuments,

buildings and landscapes in Northamptonshire contributes to a wider research framework.

Objective 7: To work in line with and to contribute to the development of national policies on the management of the industrial and modern historic environment.

Objective 8: To ensure that knowledge gained about the industrial and modern historic environment of Northamptonshire is made accessible to the general public, students and other professionals.

Objective 9: To work in liaison with other organisations concerned with the industrial and modern heritage of Northamptonshire.

Objective 10: To identify and utilise all known sources of potential funding for the preservation and enhancement of industrial and modern sites, monuments, buildings and landscapes.

Appendix B

A consideration of the use of various sources and techniques for the study of industrial archaeology in Northamptonshire.

Primary Sources

There are a vast number of primary sources which are available for the study of the archaeology of the industrial period these include buildings, landscapes and documents. The contribution these sources make to an understanding of this period has been summarised below. There are other sources for the study of the period, including oral history, has not been considered in detail.

Buildings

There are a very large number of buildings surviving in the county for the period following 1750 including houses, shops, chapels, schools, factories, social clubs and other industrial buildings. These structures provide a valuable resource for the study of the industrial period. Buildings are the primary form of physical evidence for the period and are useful for studying a range of issues. The structure and layout of the building is of primary importance as this is the key indicator in understanding how the building was used and what processes took place within the structure. In the case of industrial buildings the layout of floor levels, windows, doors, hoists and internal machinery can provide detailed information relating to the actual industrial process and how it was carried out. The layout of social, religious and educational buildings can provide insights into the activities carried out within. The detailed study of these buildings may provide evidence for different practices by differing religious denominations, educational groups and social organisations. The level of style and design of individual buildings provides a powerful indicator of the importance attached to image and status. The differences between boot and shoe factories, non-conformist chapels and school buildings which do and do not display architectural embellishment needs to be investigated. Structural changes to buildings are also an important area of study as the continual adaptation of existing structures provides information about technological advances and changing social needs.

Landscapes

Landscapes of the industrial period include purely industrial landscapes (such as those relating to ironstone quarrying in the county) townscapes (with the inter-relationship of factories, housing, shops, social clubs and chapels) and transport and communication networks (of railways, canals and roads). There are also smaller, more closely defined areas such as the surroundings of hospitals, schools and parks etc. The archaeological study of landscapes allows individual monuments and structures to be considered in context and can provide an insight into social and industrial processes. The positioning of individual monuments within their wider landscape can be indicative of particular functions and ideas. The location of cemeteries, hospitals and workhouses on the extremities of settlements provides physical evidence for contemporary ideas about health and social exclusion. The inter-relationship of factory, shoe manufacturers house and working class housing is often a powerful indicator of social and work relations. The analytical study of communication networks and their inter-relationship with industries and settlements can be particularly valuable.

Below ground archaeological remains

The excavation of below ground archaeological remains for the industrial period has far more limited value than the use of the technique for earlier periods. The techniques of map analysis, spatial analysis and field survey can often be used as a valuable substitute for excavation. In many cases there are surviving up-standing examples of the monument type existing elsewhere and therefore excavation in order to understand the nature and development of the monument is null and void. However it should be remembered that surviving buildings and sites might be unrepresentative. Their survival indicates that the structures and techniques employed within them were successful, but they are also likely to have undergone considerable change. Therefore sites which have only below-ground remains are not only likely to survive in something like their original form, but can also provide valuable information about unsuccessful or intermediary techniques. There are some monuments in Northamptonshire that would benefit from below ground archaeological intervention. These include the identifiable sites of early industries including Eyre's bell foundry in Kettering and the carpet manufactory in Burton Latimer, the innovative iron smelting furnaces at Towcester (Trinder, 1998) and working class housing which has been demolished in slum clearances. Successful archaeological excavation would of course depend on the level of subsequent ground disturbance in the area.

Other archaeological techniques such as field walking, geophysical survey, earthwork survey, metal detecting and aerial photography. Many of these techniques have not yet been utilised by industrial archaeology and need to be tested in very specific cases to determine their potential. Geophysics has, however, been successfully tried on a brickworks site in Weekley and techniques such as building recording and topographical analysis have already been used to good effect.

Material culture

Excavation would undoubtedly provide a source for the study of the material culture of the era. The importance of the study of material culture for earlier periods is well established, but has been considerably under-utilised for the period following 1750. Part of the problem is the perceived lack of standardised typologies for the period. Work has, however, been done in this area with the National Reference Collection for Post-Medieval Ceramics based in Stoke on Trent Museum and the work on clay pipes by Robert Moore of Northampton Museum and Art Gallery. The study of material culture for this period would have two major benefits; developing an understanding of working class consumption (social history and museum collections tend to focus upon the upper and middle classes) and studying trade and communication networks in the 18th and 19th centuries.

Documents

There are a very large number and wide range of documents for the industrial period including maps, photographs, newspaper reports, trade directories, parish records and Acts of Parliament. Unlike many documents for earlier periods these sources are readily accessible and are often in printed or published format so that they are easy to read and understand. The major issue with the archaeological study of the industrial period is determining what archaeological techniques can contribute to the understanding of the period that can not be gained from a study of the surviving documentation. The use of documents for industrial archaeological study has been summarised by Palmer and Neaverson.²¹ The major problem with the study of documents is that they are not wholly representative of the society they are portraying. Many sources are misleading as they are written from a particular point of view and often merely reinforce the views of particular groups of society. There are very few documentary sources produced by the working class, particularly in the earlier years of the period, as literacy in this group was limited. The vast amount of documentation for the period needs to be used imaginatively alongside various archaeological techniques in order to provide a complete understanding of the

²¹ Palmer M and Neaverson P, 1998, *Industrial Archaeology: Principles and Practice*, Routledge

period. Documents should be used as a lead-in to identifying and locating industrial sites and monuments and can provide a valuable historical context to an understanding of the development of these sites.

Appendix C

Archaeological recording undertaken on industrial period sites in Northamptonshire (to March 2000)

Recording condition requested

Tebbut and Hall, Shoe factory, Raunds

Smith and Grace works, Thrapston

St Edmunds Workhouse, Northampton

St Crispins Hospital, Northampton

Brewhouse, Oundle

Finedon / Wellingborough bridge

Coach house, Ashley

John White Shoe Factory, Rushden

Cannon Cinema, Northampton

Midland Railway Station, Kettering

Chapel, Northampton General Hospital

Market Hill / Well Lane, Rothwell

Sites with recording in progress

Express Lifts, Northampton (unlisted)

Southbridge, Northampton

Threshing barn, Home Farm, Great Oakley (adapted for industrial processes)

Draft report submitted

The Maltings, Oundle (listed)

Regent Belt Works (former shoe factory), Long Buckby (unlisted)

Gasworks, Kingscliffe (unlisted, cons area)

Methodist Chapel, West Street, Wellingborough (listed)

Report completed

Home Farm, Orlingbury (listed)

Planned farm, Strixton

Appendix D

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A select bibliography of some of the key works relating to the archaeology of the industrial period in Northamptonshire.

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