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Northamptonshire in the Industrial Period 1750-1960

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INTRODUCTION

Industrial archaeology is different to the study of other archaeological periods, primarily because many of the archaeological monuments of the industrial age are still in existence today. Factories, schools, chapels and transport networks often continue being used for their intended purpose, whilst other buildings have been converted for alternative uses including domestic residences and social and recreational facilities. Therefore there are a wider range of sources and techniques which can be used to study the industrial period. The analysis of standing buildings and surviving industrial landscapes can be used in conjunction with below-ground archaeological investigation and the study of the prolific number of documents related to the process of industrialisation to develop a full understanding of the industrial age. The detailed study of the physical remains of the period has not yet fully matured, and therefore the potential of many of the sources has not been completely realised.

Until recently industrial archaeology focused on industry and technology with a particular emphasis on the 'great achievements' of the 'industrial revolution'. In recent years the focus has changed to the study of the 'industrial period' (the period following 1750) or 'the archaeology of industrialisation'. This development has ensured that the wider social and economic consequences of industrial development (including the impact on settlements, transport networks, social, administrative and cultural facilities) have been considered in an archaeological context.

Northamptonshire has a great deal to contribute to the 'archaeology of industrialisation' as the process of industrial development in Northamptonshire was very different to that in the central and north west regions of England. The traditional perception of industrialisation in Britain is that there was an Industrial Revolution, however archaeologists and historians have questioned whether industrial expansion in Britain was actually a 'revolution' (Berg 1994; Beckett and Heath 1988). Industrial

development began in the early 18th century, but accelerated from 1750 onwards with a number of key inventions relating to the production of iron, the use of steam to power engines and developments in the textile industry. Many areas of the country were, however, largely unaffected by these sweeping changes. Northamptonshire did not undergo substantial industrial development until the mid 19th century, by which time national legislation to improve the living and working conditions of industrial workers had already been passed, and a wide range of social and administrative organisations had been established. Northamptonshire therefore largely avoided the worst of the social and economic problems (including poverty, overcrowding and a wide range of health risks) usually associated with industrialisation and urbanisation.

NORTHAMPTONSHIRE 1750-2000

Northamptonshire remained a largely rural county between 1750 and 1850; settlement outside the county town was based in the nucleated villages and market towns which had been established in the medieval period. Dispersed farmsteads were also beginning to appear in the centre of the fields created by parliamentary enclosure. Industry was primarily craft based and carried out in the homes of individual workers. The main industries in Northamptonshire were boot and shoe making, lace-making and the weaving and woollen industry. There were also local specialisms for example wood turning in Kings Cliffe and whip making in Daventry. Northamptonshire was effected by the transport revolution of the 18th and early 19th centuries which saw the establishment of turnpike roads and canal and river navigations. These 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 both the coaching era in the 18th and early 19th centuries and the developing canal

network. Administration remained based around the hundreds and parishes which had been established in the late Saxon period and modified in the Elizabethan era, however changes were beginning to be made. The most significant development was the establishment of the Poor Law Unions in 1834, which revolutionised the procedure for dealing with the poor.

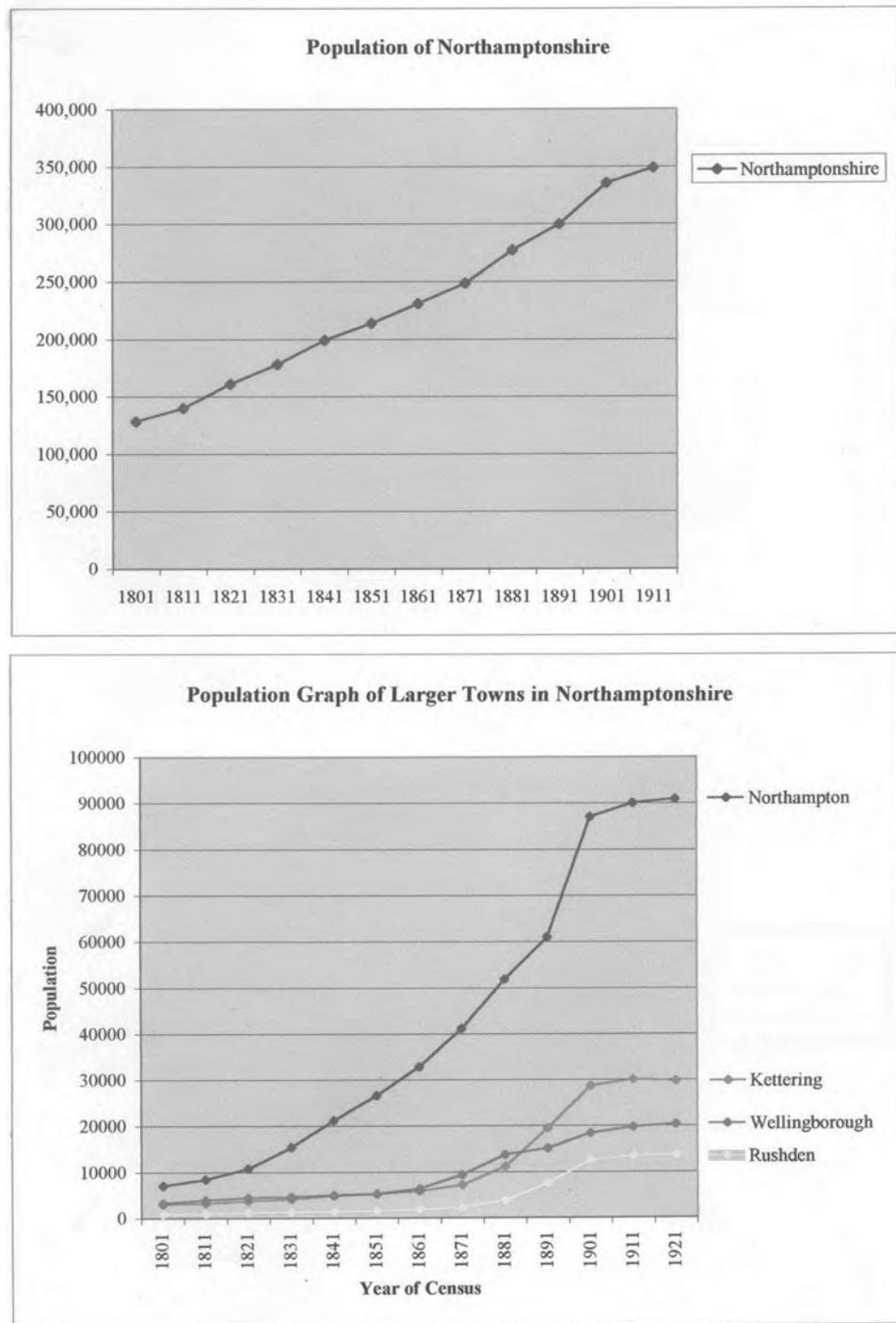
The period following 1850 in Northamptonshire was characterised by rapid and continuing change. The two main features were the large-scale development of the boot and shoe industry and the widespread process of urbanisation. The boot and shoe trade had been a cottage industry in the 18th century and 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 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.

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 is often viewed as the post-industrial age with significant developments being based on information technology. The developments are best seen in a national or even global context and therefore are not discussed further here.

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9.1 Population graphs for Northamptonshire as a whole and Northampton /Kettering/Wellingborough/Rushden

INDUSTRY

Craft industry

There were a number of industries operating in Northamptonshire in the early part of the period (between 1750 and 1850) including the woollen industries (weaving and woolcombing), lace making, silk making and the boot and shoe trade. 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 (Hatley, 1973).

Industry was primarily craft based. The majority of work was conducted within a domestic setting. It is not known whether workers houses had any special adaptations as many buildings would have been of low status and poor construction and therefore do not survive. There was a large weaving industry in the Northamptonshire, but there are few known surviving examples of 'weavers windows' which are so much in evidence in other areas of the country. There were some large individual manufactures in the county in the 18th and early 19th centuries including a bell foundry at Kettering, a carpet factory at Burton Latimer (Ballinger, 1999), the cotton mill in Northampton and woollen mills at Burton Latimer and Brigstock (Raybould, pers comm). Little archaeological work has been conducted on 18th century industry in Northamptonshire.

Boot and shoe manufacture

Large-scale manufacturing began in the county in the mid 19th-century. The boot and shoe industry quickly became a specialism in Northamptonshire. Boot and shoe making had been an important craft industry in the county in the 18th and early 19th centuries, but the industry underwent a massive expansion in the period following 1850. The pivotal factors in the expansion of the boot and shoe trade were the mechanisation of the industry following the introduction of the sewing machine in 1857 and the establishment of the factory system between 1857 and 1895. There was initial resistance to the factory system in the county, but by the 1870s a substantial number of factories were well established in towns and villages. Domestic manufacture and the factory system existed side by side during this period. A substantial expansion in handworking was required to meet the increased requirements of the

factory system. The majority of small outworkers workshops date to the late 19th century (Cooke et al 2000).

Nineteenth century boot and shoe factories were typically rectangular brick buildings of three storey construction. The factories were designed to combine both hand and mechanised processes under one roof; clicking, closing, lasting, making and finishing were all undertaken in the buildings which also had to provide storage space and office accommodation. A wide range of architectural styles and details were employed on boot and shoe factories. Many early factories were of simple utilitarian design, but architectural embellishment was increasingly used. Polychromatic brickwork (the use of red, blue, and yellow bricks) was frequently used to decorative effect and the principle entrance was often given elaborate treatment (see Colour Plate 12). Some of the larger factories were designed in Italianate styles. Single storey factories with office ranges to the front and rows of north lit sheds to the rear began to be erected from the 1890s onwards. Manfield's factory on the Wellinborough Road, Northampton is believed to be the earliest example. Single storey buildings were also erected in Higham Ferrers, Rushden, Long Buckby, Raunds and Kettering. The architect Sir Albert Richardson designed the John White Shoe Factory in Lime Street, Rushden (a two-storey building) in 1938.

There was 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.

A county-wide survey of the boot and shoe industry and its component parts has been undertaken by English Heritage. A rapid survey of all surviving boot and shoe factories, workshops and warehouses was undertaken to establish the range and diversity of buildings relating to the industry. Over 400 surviving buildings were recorded in towns and villages across the county, only a sample of garden workshops were recorded due to their prolific numbers, with up to 2000 in Kettering alone. Record sheets for each individual structure surveyed during the project and a report summarising the findings have been produced. (Cooke et al, 2000)

Other manufacturing

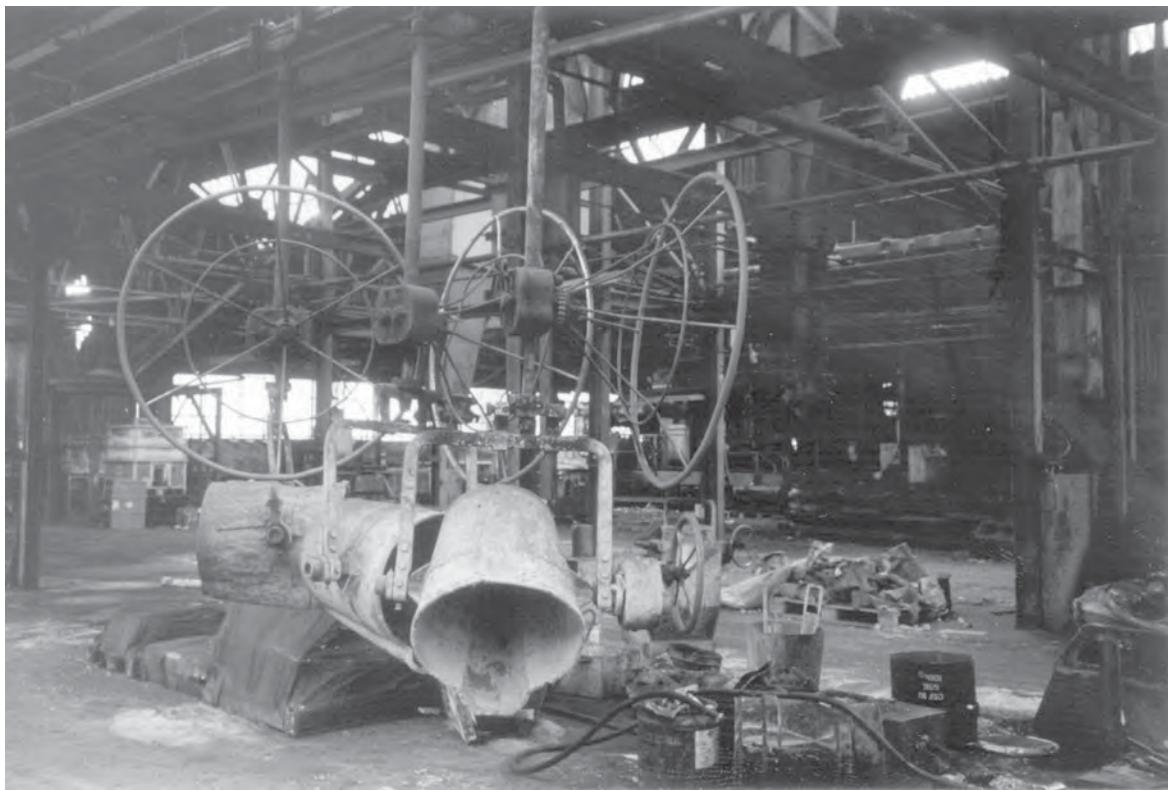
Northamptonshire was of national importance for the production of boots and shoes, but there were a number of other industries, which were of economic importance in the county. Clothing manufacture was concentrated in a number of towns along the Ise Valley including Kettering, Rothwell, Desborough, Burton 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. There has been no substantial archaeological or documentary work conducted on the clothing manufacturing industry in Northamptonshire, but the buildings are very similar in style and function to those in use by the boot and shoe industry.

Brewing and malting became a substantial trade in Northamptonshire in the 19th century; prior to this period brewing was primarily a domestic industry or conducted on a small commercial scale by landlords

and publicans. The growth in commercial brewing began in the late 18th century; simply increasing the size of the equipment used could expand the scale of production. Technological developments such as the use of the thermometer and the introduction of the saccharometer (to calculate fermentation, beer strength, duty and pricing), wort coolers and beer pumps facilitated commercial operations. Improved transport links brought a wider range of markets within reach of the brewers. Northamptonshire, like most counties, had a number of large commercial breweries based in the traditional market towns of Wellingborough, Kettering, Brackley, Towcester and Oundle. The large commercial brewers in the county were family based. The Smiths at Oundle, the Dulleys and Praeds of Wellingborough, the Phillips of Stamford and Northampton and the Phipps who originated in Towcester were all Northamptonshire families who had a substantial stake in the brewing industry in the 19th and early 20th centuries (Brown



9.2 Albion Steam Brewery, Northampton. Photo: NCC 2001



9.3 Rice's Eagle Foundry, Southbridge Road, Northampton. Photo: NCC 1999

and Wilmott 1998). A detailed business history of all known breweries in the county, from the late medieval period to the present day, has been produced, but it is not known how many of these buildings survive. There were also a substantial malting industry in the county particularly in Wellingborough and Oundle. The Maltings, North Street, Oundle were subject to detailed recording in 2000 prior to conversion of the building to flats. The building is shown on an inclosure map of 1810 and was at this date in the ownership of John Smith Senior (who later traded as John Smith Oundle Brewery Ltd) and ceased operation as a maltings in 1966 when it was sold to Oundle School. Few documents survive relating to the building, but evidence for at least six phases of development were recorded (Heaton, 2000).

A number of foundries and engineering works were established in the county 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. Initial survey work has been conducted on foundries in Northamptonshire involving a combination of documentary research and a description of the surviving buildings and products (Starmer 1981).

Northamptonshire Industrial Archaeology Group has recorded the working practices of a number of foundries, many of which have now ceased operation. Engineering works were usually established with a particular market in mind. A large number of firms provided machinery for the boot and shoe trade, but there was also a wide range of other specialisms. Charles Wickstead manufactured children's playground equipment in his works at Kettering; the products were tested and used at Wickstead Park as well as being distributed all over the country. The Nene Side Iron Works in Thrapston, owned by Smith and Grace, was responsible for the production of a

number of innovative products including a screw boss pulley and a V-drive belt and was successful on a national basis. The company ceased production in 1994 following a fire at the premises and the site was derelict for several years before being re-developed as a housing estate. The manufacture of lifts began in the county in 1910 with the establishment of the Abbey Works in Northampton by a London based company Smith, Major and Stevens. The company merged with Express Lifts in 1930 and ceased operation in Northampton in 1996. The lift-testing tower, a famous landmark in Northampton, was erected in 1982 and is a listed building.

EXTRACTIVE INDUSTRIES

The absence of coal seams in the county contributed significantly 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 reports of possible coal seams at Poddington and Irchester, although the quality of coal was poor, and the Great Central Coal Mining Company was established to mine for coal at Kingsthorpe, but this was unsuccessful (Northampton Mercury 1854 and 1873). There were, however, a number of other extractive industries in the county.

Stone and slate quarrying

Northamptonshire has rich deposits of many of the important building stones in England. Quarries in the county have been exploited from the Roman period onwards. The large scale extraction of stone from Weldon, Barnack and Helmdon and slate from Collyweston has had a regional and even national importance (Steane, 1968; Parry, 1987). There are also substantial quarries for more local distribution of stone at Kingscliffe, Stanion, Raunds (marble), Watford (marble) and Duston (slate) (Victoria County History, 1906). In the 18th and 19th-centuries 'parish stone pits' were opened up to provide stone for local building purposes. Archaeological work has been undertaken on stone types in the county and their use in individual buildings (Hudson & Sutherland 1990; Steane 1974; Parry 1987) Ongoing work by Sutherland and Hudson has identified quarries from documentary sources, located surviving remains and extracted geological samples; these have been used to identify the sources of stone used in individual buildings in the county (Sutherland pers comm)

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 slaters 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 are shown on ordnance survey maps indicating that farmers had their own individual slate pits.

Brickworks

Bricks have been produced in Northamptonshire since the Roman period and there have been references to brickworks in the modern sense since the 17th century. The only recorded examples, however, date from the 19th century when there were a large number of brickworks throughout the county. These were located on country house estates, along communication routes (including canals, railway lines and roads) and on the periphery of the towns and villages in the county. By the mid 20th century very few brickworks remained in production; Raunds Manor Farm brickworks was the notable exception as it remained in operation until the late 1970s. A number of buildings and a kiln (believed to be a lime kiln) remain on the site; the kiln is a listed structure. There are other surviving brickwork kilns (at Brixworth, Castle Ashby, Spratton, Great Doddington, Harlestone) (Cadman, pers comm) and a larger number of earthworks created by clay extraction. It is possible that a number of buildings associated with brickworks, such as offices or managers house, may survive.

Ironstone quarrying

The major extractive industry in the county was

the ironstone quarrying industry which began in the 1850s and continued in operation until 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 (Trinder 1998). The ironstone industry in the county has been subject to detailed study. Stanley Beaver studied the history and development of ironworking sites and recorded working practices in the 1930s. Geoffrey Starmer undertook a photographic survey of industry in the latter part of the 20th century. Eric Tonks has undertaken a comprehensive survey of the historical development and surviving archaeological remains of the industry and Francis Scopes has chronicled the development of the Corby works in the late 20th century. In the late 1980s and early 1990s remains of the iron ore quarrying industry in the county included disused quarries, bridges, tunnels, disused buildings and derelict cuttings and embankments of the associated railways (Tonks 1988-1992). Sites of particular importance include Irchester Country Park narrow gauge railway and surviving ropeway and tipplers and winding gear at Easton on the Hill.

POWER

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. Research is currently being conducted to determine the number, location and survival of watermills and windmills in the county.

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.

PUBLIC UTILITIES

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 Northampton, 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 to what extent the provisions of these acts were carried out.

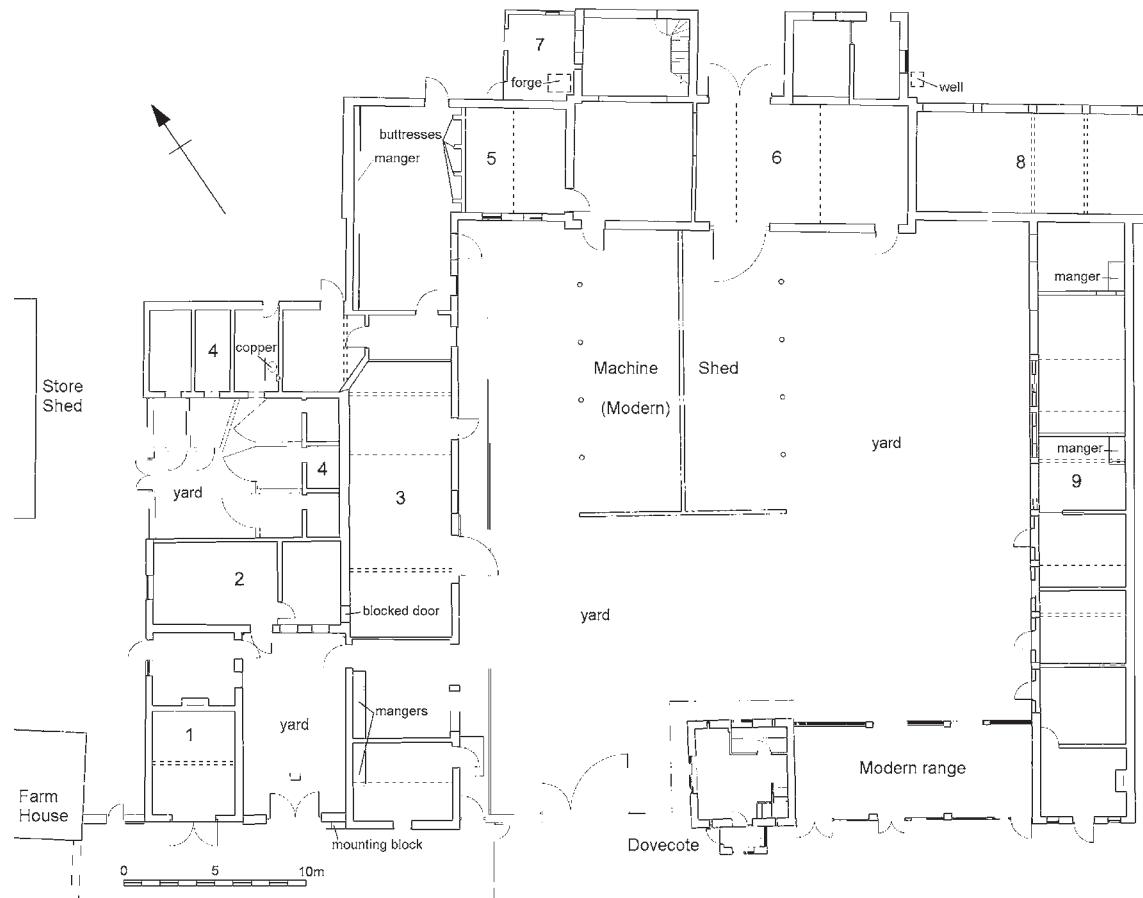
There was a large-scale expansion of the provision of public utilities from the early 19th century with the majority of towns and villages gaining provision for gas, water and sewage; the later development of electricity was concentrated in large urban areas. The detail of the establishment of these utilities can be traced through trade directories of the period and the surviving records of the utility companies. Archaeological recording was undertaken at the 19th-century gas works in Kings Cliffe prior to re-development of the site. The gas works was established in 1860 and closed in 1922; it was a small scale works which produced gas for the village of Kings Cliffe. The buildings associated with the works had been used by a garage in later years and many of the original elements of the complex had been demolished or substantially altered, but it was possible to determine some of the original features and the plan of the site. The original gas works had a retort house, coal house, engineers workshop, tar and coke store, purifying house, lime store, meter house and gas holder (Masters and Prentice 2000)

AGRICULTURE

Dramatic changes were occurring in agriculture as well as in industry in the period following 1750. Northamptonshire was one of the midland counties that retained the medieval system of agriculture until a relatively late date; in 1800 over half the county was still operating the open field system. Parliamentary enclosure took place between 1733 and 1901 and accounted for 65% of all enclosure in the county. Enclosure had a dramatic impact on the countryside in Northamptonshire with the creation of small, square fields, numerous hedgerows, straight roads and planned farms. Hedgerows dating from this period are now preserved by the Hedgerows Regulations Act of 1997. Planned or model farms were 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. Typically the farms were symmetrical layouts based on a courtyard with barn, stables, cattle sheds and ancillary buildings on each side of the yard. There are likely to be over fifty relatively complete surviving examples of planned farms in Northamptonshire (Bond, pers comm).

Improvements in farming methods, including scientific systems for cattle breeding and new approaches to crop rotation and drainage systems, were developed in the 18th century and were being widely used by the 1820s and 1830s. New machines for agricultural processing were also developed during this period and remnants of these early



9.4 Plan of Appletree Farm, Aston-le-walls

machines are often found lying disused in farmyards and barns. Increased agricultural mechanisation boosted industrial manufacture and during the 19th century many settlements 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.

SETTLEMENT

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. A number of towns including Towcester, Daventry and Brackley developed an additional role as thoroughfare towns during the coaching era.

From the mid 19th century onwards there was a process of urbanisation with a high proportion of the population shifting from a rural to an urban environment. 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 development of the boot and shoe industry had a major effect on settlement patterns; a number of villages such as Rushden, Raunds, Irthingborough, 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 (Fig 9.5). These areas gained large mixed zones, comprising housing, factories, social clubs, chapels and schools, on the edge of the core settlements. The market towns of Higham Ferrers

and Rothwell also underwent substantial growth based on boot and shoe production.

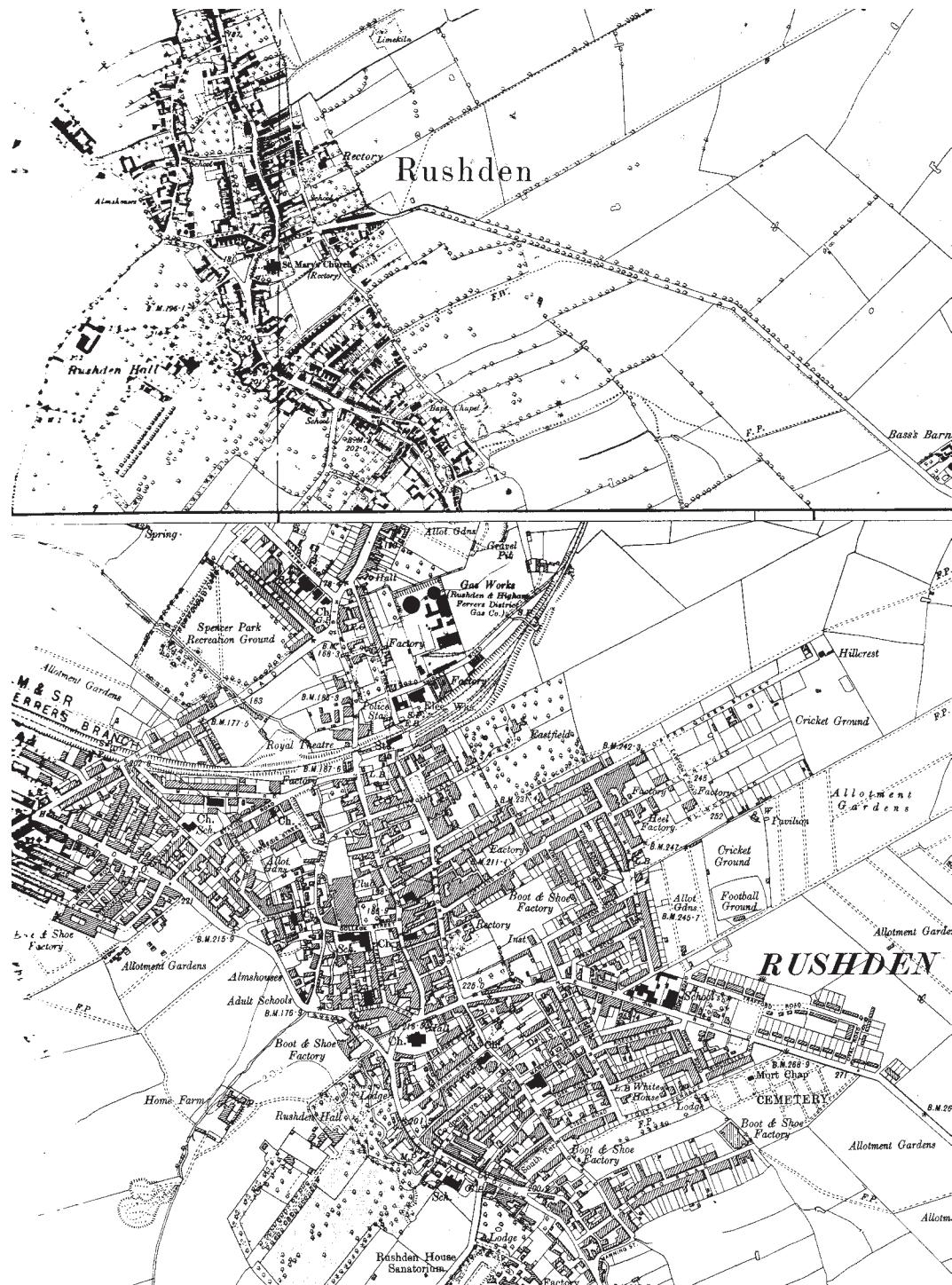
There was a massive increase in housing provision in the towns and villages of Northamptonshire in the late 19th century. The majority of houses were built following the establishment of national bye-laws (governing house type and construction, road layout, drainage, sanitation etc) in the 1850s and were therefore of good quality construction. The majority of terraced houses, which were built in Northamptonshire in the 19th century, are still in domestic occupation today. The houses were built by a range of different groups including private entrepreneurs, factory owners, speculative builders, Freehold Land Societies and Co-operative Societies. Freehold Land Societies were established to provide working class people with the opportunity of owning land and ultimately their own homes. Individuals contributed money on a regular basis, once sufficient capital was raised the societies would buy a plot of land and divide it between the members. Individuals were then able to build their own houses, sell the land on or wait until they had sufficient money for the next stage. One particular society in Northampton developed 11 housing estates comprising 67 streets and 3064 houses in this way (Greenhall lecture 2001).

The Extensive Urban Survey funded by English Heritage surveyed 16 industrial towns in Northamptonshire, the character and development of each settlement was analysed allowing comparisons to be made between towns. Key settlements which have not been studied include Northampton, Corby, the canal settlements of Braunston and Stoke Bruerne, the railway settlement of Woodford Halse and the large boot and shoe villages of Earls Barton and Wollaston.

COMMUNICATIONS

Northamptonshire was affected by all of the transport revolutions of the period following 1750; the coaching era, the canal era and the railway era. To a considerable degree Northamptonshire became a thoroughfare county. This is particularly evident in the area between Daventry and Northampton, known as the Watford Gap, where the A5 (road constructed by Thomas Telford on alignment of Roman Road), West Coast Mainline Railway, the Grand Union Canal and M1 all follow the same alignment within a narrow transport corridor.

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9.5 Extracts from the 1888 (upper) and 1926 (lower) ordnance survey maps of Rushden

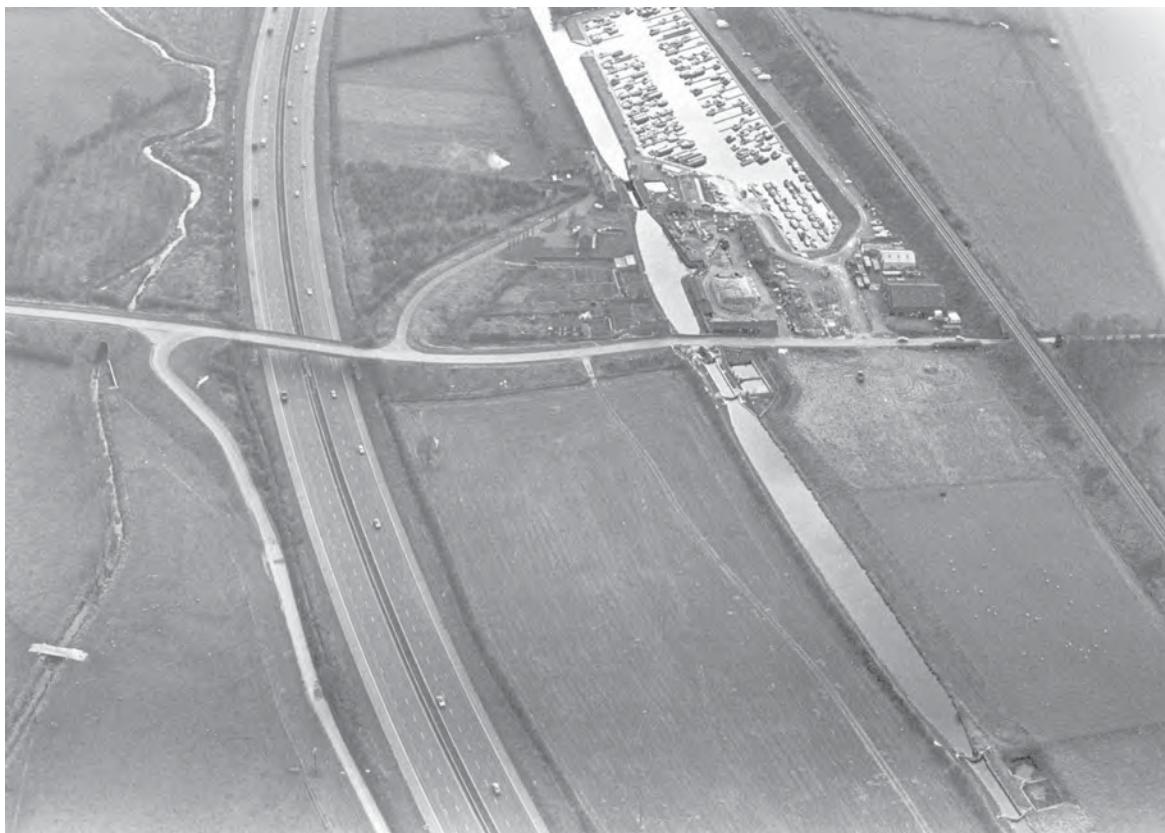
Roads

There was a substantial change to the road network in the period following 1750. Enclosure awards established a number of new roads and these were built to standard specifications and widths. Turnpike roads were also developed in the 18th century; 36 turnpike trusts were established by Acts of Parliament for Northamptonshire (and the Soke of Peterborough). The London to Holyhead road was developed in the early 19th century; Thomas Telford directed the engineering work on the route. The road passed through the county on the alignment of Watling Street Roman Road and became a major national communication link which attracted a considerable body of traffic. Many of our modern roads are established on the alignments of the former turnpikes, but no detailed work has been undertaken to determine how many associated structures such as milestone, finger posts, toll houses and inns remain.

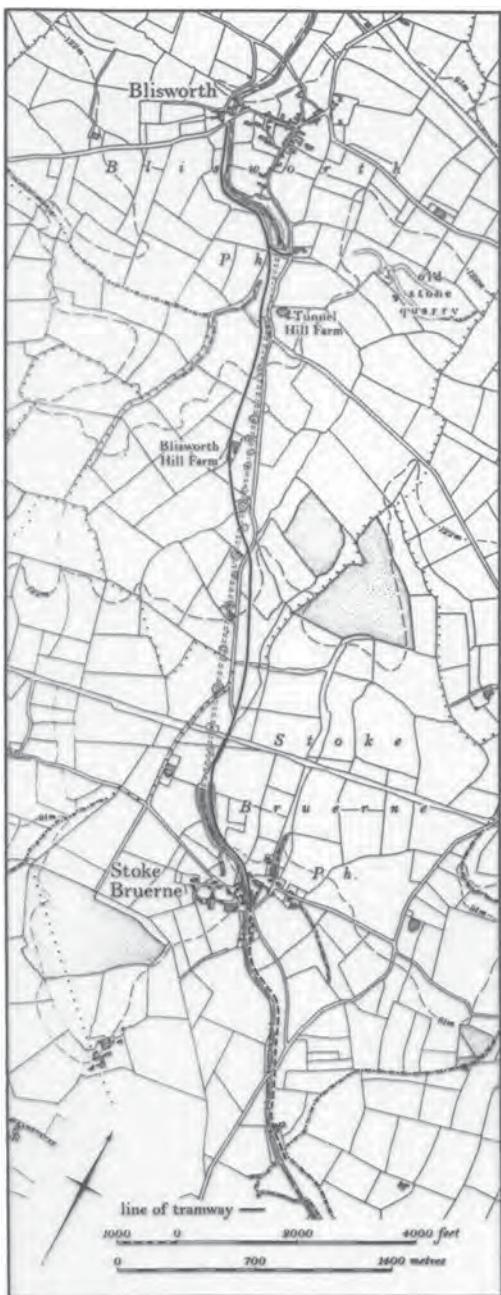
There has been some work conducted on turnpike roads in the county, but this has been primarily based on documents (Cossons 1950).

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 established in the county. The canalisation of the River Nene also altered communication routes in the county as many former cross-valley tracks and causeways were abandoned. Three canals traverse Northamptonshire; the Oxford Canal constructed between 1769-1793 and straightened 1831-4, Grand



9.6 Aerial photograph of Watford Gap transport corridor showing the successive transport systems. Photo: NCC 1973



9.7 The line of the Blisworth to Stoke Bruene tramway, surveyed by RCHME

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 (Blagrove D 1990). 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.

Railway

The first railway in Northamptonshire ran between Stoke Bruerne and Blisworth (colour plate 11). It was established by the Grand Junction Canal Company and was in use between 1800 and 1805. The line was used to transport goods between Blisworth and Stoke Bruerne locks during the construction of the Blisworth Tunnel. The line was surveyed by the Royal Commission of Historical Monuments of England in the 1970s and a section of it was excavated in 1969 (RCHME 1981). The remainder of 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 (Trinder 1998). The railways had a major impact on industry and settlement in Northamptonshire and are of significance as both transport networks and feats of engineering. A large number of local lines were closed and dismantled during the 1960s, although there are a number of surviving alignments complete with earthworks, embankments, bridges and tunnels; a number of buildings associated with the railway also survive. 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. The historical development of the railways in the county has been well documented, but there has been little archaeological work. Recording work was undertaken at Southbridge, Northampton prior to the regeneration of the area. This included an analysis of the commercial, manufacturing, administrative, transhipment, warehousing/storage,

transport regulation and railway infrastructure elements of the site and the detailed recording of the granary, transhipment sheds and railway office buildings (Prentice & Soden 1999).

COMMERCE

In the early phase of the period commercial activity remained centred around the traditional market towns in the county. War Office statistics of 1756 indicate that markets were still in operation at West Haddon, Higham Ferrers, Northampton, Daventry, Kettering, Oundle, Rockingham, Rothwell, Towcester, Wellingborough, Brackley, Weldon and Thrapston. Analysis of carrier networks from trade directories indicates that the majority of journeys within the county were to towns on market days. Market places had been established in the medieval or post-medieval period and were generally in central locations in the towns. 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. The staple 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.

The mid-19th century saw an expansion in commercial activity; trade directories of the period show 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. Large purpose-built shops and department stores and architecturally distinctive banks and post offices were erected in the larger towns. Corner shops were constructed in conjunction with terraced houses 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.

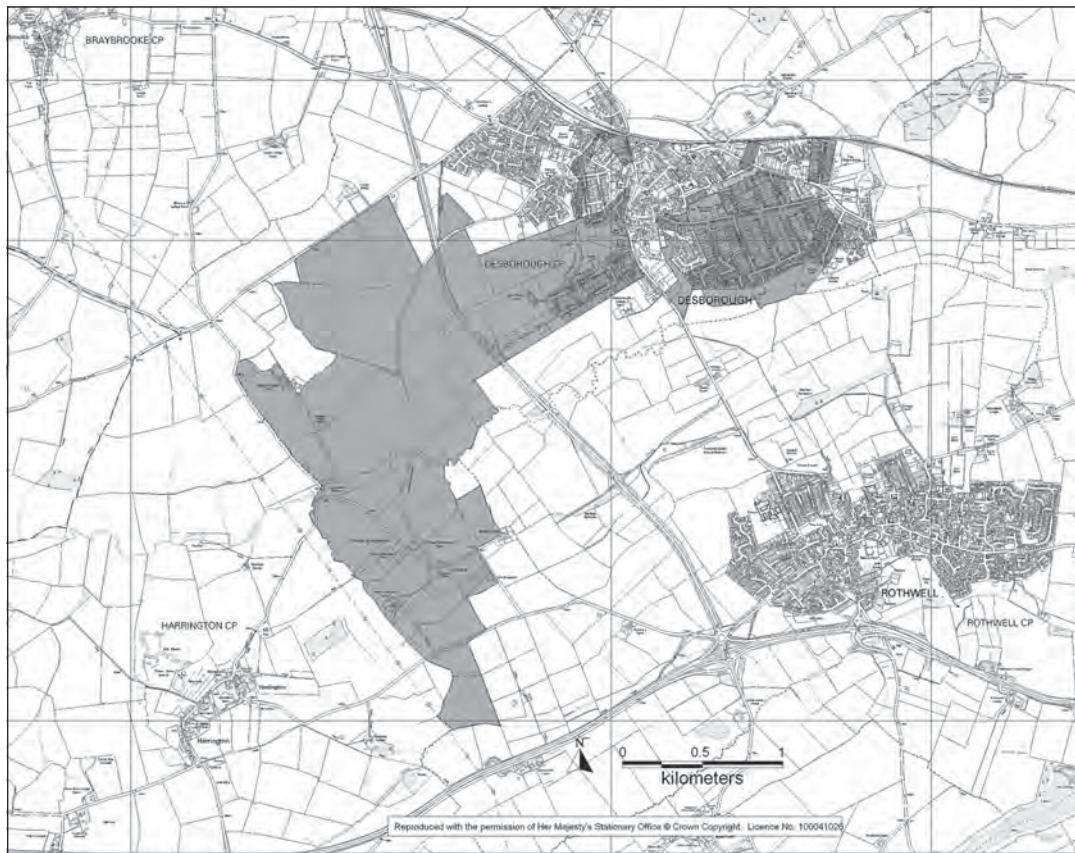
ADMINISTRATIVE AND SOCIAL ORGANISATION

In the period immediately following 1750 the

administration of the county was based around the system of hundreds and parishes which had been established in the medieval period. 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 leave 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, Wellingborough, Rothwell and Oundle (Ballinger 1999).

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. These developments were mirrored elsewhere in the country, but in Northamptonshire the provision of these facilities coincided with the primary phase of industrialisation in the county. The administrative, educational, religious and recreational aspects of the development of individual towns was considered as part of the Extensive Urban Survey, but further research is needed on the impact they had on urbanisation. Working class organisations such as working mens clubs, the co-operative movement and the temperance movement also had a considerable influence on the development of Northamptonshire in the 19th century.

The Co-operative Society in Desborough was particularly active with interests in agriculture, industry, retail and housing provision. Industrial production included brick and tile manufacture, ironstone quarrying, coal distribution, boot and shoe production and corset making. The Society was also involved in discussions about the provision of a library, recreation ground and sewage system for the town.



9.8 Map of co-operative society holdings in Desborough

RELIGION

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 (RCHME 1986). The Extensive Urban Survey revealed that there were a large number of non-conformist chapels in each of 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.

There was also a major building programme by the Church of England during the 19th century. New churches were built in many of the larger settlements and new ecclesiastical parishes were established in Northampton, Kettering, Wellingborough and Rushden. A substantial number of medieval churches were also 'refurbished' during this time.

MILITARY

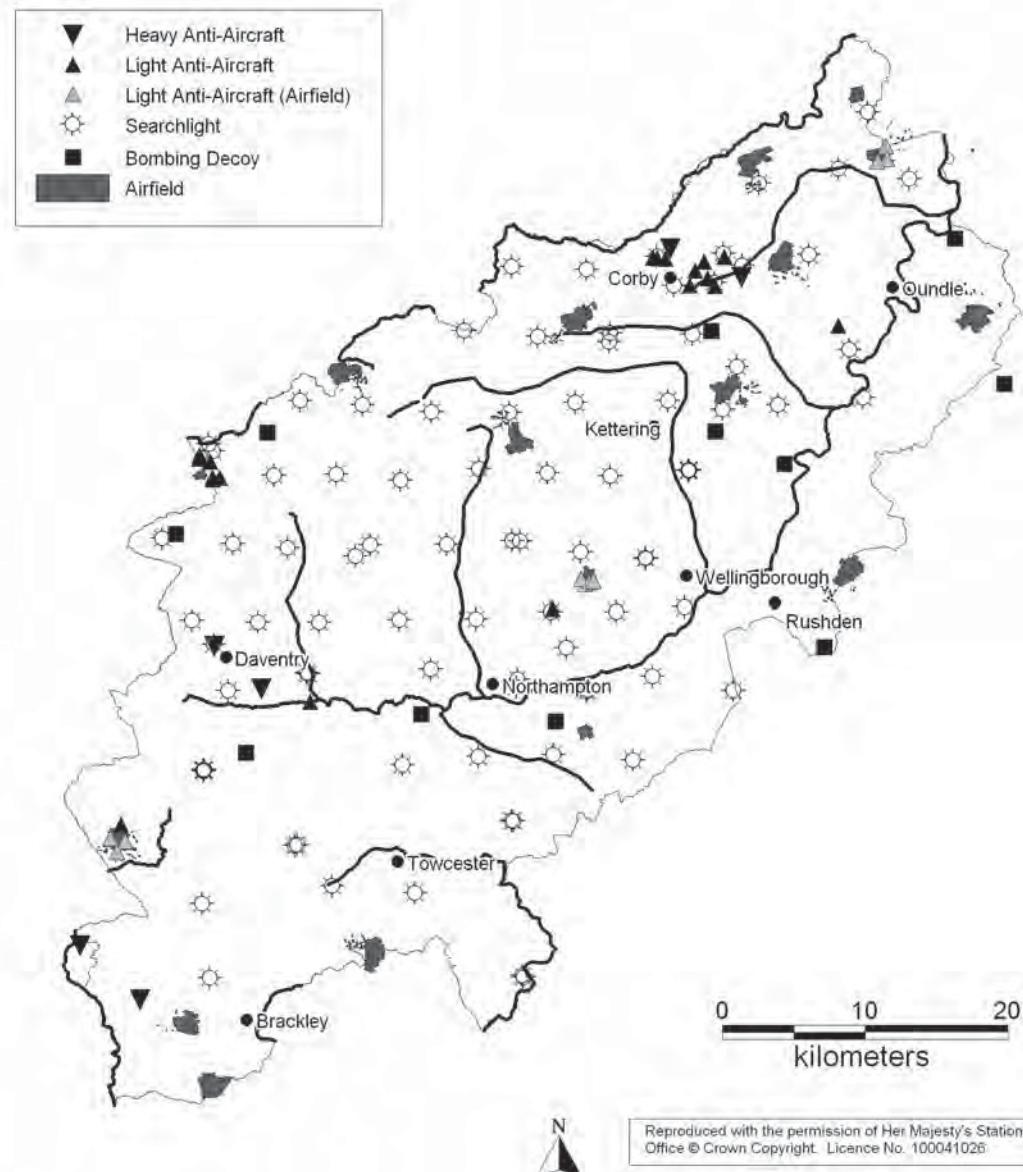
Northamptonshire's geographical location far removed from the coast and the immediate threat of raids and invasion placed it, until the arrival of the Cold War, well behind any notional 'front

JENNY BALLINGER



9.9 Weedon Depot. Aerial view from the west in September 1983, prior to encroachment of housing down the hillside from the north. In the foreground are the powder magazines set within their walled enclosure. Beyond are a series of wartime Romney and other storage huts, now lost and beyond them the main store buildings located within their own walled enclosure complete with corner bastions. The former barracks and hospital lay to the north under the emerging industrial estate.

9 • NORTHAMPTONSHIRE IN THE INDUSTRIAL PERIOD 1750-1960



9.10 Northamptonshire – WW2 Active & Passive Air Defences. Even in the heart of England free from any major conurbations defences are widespread. The distribution reflects the extent of sites identified to date through a combination of fieldwork and documentary research. Heavy anti-aircraft guns (active defences) were confined to protecting industrial or communication targets in Banbury, Daventry and Corby. Light anti-aircraft gun provision complemented the latter as well as being focused around select airfields and Rugby. Note the regular distribution of searchlights (passive defences) in areas plotted to date. Compiled by Graham Cadman utilising SMR data, particularly research by Adrian Armishaw.

line'. There are no fortifications or battlefields for the industrial period in Northamptonshire and for the early part of the period there are just two major

monuments: 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 England (Douet 1998). Only two ranges with some ancillary remains still stand. Weedon Depot was built by Board of Ordnance in the early 19th century, incorporating massive storehouses and magazines. The site is of national importance with its individual structures listed: it has been subject to a recording by Royal Commission of Historical Monuments of England. In addition there is the striking, listed Militia Store in Northampton and at least five 19th-century military encampments identified through metal detecting. The latter are a type of site so far little researched or published (Derby pers comm).

The increasing technological and industrial sophistication of 20th century conflict is evidenced in increased local war production. There were munitions factories from WW1 at Warkworth (Cocroft 2000) now represented by extensive earthworks, and in both world wars at the Abbey Works in Northampton (Northamptonshire Archaeology 1999). Borough Hill, Daventry was a focus for development of radar and the operation of aircraft navigation systems (Gibson 1982). The works at Corby played an important role in the manufacturing of 'PLUTO' (Pipeline under the ocean) and the Mulberry harbours used in the invasion of Europe.

WW2, and the age of 'total war' engulfing entire populations, witnessed a considerable intensification in military activity with consequent impact on the Northamptonshire landscape. 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. 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. Considerable scope exists for further locally based investigations, such as recently undertaken on Northampton's anti-invasion defences (Hollowell 1998-9). Key surviving sites include select airfield defences, Weedon Depot, and the two Cold War Thor missile sites at Polebrook and Harrington.

CONCLUSION

The landscape and topography of Northamptonshire has changed dramatically since 1750. Several phases of communication routes have traversed the county, market towns have expanded and villages developed into urban centres, the open fields of the medieval and post medieval period have been divided by enclosure and industries have developed, left their mark and declined. The challenge for the 21st century is to ensure that the sites, monuments, buildings and landscapes of the past two centuries are understood, and where appropriate conserved, before physical evidence for the period is lost in the next phase of change and development in the county.