

ESSAYS
ON THE GROWTH OF BIRMINGHAM
AND OTHER CONTRIBUTIONS
TO THE GEOGRAPHICAL STUDY
OF
THE BIRMINGHAM DISTRICT
BY
M. J. WISE

Presented for an official degree in the University of
Birmingham, May 1951

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PREFACE

A major advance in the geographical study of the Birmingham district was made by the publication, in 1928, of the essay on "The North-West Midlands" by Professor E.H. Kinvig,¹ a study which has formed the basis for much subsequent research work undertaken, on the geography of the district, by the staff and students of the Birmingham Department of Geography.

In this essay, the essential physical characteristics of the Birmingham district were made clear and an examination of the evolution of human settlement in the area, from earliest times to the contemporary period, in the light of natural conditions, was undertaken.

In particular, stress was laid upon the existence as a physical unit of the Birmingham (or Midland) Plateau, an upland unit extending for some 46 miles from Brocton near Stafford in the north to a point near Stratford on Avon in the south, and for some 34 miles from Nuneaton in the east to the neighbourhood of Stourbridge in the west. This was an area which, by reason of its bleak relief and the dominance within it of forested claylands, had little attraction for early settlement. As late as Domesday times, the main centres of importance in the district lay in the main river valleys around the fringes of the Plateau, as, for example, at Stafford, Lichfield,

1. In Ogilvie, A.G. (ed.) Great Britain, Essays in Regional Geography, (Cambridge, 1928), pp. 216-236.

Coventry, Warwick and Worcester. Birmingham, the present regional capital, was then a small village of little consequence.

In later medieval times this pattern slowly began to change. Birmingham grew as a local marketing and industrial centre, while the coalmining and ironworking which developed gradually in South Staffordshire attracted a scattered population to the area of the coalfield. During the sixteenth and early seventeenth centuries, the process of change quickened until, in the late years of the seventeenth and the early years of the eighteenth centuries, the geographical pattern began to undergo a complete Revolution. Now Birmingham began to emerge as a centre of industry, providing services of an increasing range for a widening urban field. The South Staffordshire coalfield gathered to it miners and ironworkers and town growth began in earnest.

Progress has continued, almost unabated, to the present day, so that within the former uninviting and scantily peopled Plateau, there now exists the Birmingham-Black Country Conurbation, a huge agglomeration of industry, trade and population.

The present writer's contribution to the study of the changes in the geographical pattern of the Birmingham district began in 1936 when a Survey was commenced of industrial distributions in Birmingham. As a result of

this Survey, in which valuable assistance was later afforded by Mr. F.O'N. Thorpe, a series of maps of the distribution pattern of industry within the city was completed and these have since been housed in the Department of Geography.

Some interruption to the further study of industrial development within the district was occasioned by the duties of military service between 1940 and December, 1945. It will be seen that, since the writer's return to Birmingham, first as a research student and from August 1946 as a member of the staff of the Department of Geography, his studies have been directed in two main directions.

The first of these lay in making clear the changes in function of the town of Birmingham at a period of crucial importance, the early eighteenth century and in considering further some aspects of the industrial and commercial development of the town from that time to the present day. In addition, considerable attention has been given to the development of the urban pattern during the eighteenth and nineteenth centuries, and, especially, to the evolution of what are now the central areas as well as the other principal industrial regions of the city. The results of these studies which have been already published are presented in Parts I and II together with two as yet unpublished essays dealing with Birmingham in

the second half of the eighteenth century.

The second main direction in which research has been undertaken consists in a study of some of the main stages in the development of the South Staffordshire and Cannock Chase coalfields, the growth of settlement on these coalfields and some problems attendant upon the rapidity with which, in particular, the Cannock Chase Coalfield was developed. The results of some of these studies are presented here in Part III.

The object of the work undertaken has been to bring nearer the day when an adequate study of the regional geography of the Birmingham district can be written. It is believed that some progress towards that aim was made with the recent production of the publication "Birmingham and its Regional Setting" for which the writer had the honour to serve, with Professor Kinvig, as a member of the editorial committee, and to act as Honorary Editor. But a great deal of work has yet to be done before that final aim becomes a complete reality.

In the hope that some small contribution to that end has been already made, these essays are presented for consideration for an official degree in the University of Birmingham.

INTRODUCTORY

Some Factors influencing the Growth of Birmingham

SOME FACTORS INFLUENCING THE GROWTH OF BIRMINGHAM

MICHAEL J. WISE

AT the time of the Domesday Survey the principal centres of importance in the West Midlands were located at strategic points in the broad river valleys which fringe the Birmingham Plateau.¹ Worcester, Warwick on the Avon and Stafford at a convenient crossing place on the Sow, a tributary of the Trent, were already important towns, destined to share between them the administration of the intervening upland. To the north-east of the plateau, Tamworth, the ancient capital of Mercia, and Lichfield remained notable centres, while Coventry to the south-east was to become the most important centre of industry during the following centuries. Within the Birmingham Plateau itself conditions had not proved inviting to early settlement. Across it extended the Forests of Arden and Cannock; penetration and settlement by the Anglo-Saxons appears to have been carried out only slowly and to have been confined to sites that were, by nature, comparatively free from timber. Birmingham was founded as one of such sites on a belt of relatively open country developed on the outcrop of the Lower Keuper Sandstone. The sandstone is marked by a low but distinctive ridge, extending from the neighbourhood of Northfield in the south to Sutton Coldfield in the north along which extended a line of settlements which included, in addition to Birmingham, Edgbaston and Erdington. The advantages of this formation in offering open sites with comparatively good water conditions were emphasised by a thin and patchy cover of sandy and gravelly drift (Fig. 1) while, in addition, the sandstone offered a readily usable building stone² and the ridge a comparatively fertile light soil.

Birmingham itself was founded on the eastward facing slope of the ridge overlooking the marshy valley of the Rea stream. In the immediate vicinity of Birmingham the proximity of relatively high ground on both sides of the Rea gave a reasonably firm approach to points at which the stream could be conveniently crossed. Of these crossing points, the Deritend ford immediately to the east of Birmingham appears, due largely to the local relief to have proved the most suitable, and it developed at an early stage as a focus of roads and

¹ The Birmingham Plateau has an elliptical form with a main axis trending NNW-SSE from Stafford to near Stratford on Avon. The shorter WSW-ENE axis extends from Kinver Edge to Nuneaton.

vide R. H. Kinzig, *The North West Midlands*, in A. G. Ogilvie (ed.), *Great Britain Studies in Regional Geography*, 1930, pp. 216-224.

Professor Kinzig has given important guidance on many points of the geography of the West Midlands, and the author's thanks are due to him, and also to Dr. R. A. Pelham for invaluable discussion, particularly of medieval Birmingham.

² A number of houses built of this stone still remain in the district, notably at Sutton Coldfield.

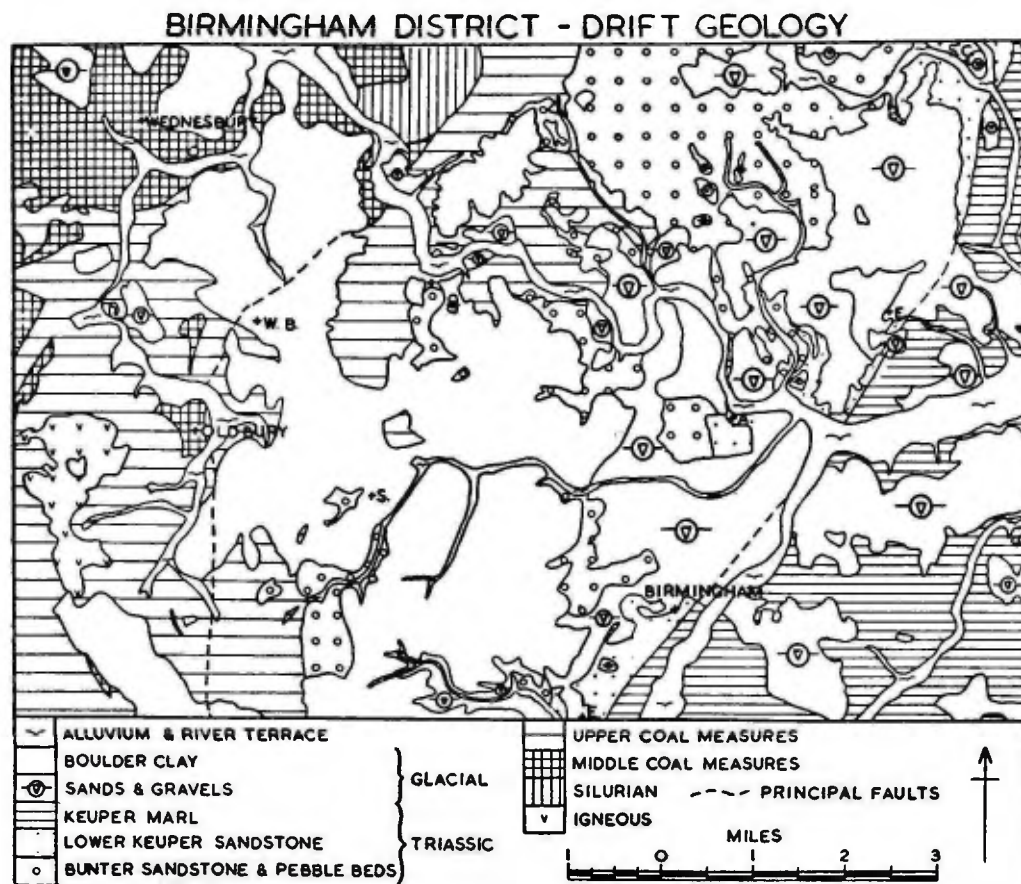


FIG. 1

trackways.³ Early E-W routes across the Birmingham Plateau found the marshy character of the Rea Valley a very real obstacle, particularly during the winter months, and routes tended to converge at the most convenient ford. (Fig. 2). Early routes eastwards from South Staffordshire followed the high ground on the south bank of the Tame, a way which brought them naturally to the vicinity of Birmingham. Roads from Wednesbury, Dudley, and Halesowen converged at Birmingham for the Rea crossing. On the right bank of the Rea a similar convergence of west-bound routes from the Coventry, Warwick and Stratford-on-Avon districts took place, while north to south routes from South Warwickshire to Staffordshire also used a river crossing in the immediate locality. There can be little doubt that, as local traffic increased in intensity, the ford at Deritend became an important meeting place of routes. At a later date a bridge of wood, eventually replaced by one of stone, was erected across the arms of the stream, and the importance attached to its maintenance provides in itself some evidence of the significance of this crossing point.⁴

³ Benjamin Walker, "Notes on the Rea Valley," *Trans. B'ham. Arch. Soc.*, vol. LII, 1927, pp. 231-239.

⁴ "Also theare be mainteigned and kept in good reparaciouns two greate stone bridges and divers foule and dangerous high wayes so that the lack thereof wilbe a great noysaunce to the kings ma'ties subjects passing to and from the marches of Wales and an utter ruyne to the same towne." Bickley and Hill (trans. and ed.) *Survey of the Borough and Manor or Demesne Foreign of Birmingham*, 1553, Birmingham, 1890, note 64.

BIRMINGHAM DISTRICT : RELIEF

WITH THE MAIN ROUTES INTO MEDIEVAL BIRMINGHAM

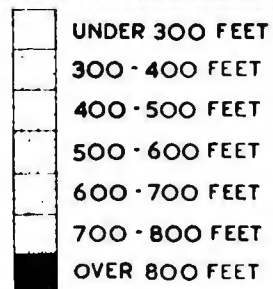
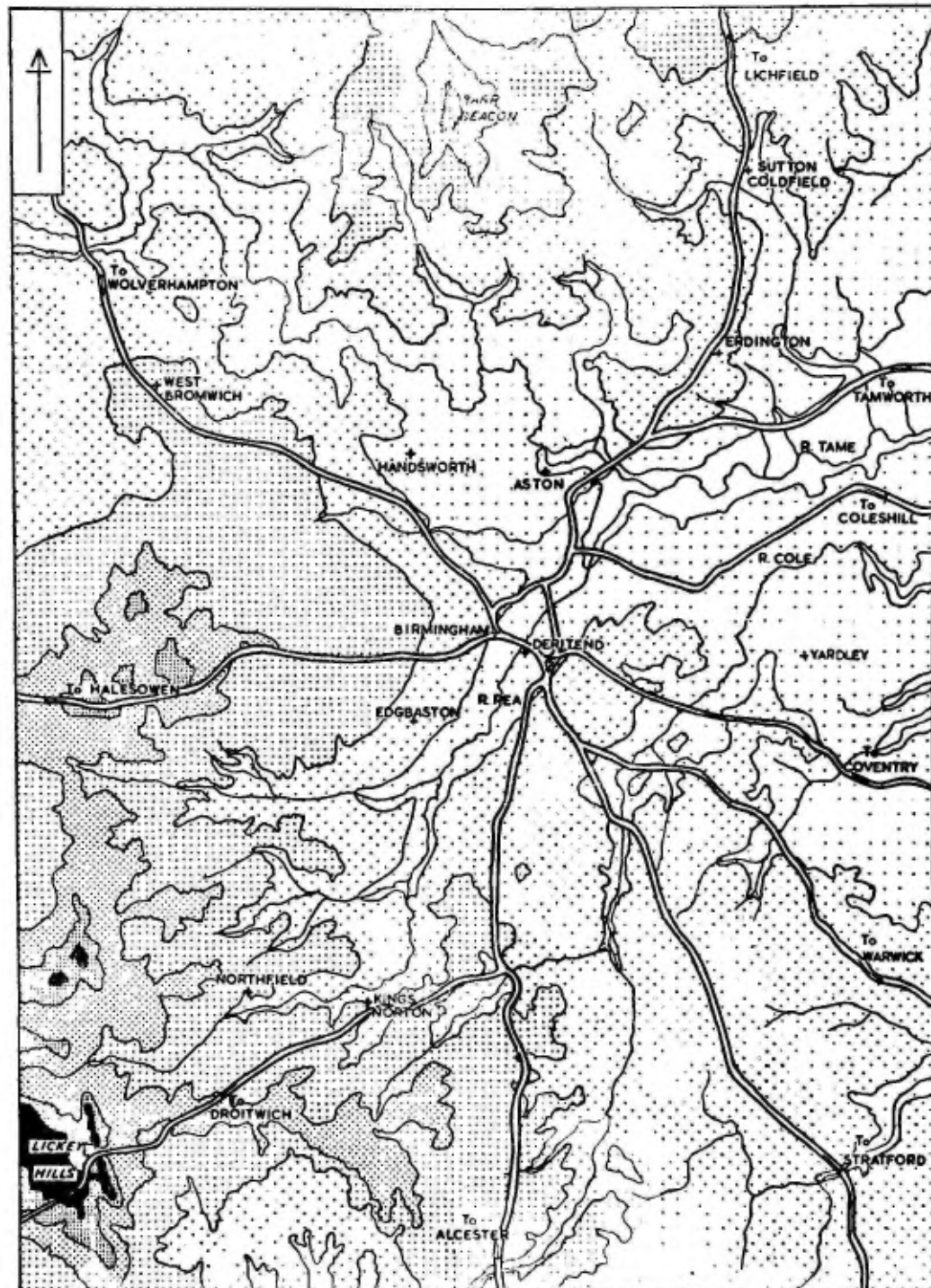


FIG. 2

Water supply presented no problem to the early inhabitants of Birmingham. The Keuper Sandstone itself yielded water from shallow wells, while an important spring line, formed by the faulting of the Keuper Marl against the Keuper Sandstone, lay immediately below the village.

At the time of the Domesday Survey, Birmingham was small and of little note.⁵ By the early 14th century, the village had, however, emerged as a comparatively wealthy and locally important trading town, for in a Survey of 1327 Birmingham is recorded as possessing no less than 75 inhabitants who possessed goods to the value of 10s. and over, and as having paid a total tax of £7 0s. 6d. Of the neighbouring manors only Edgbaston, Duddeston and Erdington paid more than £1 each in tax, with respectively 19, 13, and 14 inhabitants possessing goods valued at more than 10s.⁶ (Fig. 4).

The centuries between Domesday and 1327 had seen, then, the gradual increase in the significance of Birmingham as a centre of exchange and trade. In accounting for this growth, two factors in addition to those already indicated must be examined.

The site of Birmingham lay some five miles from the edge of the exposed coalfield in South Staffordshire. Although the town was not situated actually on the Coal Measures, it was still well inside the limits within which it was economically possible to transport coal and iron for industrial purposes, even in early medieval times. Further, its development as an important marketing centre for the industrial produce of the coalfield was assisted by a lack of competition from other centres nearer to the margin of the coalfield. It is a factor of some importance in explaining the early growth of Birmingham that between the ridge of Lower Keuper Sandstone with its sands and gravels on which the town stood and the edge of the Coal Measure outcrop, near Oldbury and Wednesbury, the solid rocks are masked by a broad expanse of glacial boulder clay (Fig. 1). The lack of suitable sites for early settlement on the ill-drained featureless landscape and the heavy infertile soil developed from the clay appears to have retarded the growth of settlements between Birmingham and South Staffordshire. The belt of barren heath and common, described often in early records as separating the town from the early industrial villages of Wednesbury and Dudley, began in the west of Birmingham Parish itself, where Birmingham Heath (Fig. 3) remained largely unenclosed until the early 19th century. Villages, such as Smethwick and West Bromwich, situated within the belt, remained small and stunted in growth until the commencement of intensive exploitation of the Coal Measures during the 18th century.

A second factor of importance at this period was the development of the activity of Birmingham as a local marketing centre. A market

⁵ "There is land for 6 ploughs. In the demesne is 1, and (there are) 5 villeins and 4 bordars with 2 ploughs. Wood(land) half a league long and 2 furlongs broad. It was and is worth 20 shillings." W. F. Carter, *Text of the Warwickshire Domesday in Victoria County History of Warwickshire*, Vol. I (1904), p. 332.

⁶ W. R. Bickley (trans.) *Inhabitants of Birmingham, Edgbaston and Aston, owning Goods to the Value of Ten Shillings and Upward in the year 1327*, Birmingham, 1885.

entered into by the Lords of the Manor to enforce their market rights.⁷ The town was well placed to trade with both the mineral producing and metal manufacturing South Staffordshire district and the largely pastoral farming districts of the neighbouring clay lands. These provided a market for the nails, implements and edge tools of the industrial districts and source of raw material for the local tanning industries. Birmingham merchants were not unknown, however, in more distant parts of the Midlands and south of England,⁸ while the reputation of Birmingham as a commercial and industrial centre grew, if at first slowly, yet steadily.

Records of Birmingham prior to the 16th century are scattered and often of doubtful value. For the middle of the 16th century, however, it is possible to build up a reasonably accurate picture of the state of growth and functions of the town. In addition to the records left by visiting topographers and an increased number of relevant deeds and documents,⁹ an invaluable survey of the manor carried out in 1553¹⁰ is available for study. Visitors to Birmingham in the 16th century were impressed by the zeal of the inhabitants and the industrial atmosphere of the town. Leland, for example, visiting Birmingham in 1538 discovered it to be "a good market towne" with "many smithes . . . that used to make knives and all mannour of cuttinge tooles and many lorimers that make bittes and a great many naylers. So that a great part of the towne is maintained by smiths who have their iron and sea-cole out of Staffordshire,"¹¹ while Camden, almost half a century later found "Bremicham, full of inhabitants and resounding with hammers and anvils, for the most of them are Smiths. The lower part thereof standeth very waterish: the upper riseth with faire buildings."¹² But there were other trades of importance besides smithying. At an early date in the town's history groups of tanners had settled in the lower or "watery" part of the town in close proximity to the Rea and

⁷ In 1402, for example, John Ryngesley of Tipton was sued for refusing to pay tolls amounting to £10 for oxen and merchandise sold within the manor. In the following year Richard Lydegate, John Hounte and John atte Lynde who "at fairs on the Feast of Invention of the Holy Cross 1 Hy IV and Feast of St. Michael 2 Hy IV should have paid for each beast bought or sold 2d. viz. 1d. from buyer and 1d. from vendor and on Thursday market for each beast 1d. . . . refused to pay tolls for 60 oxen, 60 steers, and 60 cows, and for their merchandise, viz., for linen and woollen cloth, iron, calibe and brass sold or bought at the said fairs" were sued for 100 marks damages—Extracts from Plea Rolls Hy IV cit. Wm. Salt, *Arch. Soc.* "Coll. for a History of Staffordshire." Vol. XV, 1894, pp. 107 and 110.

⁸ R. A. Pelham, "Medieval Trade Relations of Birmingham," *Trans. B'ham. Arch. Soc.*, vol. LXII, 1938, p. 40.

⁹ The Birmingham Reference Library possesses a remarkable collection of early deeds and documents relating to Birmingham. The majority of these have been calendared by L. Chubb. *A calendar of deeds and documents relating to Birmingham* ms. in the Birmingham Reference Library. The thanks of the present writer are due to the Librarian and staff of the Reference Library, whose assistance, much sought, has been always courteously given.

¹⁰ Bickley and Hill, op. cit.

¹¹ J. A. Langford, "Birmingham at the time of John Leland's Visit (1536)," *Trans. B'ham. Arch. Soc.*, 1882-3, p. 3.

¹² Wm. Camden, *Britannia*, trans. Holland, 1610.

to the streams issuing from the Birmingham Fault.¹³ The textile trades were a staple industry in the town and the water supply facilities were utilised to the full for the trade purposes of washing yarn and flax and fulling. Three mills, the Moat or Malte Mill, the Town, Digbeth or Askerick's Mill and the Heath (or later Cooper's Mill), were at work on the Rea itself.¹⁴ Towards the end of the century the first two were converted into blade mills, and tradition has it that it was at the Town Mill that the 15,000 swords were made, which were sent from the town during the Civil War for the use of the Earl of Essex's forces.¹⁵

Birmingham in the 16th century was passing through a transitional phase. Some of the characteristics of the medieval market town were dying and the town's commerce felt increasingly the gradual rise to importance of South Staffordshire as a coal and iron producing district. "More and more as years passed Birmingham became the home of craftsmen and artificers, and the graziers, butchers, weavers and yarn dressers gave way to smiths and cutlers."¹⁶ As the market for nails, swords, knives¹⁷ and other iron products widened, so the relative importance of the fulling stocks, tanyards¹⁸ and the other semi-rural occupations declined.

Despite this early industrial and commercial progress, the growth of Birmingham was far from being a phenomenal one, and by 1700 the population of the town is believed to have totalled no more than c. 15,000.¹⁹ Although still relatively unimportant in comparison with some other Midland centres, it was entering upon a period of prosperity

¹³ Many families of tanners are named in the 1553 Survey. Among them Christopher Elesmore had in 1524 been assessed at £8 in goods. Adjacent to the tanyard of Elesmore was that of Abraham Colmore, while, *inter alia*, Roger Foxall owned a tanyard near to the course of the Rea. Bickley and Hill, *op. cit.*, p. 22-3.

¹⁴ Bickley and Hill, *op. cit.*

¹⁵ Largely as a result of the support given by Birmingham to the Parliamentary forces the inhabitants appear to have secured "great fame for hearty, wilful, affected disloyalty to the King." The town was attacked by a detachment of Prince Rupert's horse, pillaged and partially destroyed by fire in 1643. The blade mill at which the majority of the swords were made was subsequently destroyed by the Royalists.

¹⁶ R. K. Dent, MS. in the Birmingham Reference Library, p. 120.

¹⁷ In a list of goods rated and valued to be carried in and out of Ireland in 1623, Birmingham knives were quoted at 1s. 6d. the dicker, a dicker being a bundle of 10 knives—V. C. H. Warwickshire, vol. II, p. 195.

¹⁸ Many writers including G. C. Allen (*The Industrial Development of Birmingham and the Black Country*, 1929, p. 14) have ascribed the decline of the Birmingham leather industries to a migration of these trades to Walsall. There seems, however, to be little or no concrete evidence for such a migration. It is possible that, whereas in Birmingham the leather trades suffered relatively in competition with newer metal industries, in Walsall they were able to maintain a pre-eminent position. Reasons for this may perhaps be sought more properly in the lack of water power for the establishment of mills in Walsall itself (though water supply for the tanyards was adequate) and in the influence of the Walsall guilds in restricting the entry of new competitive trades, rather than in an actual migration from Birmingham. A final answer to this problem awaits a detailed inquiry into the development and movements of West Midland industry in the 16th and 17th centuries.

¹⁹ A note to Westley's Plan of Birmingham (1731), quoted in *Gentleman's Magazine*, vol. XIII, Oct., 1743, p. 539, and later by William Hutton, estimates the total number of inhabitants in 1700 as 15,032.

and rapid increase. The principal reasons for this must be sought outside the town itself, in the increasing exploitation of the South Staffordshire coalfield, and, in particular, of the districts, near Dudley, Bilston and Wednesbury, close to the outcrop of the celebrated Thick or "Thirty Foot" Coal. The total production of iron, especially of nails, edge tools, locks and similar commodities, rose rapidly following the increased output from the coal seams and the associated iron stones, and the intensive application of the water power of the Tame and Stour systems to industrial purposes.

Birmingham itself, some few miles from the coalfield, was at an apparent disadvantage from an industrial point of view, but it possessed, on the other hand, an established reputation as a centre of skilled craftsmen, and the already developed machinery of marketing and exchange. Birmingham gained rapidly in prestige as the market for South Staffordshire iron wares developed. In this connection an important feature of its early 18th century growth is represented in the rise of a class of wealthy ironmongers,²⁰ whose occupation lay in buying the products of the nailshop and forges of the coalfield and selling in the rural markets of the East Midlands, East Anglia and the Home Counties. John Pemberton, probably the most important of these, initiated the development of the Priory Estate as a housing district, an event which marked the commencement of the 18th century expansion of the town outwards from its old nucleus near St. Martins Parish Church.²¹ (Fig. 3).

Other ironmongers spent much of their lives on the roads between Birmingham and Leicester, Stamford, Northampton, Cambridge and other Midland centres selling the nails, locks and pattens manufactured in the workshops of Birmingham and district. Birmingham became a principal centre through which the manufactures of the South Staffordshire coalfield were distributed. The importance of the traffic passing along the Digbeth—Deritend corridor may be judged from contemporary accounts of the "great number of carriages constantly employed in the carrying of Iron and Iron Goods and Coals"²² destined for "the counties of Warwick, Northampton, Oxford and other Counties."²³ During the early 18th century the industrial life of Birmingham began to develop both in scale and in variety of product. Hitherto its manufactures, such as edge tools, swords, leather and textile goods and saddlers' ironmongery, had been of a type destined only for local rural markets. The changing importance of the coalfield coupled with an increased use of the water power of the South Staffordshire streams

²⁰ An account of the business methods employed by some of these ironmongers will be found in W. H. B. Court, *The Rise of Midland Industry*, 1938, pp. 198–201.

²¹ vide Joseph Hill and R. K. Dent, *Memorials of the Old Square*, Birmingham, 1897. Restrictive covenants in the original leases prevented, for a considerable period, the development of trade or industry and preserved the character of the Estate as a residential district.

²² *Journal of the House of Commons*, 1726, p. 741.

²³ *Ibid*, p. 746. At this period Birmingham lay some miles from the main routes from London to Holyhead and Liverpool, but the London—Shrewsbury route passed through the town.

had led, however, to a relative decline in those manufactures which depended primarily on the preparation and primary processing of raw materials, in the towns, like Birmingham, which fringed the coalfield.²⁴ While nailshops, forges and foundries were spreading rapidly over the semi-rural countryside of the coalfield, the towns on its edge turned their attention to manufactures of a highly-finished type requiring a minimum of raw material and a maximum amount of processing and skill. Wolverhampton and Willenhall, to the north-west and north of the then developed coalfield, took up especially the manufacture of buckles and locks, while Birmingham likewise began to direct its energies to the "new" manufacture of guns, buckles, and iron and steel "toys." No Guild or other restrictive influences existed to hamper the introduction and development of new trades. Whereas the "older" products had been sold in largely "rural" markets, Birmingham craftsmen now attempted, in addition, the capture of the growing urban market in England, and the ever-widening colonial market overseas. Particularly was this the case with the manufacture of guns which had been founded in the town towards the latter half of the 17th century, and in which Birmingham manufacturers were especially active in trade with the West African colonies.²⁵ The usual practice was for the semi-finished gun locks and parts manufactured in Bilston, Wednesbury, Darlaston and district to be imported into the town for the final finishing and assembling processes which were carried out within the small workshops of the independent gun masters of Birmingham. The buckle and toy trades,²⁶ similarly, depended on the import of semi-finished material and the finishing processes were carried out in the town.

²⁴ It should be emphasised that the production of iron in South Staffordshire at this period was insufficient to meet local manufacturing demand. Considerable quantities were imported from other parts of the country and from abroad, principally via the River Severn. The extent to which the import of iron up the Severn attracted a westward migration of the nail and other trades from the Birmingham district is a matter about which considerable divergence of opinion exists. G. C. Allen (*Industrial Development of Birmingham and the Black Country*, 1929, p. 16) considers this factor, together with the availability of water power on the Stour streams, to be the principal influences impelling a westward shift of the nail and other iron manufactures. W. H. B. Court (*Rise of Midland Industries*, 1938, pp. 192-193) is sceptical and considers the changing pattern of industrial distribution due rather to a decline of the nail trade in the eastern districts (including Birmingham) following the "introduction of more skilled and profitable trades." Much scope remains for future investigation of the "migrations" of industry at this period. What is certain is that at this time a marked distinction appeared between the industries of Birmingham and South Staffordshire. "The former was tending to produce articles which required a great deal of skilled labour, and in which the cost of materials and of transport made up only a small proportion of the total value, while in the district situated over the coal measures the cruder manufactures were already finding a home."

²⁵ Artifex and Opifex, *The Causes of Decay in a British Industry*, London, 1907, p. 3. The standard account of the early development of this trade is that by J. D. Goodman, "The Birmingham Gun Trade" in S. Timmins (ed.), *Birmingham and the Midland Hardware District*, London, 1866, pp. 381-431.

²⁶ The steel "toy" manufacture included the production of "brooches, studs, bracelets, watch-chains, chatelaines, sword hilts and scores of other ornaments and trifles."

This period of expansion of trade and commerce was marked also by an increasingly rapid growth of the town both in number of inhabitants and in extent. How far the increase in population at the end of the 17th century was due, as has been generally supposed, to a large scale immigration of Nonconformists attracted by the non-corporate state of the town, is a matter for some doubt. Such evidence as is available tends to suggest that the immigrants to the town were activated rather by the opportunities for advancement existing in this already prosperous and thriving industrial and commercial centre than by solely religious motives.²⁷

It is possible to trace in some detail the extensions of the town during the 18th century, not only from the evidence of documents and the accounts of contemporary writers, but also from an admirable series of published maps.²⁸ The early years of the century were a "Golden Age" for building. Vacant land in the streets of the town was quickly filled by the rapid erection of new houses and shops and the streets of Birmingham began their extension over the fields and gardens of the surrounding countryside. The pattern of the expansion for the greater part of the century was not, as might be expected, a uniform growth on all sides of the town, but it tended, rather, to be concentrated in the direction especially of the north and north-west (Fig. 3). A number of factors appear to have been at work, in this period, inhibiting the growth of the town on its southern and eastern sides and encouraging development in the direction of South Staffordshire.

The first and perhaps most obvious of such factors was the attractive influence of the industrial districts around Wednesbury, Dudley and Wolverhampton. The result of this and of the consequent importance of traffic along the Birmingham-Wolverhampton road was a spread of early "ribbon" development along the main road leading to South Staffordshire. The foundation and rise to fame of the Soho Factory after 1761 may in its turn have added to the attraction of a location to the north of the town, while at an even later date the desirability of a canal side location could be added to the advantages of a situation in this particular quarter of Birmingham. Factors of relief also played their part. To the north and north-west lay well drained, gently undulating, highly desirable building lands extending over the outcrop of the Keuper and Bunter Sandstones (Fig. 3), which contrasted markedly with the "watery" conditions of the Rea Valley to the east and south. Of equal importance, however, the direction of development was conditioned by the distribution of land holdings. Land near to the town was owned, in the form of estates, by some four principal landowners who had bought their holdings from the Lords of the Manor at an earlier period. Of these four, the only owners both

²⁷ vide R. A. Pelham, "The Immigrant Population of Birmingham, 1686-1726," *Trans. B'ham. Arch. Soc.*, vol. LXI (1937), pp. 45-80.

²⁸ The more important of these maps, including those by Westley (1731), Samuel Bradford (1750), Thomas Hanson (1778), Snape (1781), and J. Pigott Smith (1825) are in *Plans of Birmingham*, reproduced by order of the Public Works Committee of Birmingham, Birmingham, 1884.

willing, and, due to legal complexities, able to lease their land for building purposes were those whose estates lay to the north and north-west, beyond St. Philip's Church and the Priory Estate.

The opening for building of the New Hall Estate belonging to the Colmore family in 1746²⁹ led, in particular, to a rapid extension of the town north-west from Colmore Row. Land was cheap and the conditions of lease placed no restrictions on the carrying on of business or manufacture.³⁰ At this time industry was expanding rapidly and workmen were setting up in independent business as small masters, while other masters were desirous of removing from cramped quarters in the older parts of the town to larger and more modern premises. It is not surprising, therefore, to find that the New Hall Estate developed as a centre of industry. The Birmingham manufacturer of toys or buckles or guns typical of his kind who "used his house as a workshop, annexed another, and then built upon the garden or yard as his needs increased" found his needs well satisfied.

The estate was planned on rectangular lines³¹ and grew steadily outwards after 1746 at the expense of the gardens and fields surrounding the town. The plain three-storeyed dwellings housed both the residence and workshop of these small manufacturers, typical of Birmingham's industries. The building "boom" prospered and the town grew rapidly outwards to the north-west. "It is not wonderful" declared Hutton the first Birmingham historian,³² "that a man should be hurt by the falling of a house: but with us a man sometimes breaks his back raising one. This private injury, however, is attended with a public benefit of the first magnitude: for every 'House to be Let' holds forth a kind of invitation to the stranger to settle in it, who, being of the laborious class, promotes the manufactures."

A third important feature of the growth of Birmingham during the 18th century is seen in the beginning of its gradual rise to supremacy as the regional capital of the West Midlands. Prior to this period the responsibilities of administration and the main centres of business had remained with, and in, the larger and older centres in the lowlands away from the edge of the Birmingham Plateau. Coventry had been, for example, of greater significance than Birmingham both as an industrial and commercial centre in medieval times. From an administrative viewpoint the Birmingham Plateau was divided between the shires of Stafford, Worcester and Warwick. The 18th century saw, however, the growth of Birmingham, situated almost at

²⁹ Authorised under 20 Geo. II c 16, 1746.

³⁰ The lessee of a plot of land on the New Hall Estate was bound only "to erect, build or cause to be erected, upon the piece or parcel of land, one or more good and substantial dwelling houses with proper and necessary outbuildings." (Extract from lease from Chas. Colmore to Jos. Rickard. The majority of the original leases of land in this estate are preserved in the Birmingham Reference Library).

³¹ It has been suggested that the deliberate planning of the New Hall Estate (a good example of 18th century planning methods) was a copy of the Marylebone Estate in London, vide L. D. Ettlinger and R. G. Holloway, "St. Paul's, Birmingham" *Architectural Review*, June, 1947, p. 228.

³² Wm. Hutton, *History of Birmingham*, 1781, pp. 49-50.

the point where the three counties met, not only as an industrial centre in its own right, not only as a centre of exchange for the industrial district of South Staffordshire, but also as the service and business centre of a growing region. By the middle of the century Birmingham daily newspapers had achieved a circulation area extending westwards into Shropshire and Herefordshire, northwards to the fringes of the Potteries and southwards to the Cotswolds.³³ Birmingham banks³⁴ and business houses, many of which were founded originally in response to the needs of local tradesmen and manufacturers gradually extended their zones of activity into South Staffordshire, and then, in competition with better-established centres, into the lowlands of Severn, Avon and Trent. By the end of the century Birmingham could be described by Marshall as "the grand mart of the Midlands."³⁵

From the many significant events in the commercial and industrial history of Birmingham during the latter half of the 18th century, two stand out as of great importance. The first of these was the founding of the Soho Manufactory by Matthew Boulton in 1761,³⁶ an event which opened a new phase in the evolution of Midland industry as one of the earliest and technically the most highly developed of the new "factories."³⁷ Boulton's venture was also of significance in illustrating the gradually increasing use of steam power for industrial purposes. The Factory, in which, contrary to the usual custom of the district, employees and processes were gathered under one roof, was founded some two miles north of Birmingham on the site of an earlier mill on the Hockley Brook, a tributary of the Tame. Power was at first obtained solely from the Brook. This power proved insufficient to meet Boulton's demand and in 1767 a Savery and later (1773-4) a Watt engine³⁸ were installed, but only to increase the head of water by returning it from below the factory, back into the mill pool. A transitional stage in the progress from water to steam power had been reached.³⁹

Boulton's concern with the production of goods of quality had a considerable influence in raising the prestige of the town, which had become notorious for the manufacture of cheap tawdry trinkets and toys. In this he helped to lay the foundations for the growth of the manufacture of high-class jewellery and plate as a staple trade. The Soho Manufactory became one of the show places of England, attracting

³³ The first Birmingham newspaper, the *Birmingham Journal*, first published in 1733, had only a limited life. Aris's *Birmingham Gazette* became the regular daily newspaper in 1743. The extent of the paper's circulation can be roughly estimated from the distribution of local advertisements.

³⁴ The first full-time Bank in Birmingham was opened by Taylor and Lloyd in 1765 (*Aris's Birmingham Gazette*, June 10th, 1765).

³⁵ Marshall, *Rural Economy of the Midland Counties*, 1790, vol. I, p. 371.

³⁶ Stebbing Shaw, *History and Antiquities of Staffordshire*, 1801, vol. II, p. 118.

³⁷ Erich Roll, *An early Experiment in Industrial Organisation*, 1930, p. 9.

³⁸ This was Watt's original Kinneil engine—(James Watt, *Biographical Sketches of Matthew Boulton*, ms. in Birmingham Reference Library).

³⁹ The direct application of the steam engine to turning machinery had, of course, to await the development of rotative motion at the end of the century.

world-wide fame on account of its new principles of industrial organisation and the high quality of its products. Merchants, manufacturers and workmen were attracted to Birmingham. "The building," we are told⁴⁰ "consists of four squares, with shops, warehouses, etc., for a Thousand Workmen, who, in a great variety of Branches, excel in their several Departments; not only in the fabrication of Buttons, Buckles, Boxes, Trinkets, etc., in Gold and Silver . . . but in many other Arts, long predominant in France. . . . The number of ingenious mechanical Contrivances they avail themselves of, by the means of Water Mills, much facilitates their Work, and saves a great portion of Time and Labour. . . . Their excellent ornamental pieces have been admired by the Nobility and Gentry, not only of this Kingdom but all Europe; and are allowed to surpass anything of the kind made abroad."

The cutting of the Birmingham Canal in 1768-9 was an event of at least equal significance. Prior to the construction of the canal, all the coal and raw materials used in Birmingham had perforce to be brought by road. As an immediate effect of the Canal the price of coal in Birmingham was reduced by a half.⁴¹ The importance of this to local manufacturers may be judged from the jubilation recorded by the local poet Freeth:

"What mortals so happy as Birmingham Boys?
What people so flush'd with the sweetest of joys?
All hearts fraught with mirth at the Wharf shall appear,
Their aspects proclaim it a Jubilee year. . . .

. . . Then revel in gladness, let harmony flow,
From the district of Bordsley to Paradise Row,
For true feeling joy in each breast must be wrought,
When Coals under Five-pence per hundred are bought."⁴²

The Birmingham Canal connected the town by water not only with the mines and furnaces of Bilston and Wednesbury but also with the important navigations of Trent and Severn, through its connection near Wolverhampton with the Staffordshire and Worcestershire Canal. The steady growth of the canal network brought Birmingham into touch with all the principal mining and industrial areas and negated some of the disadvantages resulting from the town's inland location. The comparative speed and cheapness of carriage of raw materials resulted in a general expansion of all the staple industries. In particular, this development affected the brass trade, which had been previously almost entirely dependent for its brass on the manufacturers of Cheadle and Bristol whose prices and products had often been far from satisfactory. With the opening of water communication, raw materials could be assembled economically for brass manufacture in Birmingham and a large increase in the quantity of brass manufactured locally

⁴⁰ Swinney's *Birmingham Directory*, 1774.

⁴¹ *Pearson and Rollason's Birmingham Directory*, 1777, ed. Scarse, Birmingham, 1896, p. 25.

⁴² John Freeth, "Inland Navigation—an Ode," 1769.

resulted.⁴³ The manufacture of brass products developed during the late 18th and early 19th centuries as a "staple" trade, and became almost completely localised in the districts to west and north of the town, in the vicinity of the Birmingham Canal and its wharves.

At the end of the century the four 19th century staple trades of brassfoundry, jewellery, gun and button manufacture were emerging as the principal manufactures. The erection of the Soho Foundry in 1796⁴⁴ was followed by some advancement of the engineering side of the town's activities, while the "older" trades, including buckle and toy manufacturing, were beginning a period of final decline. Birmingham had long since begun to show that adaptability of its trades to meet the changing demands of the market, in which, according to some recent writers, the key to its success as an industrial centre is to be found.

By 1800 Birmingham, with a population of 74,000,⁴⁵ had become the outstanding industrial and commercial centre of the West Midlands. The words of Thomas Bladon in an address to the townspeople one hundred years earlier were now even more true than at the time they were spoken.

"God has blessed your Town . . . witness the wonderful increase of Buildings, multitudes of People and advancement of Trade, so that you do not only exceed your former selves, but you exceed the Corporations and Cities round you."⁴⁶

The rapid rate of increase of population reached during the latter half of the 18th century was maintained throughout the 19th century. This was the result of continued industrial prosperity reflected in the growth of the brass and hardware, gun and jewellery trades and in some increase in the importance of engineering. Those factors which had been responsible for the remarkable growth of industry during the 18th century maintained their force, while in particular the continued growth of the South Staffordshire coalfield as a principal centre of the iron industry—in particular, the manufacture of wrought iron, played an important part not only in stimulating industrial activity but in accelerating the growth of Birmingham as a centre of industrial and commercial exchange. During this period the Birmingham—Black Country Conurbation took form.

Important changes in the industrial structure took place in the closing years of the century. These were associated with a relative increase in the importance of engineering but especially with the introduction of the new trades of cycle and motor manufacture and the

⁴³ vide H. Hamilton, "The English Brass and Copper Trades before 1800," and W. C. Aitken, "The Brass Manufactures of Birmingham" in S. Timmins (ed.) *op. cit.*, pp. 225 et seq.

⁴⁴ Contrary to general belief, steam engines were not manufactured at the Soho Factory. Engine parts had been manufactured by a number of firms to Watt's specification (the cylinders, for example, were almost invariably cast by John Wilkinson of Bersham and later Bradley) and assembly had been carried out at the engine site under the supervision of Watt's engineers. Manufacture of engines was now, however, commenced at the Soho Foundry.

⁴⁵ 1801 Census.

⁴⁶ Thomas Bladon, "Presbyterian Meetings, where there is a Parish Church are no Schisms," London, 1702, p. 6.

production and assembly of electrical apparatus.⁴⁷ The scope and scale of manufacturing industry widened greatly after about 1890. In the wide basis of its industrial structure, in which no less than 1,500 separate trades are said to be numbered, and in the adaptability of its trades to meet the changing demands of the national and world markets, may be found the secrets of Birmingham's ability to withstand the effects of successive trade depressions.

The period since 1890 has witnessed also the growth of the well-known "three ring" distribution of industry within the city.⁴⁸ The older trades of brass, jewellery and gun manufacture are localised in the congested central districts, while a decentralisation of industrial location has seen the establishment of the motor, cycle, electrical and aircraft industries in a middle and outer ring of industry with a marked concentration in the Tame Valley to the north of the city. Here factors which, at an earlier period, inhibited settlement, have resulted in the present availability of cheap land, conveniently situated with regard to transport facilities and to the labour force housed in new suburbs on the higher ground nearby. It is hoped that a full study of these aspects of the growth of Birmingham's industries since 1800 may form the subject of a subsequent essay.

Birmingham in 1948 is a thriving city of some 1,063,000 inhabitants.⁴⁹ Primarily an industrial centre, the city exercises an important function as the centre of the commercial and industrial life of the Birmingham—Black Country Conurbation. Birmingham remains, finally, the undisputed regional capital of the West Midlands, though in this connection full realisation of her development awaits the replanning of the present inadequate city centre and the completion of growth of administrative, social and cultural services.

⁴⁷ G. C. Allen, *op. cit.*, p. 292 et seq.

⁴⁸ vide Map of Industrial Localisation in Birmingham (*Conurbation*, 1948, p. 112) based on an industrial survey by the present author and P. O'N. Thorpe.

⁴⁹ 1947 estimate.

AN EXPERIMENT IN TEACHING GEOGRAPHY

J. HADDON

THE following outline of a method not normally used in the teaching of geography is put forward in the hope that it may interest other practising teachers who, even if they cannot use the method as it stands, may find it of value in a modified form. The aim is, in brief, so to utilise class activity that the class literally teaches itself.

The need for a departure from the more formal methods of teaching was felt after a period of teaching geography in a secondary grammar school to forms ranging from the lowest to the Sixth. It was found that methods which were producing good results in upper forms were

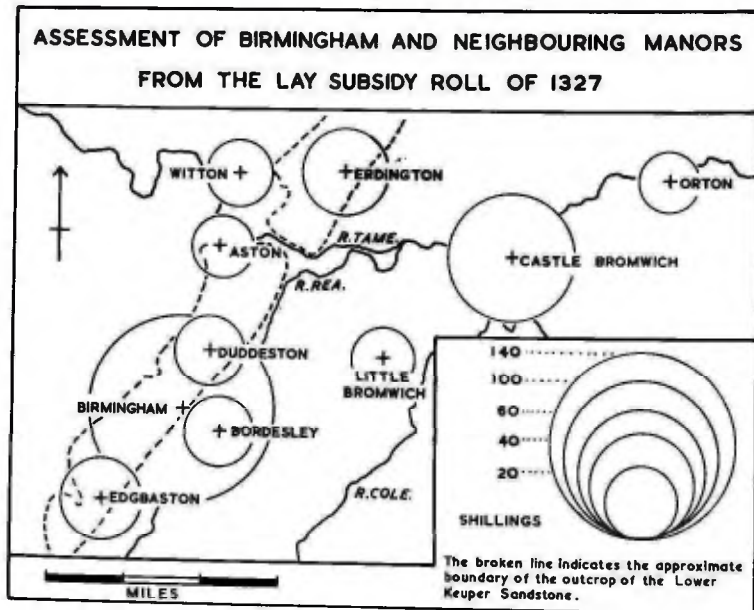


FIG. 4

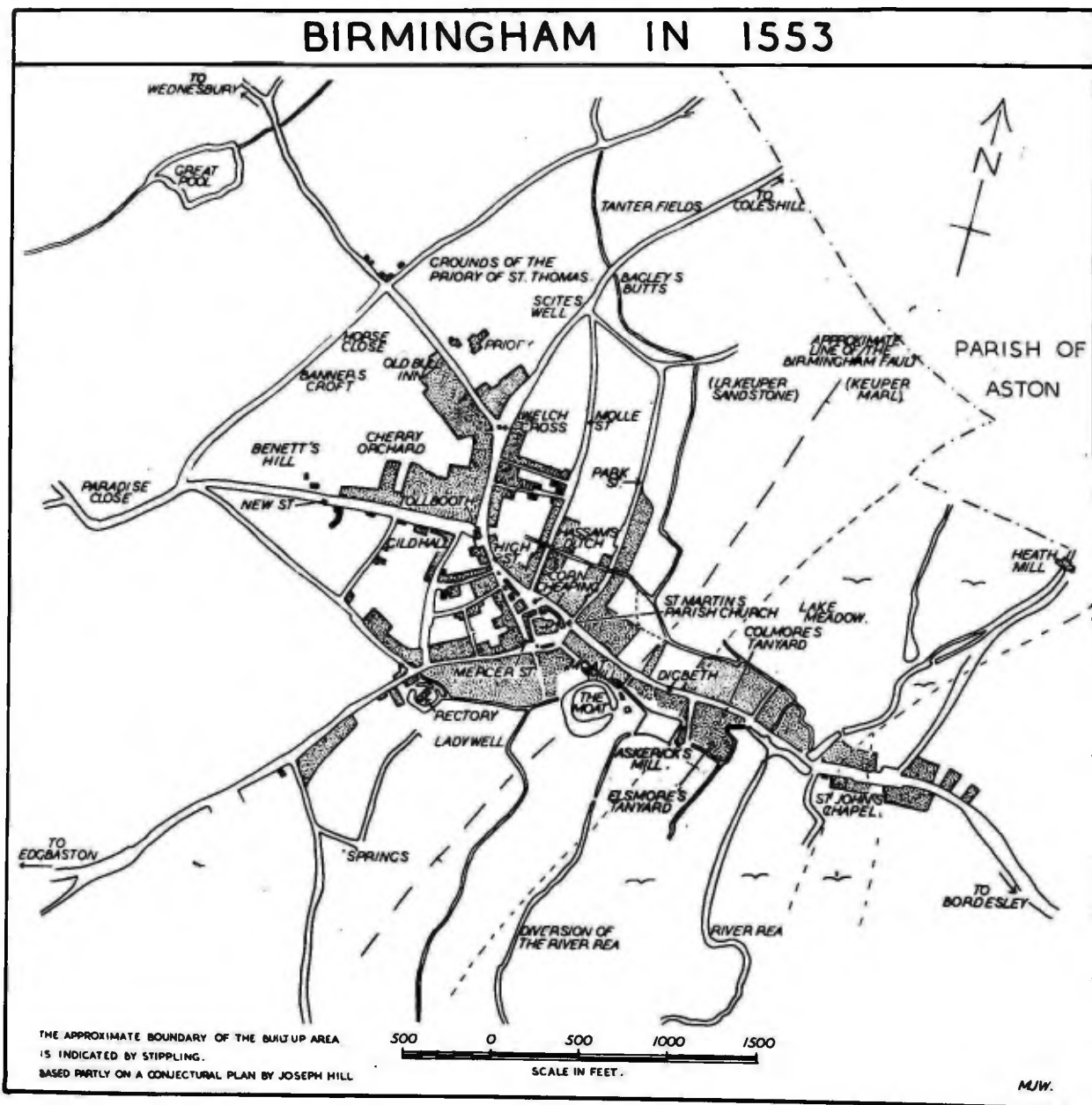


FIG. 5

PART ONE

Birmingham in the Eighteenth Century

2. **Birmingham and its Trade Relations in the Early Eighteenth Century**
3. **Some Factors influencing the Extent and Directions of Growth of Birmingham between c.1750 and 1800**
4. **The Functions of Birmingham in the second half of the Eighteenth Century**
5. **Summary:- Birmingham and the Changing Regional Pattern during the Eighteenth Century**

**Birmingham and its Trade Relations
in the Early 18th Century**

BY

M. J. Wise

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BIRMINGHAM AND ITS TRADE RELATIONS IN THE EARLY EIGHTEENTH CENTURY

BIRMINGHAM in 1700 was prosperous. 'God has blessed your Town' declared the Rev. Thomas Bladon, in an address to the townspeople. 'Witness the wonderful increase of buildings, multitudes of people and advancement of Trade, so that you do not only exceed your former selves, but you exceed the Corporations and Cities round you.' And, indeed, if one is to judge from the increase of population and from the many extensions to the town that were in progress, Bladon's words were amply justified. By 1700 Birmingham had become a centre attracting immigrants from a more than local field. Thomas Bladon himself was an example of that class whose entry into the town was in search of freedom of religious expression.¹ To others the opportunities offered by Birmingham as a prosperous and expanding centre of commerce and manufacture were, perhaps, the chief attraction. This magnetic influence extended far outside the boundaries of the three local counties of Staffordshire, Warwickshire and Worcestershire. From the edges of the Welsh moorlands, from Lancashire and the Pennines, from as far away as Dorset and even Devonshire a movement began to this previously little known town situated in the heart of the uninviting plateau country of the West Midlands.²

The extent and importance of this movement one can confirm at a little later date by an examination of the account books of the Overseers of the Poor.³ These contain references to the parishes of origin of many immigrants and confirm the drawing power exercised on the local counties and on the population of the physically less fortunately endowed regions of western and midland England. Again, a few years later, the advertisements in *Aris's Gazette* offer examples of tradesmen of recent entry into the town. Thomas Ball, for example, 'clock and watch file maker from Liverpool in Lancashire who now lives near the Golden Ball, the upper end of

¹ A. G. Matthews, *Calamy Revised*, (1934), p. 60.

² Vide, R. A. Pelham, 'Immigrant Population of Birmingham, 1686-1726,' in *Trans. B'ham Arch. Soc.*, LXI (1937) p. 56.

³ Book of Accounts of the Overseers of the Poor in Birmingham, 1739-1748, Birmingham Reference Library MS. (hereinafter cited as B.R.L.) 380973.

Moor Street . . . makes all sorts of small files.'⁴ The exact size and composition of the immigrant population of Birmingham at this period is, however, uncertain. The evidence available is mainly of a highly selective character and concerns largely those whose movements were conditioned by lack of means and by the operation of the Act of Settlement. It is impossible to assign this undoubtedly important attractive force of Birmingham to any one cause. Perhaps the comparative freedom from religious restrictions and the absence of trade guilds had been significant factors. It is probable though that by the opening of the new century, the fame of Birmingham as a prosperous and progressive industrial centre was sufficiently strong to account for this influx of population. All three explanations are, perhaps, in some measure intertwined. By 1700 the population had reached some 15,000,⁵ and it seems probable that a steady rate of expansion was maintained throughout the first half of the century.

The growth of population and manufactures had resulted, by 1700, in an increased demand for houses and workshops. The years around the turn of the century saw the commencement of the 'Golden Age' for building described so graphically by Hutton three-quarters of a century later. As a palliative to the growing demand for accommodation both for residential and trading purposes we hear of the conversion and division of houses. As early as 1689 property near the Cross in High Street had, for example, suffered conversion into four tenements, three of which were named as in the possession of Ambrose Leay, woollen draper, Samuel Smith and Abraham Easte, while within one of the tenements a parlour was at the same time undergoing transformation into a workshop.⁶ The conversion of old and building of new houses became a most active trade during the first years of the century. Bricks could be made with ease from the local clay (principally obtained from the Keuper Marl formation, so widespread to the east of Birmingham). The grant of 'free liberty to dig and take clay for the making of bricks, tiles or otherwise to be used in building'⁷ was a not unusual accompaniment to the lease of land. In 1721, Henry Fowler had land near Edgbaston Street set exclusively to the making of bricks. The local bricks, however, though cheaply and easily made, did not lend themselves to fancy and ornamental architecture, and the majority of houses were

⁴ *Aris's Birmingham Gazette*, 28 November 1748.

⁵ A note to Westley's plan of Birmingham (1731) accepted in *Gentleman's Magazine*, XIII, October 1743, and later by Hutton estimates the total number of inhabitants in 1700 as 15,032. A full examination of the evidence for the seventeenth century growth of population is awaited.

⁶ B.R.L. 181654, 14 November 1689.

⁷ B.R.L. 252680, 25 January 1726.

renowned more for their plain orderliness than for any beauty of decoration. Speculation in land and property became a flourishing business; the activities of men like Richard Pinley, Robert Bridgens, Joseph Hands and others whose names are known to us carried them quickly from the ranks of bricklayers and masons to the higher ranks of master builders and gentlemen.

As the building process quickened, the growth in size of the town became more marked. Before 1700 Birmingham had consisted of little more than a long, straggling street village extending from the bridge over the River Rea at the foot of Digbeth to the top of the hill above St. Martin's Church. 'The beauty of Birmingham, a good market towne in the extreme partes that way of Warwickshire' observed Leland, 'is in one strete goynge up alonge almoste from the left ripe of the broke up a mene hille by the lengthe of a quarter of a mile.' Since Leland's visit changes in the shape and size of Birmingham had been slow in operation. More building had taken place above the Parish Church and in the High Town, but until the mid-seventeenth century houses were confined to the immediate vicinity of the main road. Buildings lined its route from the Old Bull Inn to St. John's Chapel in Deritend. In the latter decades of the seventeenth and in the early eighteenth century, building extensions were begun in earnest and rapidly took on a number of aspects.

The first of these was seen in the erection of houses on vacant plots of land either within or immediately adjacent to the existing built-up area. The density of building on either side of the High Street increased quickly. Vacant plots of land were seized upon by speculators and building proprietors. In Phillips Street, for example, John Blun, joiner, and others, were busy in 1705 in erecting houses 'according to the mode and fashion' of the houses in the immediate neighbourhood.⁸ In 1700 land of William Bell 'lay staked out and intended for a common street between High Street and Worcester Street' to be named after the proprietor of the enterprise, and here too Birmingham joiners and carpenters, bricklayers and brickmakers erected, on a common style, their plain three-storeyed houses.⁹

A second aspect of the extension of Birmingham was the development outwards from the Parish Church of two arms of buildings. To the north-east of the town lines of houses grew along Moor Street and Park Street, while on the opposite side of the Parish Church an alignment of building commenced along the main road to Edgbaston.

⁸ B.R.L. 252605, 26 June 1705.

⁹ B.R.L. 181716, 14 April 1715.

Both arms of development followed closely the contours of the ridge on which Birmingham stood, running only a few yards above the line of springs which had played an important part in influencing the industrial development of the medieval settlement.

Between these growing arms of the town lay the old market centre in the vicinity of the Corn Market and the Old Cross, immediately above St. Martin's Church. Above the Cross the road to Dudley and Stourbridge diverged from the main route to Wednesbury and Wolverhampton. Along this Dudley road began a gradual extension of buildings and 'New' Street took form beyond the Swine Market and the Free School. By 1700 in the High Town, shops and the premises of merchants extended as far as the Welsh Cross and development had begun along Dale End, the road to Coleshill.

Of even greater significance were the building developments of the first thirty years of the century on either side of Bull Street—the main through route of the town. In this direction buildings were erected on the old Priory Close and a new estate—the Priory Estate—was built, centring around a formally planned square and garden—the celebrated 'Old Square.' Leading from the opposite side of Bull Street was built Temple Row which carried an arc of building from Bull Street round the north side of the Cherry Orchard to the western end of New Street itself. Its first ten houses were built in the years following 1710 and of them, the remaining five lend to this day a little eighteenth-century simplicity amidst the confusion of the nineteenth century and modern architectural styles of central Birmingham. All were occupied originally by successful business and professional men—general merchants, founders, toymakers, and a succession of attorneys and physicians.¹⁰ 'The buildings' it was said a few years later 'are as lofty, elegant and uniform as those of Bedford Row and inhabited by People of Fortune, who are great wholesale dealers in the Manufactures of this Town, particularly Mr. Thomas Tipping, whose Father, Mr. Walter Tipping has been known to send away a Waggon Load of what are called Jew's Harps at a Time. These buildings have the appellation of Tory Row; and this is the highest and greatest part of the Town of Birmingham.'¹¹ The presence of St. Philip's Church, erected between 1709 and 1715, heightened the residential and highly desirable character of this district and brought

¹⁰ Benjamin Walker, 'Some Eighteenth Century Houses and the men who lived in them,' in *Trans. B'ham Arch. Soc.*, LVI (1932) p. 3.

¹¹ Wm. Toldervy, *England and Wales Depicted in a Series of Letters* (1762), letter xxxvi; cit. Walker op. cit.

the building line as far to the north-west as the line of modern Colmore Row.

Westley's Plan of Birmingham 'survey'd in 1731' revealed the latest developments. Temple Row had been further opened up by the cutting of a street through the Cherry Orchard to connect the Row with High Street. The Priory lands were almost completely built up and the urge for building had begun to encompass the fields north of Steelhouse Lane. Steady progress had been made in the Moor Street and Edgbaston Street districts and many fields lay ripe for development and marked out into plots on the north-eastern side of the town. Only in Digbeth had there been little advancement of building and here the narrow ribbon of building stretching down to the bridge remained almost unaltered to the end of the century.

During the first thirty years of the century growth of the town had proceeded steadily on all sides but the east and was most pronounced to the north and north-west.¹² There developed, too, a marked contrast in character between the new rows and streets of the higher parts of the town, many of them models of early eighteenth-century planning, and the older quarters centred around St. Martin's Church. Digbeth, in particular, retained its ancient mixed industrial character. The adjacent streets were crowded and congested with the workshops of the manufacturers and the dwellings of the Birmingham poor. The contrast between these two sectors of the town was not a new one. Camden had found the lower part 'very waterish' due no doubt to the many springs, to the numerous mill leets and to the liability of the Rea to floods, and industrial in character. In contrast he remarked 'the upper [part] riseth with faire buildings.'¹³ Eighteenth-century travellers found the difference deepened. 'The Town stands upon the side of a hill forming nearly a Half-Moon, the lower part is filled with the Workshops and Warehouses of the Manufacturers, and consists chiefly of old Buildings, the upper part of the Town, like St. James's, contains a number of new, regular streets and a handsome Square, all well built and well inhabited.'¹⁴

This period, then, saw the beginning of the era of expansion of Birmingham which has continued almost unbroken to the present day. The rate of increase of population was maintained steadily until the end of the nineteenth century; the process of areal expansion has quickened constantly.

¹² For a fuller discussion of the growth of the town at this period see 'Some Factors influencing the Growth of Birmingham' by the present writer in *Geography*, XXXIII (1948) p. 185 et. seq.

¹³ Wm. Camden, *Britannia*, (trans. Holland, 1610), p. 567.

¹⁴ 'R.P.,' *Four Topographical Letters written in July 1755*, p. 55. The author, Resta Patching, was a London innkeeper.

Birmingham today fulfils a complex role. It is an industrial centre of first-rate importance, the commercial capital and focus of the Birmingham-Black Country Conurbation and, in addition, the regional capital of the West Midlands. It is possible that the secret of its rapid growth over more than two centuries and of its success in exercising this threefold function may be found in these vital decades around the year 1700.

Medieval Birmingham had been of little and only local importance. Midland centres of note (like Worcester, Warwick, Coventry and Stafford) had lain away from the high ground of the Birmingham plateau with its heavy, intractable soils, in the fringing lowlands of Severn, Avon and Trent. Birmingham had remained a comparatively insignificant market and industrial village. Not until the latter half of the sixteenth century did the characteristics of the medieval market village begin to fade. The graziers and butchers, weavers and tanners declined in relative importance and were superseded by the smiths and cutlers. Mills on the Rea were converted to blade mills, semi-rural occupations died out and the town concentrated increasingly on the manufacture of nails, saddlers' ironmongery and edge tools. South Staffordshire was increasing in importance and the market for metal goods was widening. A century later, at the end of the seventeenth century, the town was again in a transitional state. The continued increase in the exploitation of South Staffordshire coal and iron and the increased application of water power to industry, combined with other factors to change the local industrial situation once again. Now Birmingham concentrated its activities on new trades. To the exclusion of the nail and cutlery trades grew manufactures which depended less on the ready availability of supplies of raw material and on the existence of water power but to a greater extent on skill and careful assembly. The change of occupations here in Birmingham was similar to that in towns of comparable situation a short distance from the coalfield. Wolverhampton, for example, began the manufacture of buckles and locks. Even in Walsall, where the restrictive influence of craft guilds was felt, the manufacture of buckles was added to the earlier staples of leather and saddlers' ironmongery. Examination of the recorded occupations of Birmingham families reveals the operation of this change, the gradual relative decline of the smiths and the rise in significance of the new trades.

The new trades included four principal groups, the manufacture of guns, buckles, buttons and brass goods. The gun trade had been started in the town during the latter half of the seventeenth century. The exact date of its introduction is uncertain but by 1693 five Birmingham gunsmiths were

under contract to the Master General of Their Majesties' Ordnance ' that they and the rest of the Gunmakers of Birmingham ' were ' to provide 200 Snap Hand musquets a month for the space of one year.' Orders from the Government during the first few decades of the eighteenth century coupled with the rapid expansion of the export trade, particularly to West Africa, were powerful factors influencing the early success of the trade. It was common, though not universal, practice for the semi-finished gun locks and parts to be imported into Birmingham from Bilston, Wednesbury and other manufacturing villages in South Staffordshire and for final processing and assembly to be done in the town itself. A strong community of gunsmiths developed in the Digbeth and Edgbaston Street districts although after 1750 the scene of their activities shifted to the new streets developing beyond Steelhouse Lane on the north side of the town. Many of their number were men of property and standing.

The buckle trade had developed gradually during the latter years of the seventeenth century. During the last decade, especially, the market for these products had expanded and widened rapidly and Birmingham was naturally well situated to produce the many varieties of form and size in which the buckles were produced. During the early years of the century, the manufacture of metal buttons and, of even greater importance, light steel toys was also begun. The latter trade comprised the fabrication of ' brooches, studs, bracelets, watch chains, chatelâines, sword hilts and light ornaments and trifles of all kinds ' and the ' Brummagem pretences ' earned for the town a vast notoriety in Europe. At even this early stage of its growth, Birmingham was not slow to suit its manufactures to the changing demands of the market, a characteristic which, perhaps more than any other, has been responsible for the rapid and successful development of its industries. These were, too, trades well suited to manufacture on a small scale. It was without difficulty that immigrants to Birmingham found employment and in times of trade prosperity became manufacturers on their own account. The typical manufactory of the time was a small cramped shop open to the street or alternatively a back room in a house occupied also by two, three or four other workshops and in which the master worked alongside his handful of employees. This was an age of new trades: it was also an age which was responsible more than any other for the creation of the ' Birmingham ' system of manufacture in a multiplicity of units carried on by ' small masters.' It is not until almost half-way through the century that evidence appears to suggest the growth of ' factories ' in the modern sense. Then, developed out of small businesses, arose such organisations as that of Mr. John Taylor, the ' wonderful genius ' of the button, toy and

japanning trades and the celebrated Manufactory at Soho to which men travelled from all over Europe.

The brass trade, to become in the nineteenth century a staple trade of the town, was in course of steady development. The trade lay chiefly in manufacturing brass imported from Cheadle and Bristol into locks, buttons, candlesticks and a variety of toys and trinkets. Rapid progress was made. Birmingham merchants and manufacturers took immediate steps to develop the market at home and overseas and it was reported that 'Holland, France, Italy and Germany were among the European countries supplied from Birmingham.'¹⁵

Birmingham's manufactures grew and prospered and it was not without justification that in 1751 the local newspaper could proudly sing,

' Here implements and Toys for distant parts
Of various metals, by mechanic Arts,
Are finely wrought, and by the Artists sold
Whose touch turns every Metal into Gold.'¹⁶

Any explanation of the growth of Birmingham during the eighteenth century must take also into account the growing influence exercised by the town as, firstly, a commercial centre for the growing manufacturing district in South Staffordshire and, secondly, in the provision of services for a region of increasing size.

During the early years of the century the change in the character and increase of significance of South Staffordshire began to quicken. The region was in process of rising to first importance as a coal and iron and as a manufacturing district. Plot¹⁷ described graphically the changing scene as the earth was 'ridded off' the shallow seams of the Thick Coal. Conversion of the cultural landscape from its early wholly rural character to the bricks, smoke and steel of the nineteenth century began in earnest. Increasingly as each year passed it became 'a countryside in course of being industrialised: more and more a strung-out web of iron-working villages, market towns next door to collieries, heath and wastes gradually and slowly being covered by the cottages of nailers and other persons carrying on industrial occupations in rural surroundings.'¹⁸

Population grew but the region was still, for the most part, one of hamlets and manufacturing villages. Urban development, as such, was a feature to

¹⁵ H. Hamilton, *The English Brass and Copper Industries to 1800*, (1926), p. 138.

¹⁶ *Aris's Gazette*, 25 February 1751.

¹⁷ R. Plot, *The Natural History of Staffordshire*, (1686), Chapter 3.

¹⁸ W. H. B. Court, *Rise of Midland Industry*, (1938), p. 22.

be reserved for the early nineteenth century. Dudley, the ancient 'capital' of the district remained a market town with interests in the local iron and mining trades, but with only very limited regional influence as either a commercial or a service centre. Wolverhampton and Walsall in the north-western and north-eastern margins of the coalfield were growing slowly in size and number of inhabitants: but both in speed of growth and in the extent and intensity of their influence in South Staffordshire, they were outstripped rapidly by Birmingham. There was never any great rivalry or competition between these towns on the coalfield fringe for control over the organisation of trades in the intervening district. Birmingham possessed many advantages, among them the prosperity, success and broad basis of its own manufactures. It had, too, an already well-established machinery of marketing and exchange. For long it had stood between, and profited from, two regions of markedly contrasting economies. The town possessed marked advantages of position. It lay some few miles to the south-east of the coalfield's edge at the point where no less than three main routes converged for the crossing of the Rea. Furthermore, due to the inhibiting influence of soil and water conditions in the narrow belt lying between Birmingham and the coalfield, no centre had risen in competition on the south-eastern border of the field. As early as 1402 men from Tipton and district had been in the habit of using the Birmingham markets and fairs as a means to dispose of their iron as well as for their oxen and agricultural and textile products.¹⁹ In later medieval times Birmingham undoubtedly possessed a certain importance as a centre of exchange between the coal and iron districts of Dudley and Wednesbury and the pastoral farming areas of north Warwickshire and Arden. The exchange was still, however, a limited one, both in character and in extent and few merchants possessing more than a local reputation developed in Birmingham. But by the end of the seventeenth century, observers of the West Midland commercial situation were able to congratulate Birmingham which, it was declared, 'drives a great Trade of Iron and Steel Wares, Saddles, and Bridles; which find good vent at London, Ireland, and other parts.'²⁰

The part played by Birmingham in influencing this transformation in the mining district, and the means by which Birmingham obtained control of the iron trade, have never yet been fully examined. Neither has it been

¹⁹ *Collections for a History of Staffordshire* (Staffs. Hist. Soc.), XV (1898) pp. 107, 110.

²⁰ Guy Miege, *The New State of England*, (1691), pt. I p. 235.

shown how far this expansion of trade was a factor in the eighteenth century growth of the town itself.

Growing in numbers and importance in Birmingham was a class of prosperous merchants and factors. The most prominent of them were the ironmongers whose varied activities included the supply of raw material to the nailers and small manufacturers of the coalfield, the collection of the finished products and the final disposal of these goods in local, national and foreign markets. It should be remembered that local production of iron was insufficient to meet manufacturing demand and bar iron was imported in considerable quantities during the early years of the century chiefly from Sweden and America.²¹ Many of the more important Birmingham ironmongers were active in this import trade. Abraham Spooner, for example, whose activities covered the whole district between Birmingham and Wolverhampton, was engaged in supplying nailers with bar iron from America.²² His father Isaac Spooner had also attained local fame as an ironmonger²³ with wide interests in the disposal of Staffordshire ironwares.

Other prosperous ironmongers included John Hopkins whose will, dated 7 April 1681²⁴ included bequests to the poor of Birmingham, £200 to 'poor distressed friends called Quakers,' and, significantly, an equivalent sum to the poor of Wednesbury, a town which had been, possibly, the source of much of his prosperity. John Pemberton, probably the most prominent of the early eighteenth-century speculators in land and property and responsible for the conversion of the Priory Close, was an ironmonger. His family, of age and prestige in the town, had carried on the business of goldsmiths in the High Street. During the last years of the seventeenth century the character of the business changed gradually into that of a dealer in iron and iron goods. Their early financial experience may well have stood the Pembertons in good stead in their dealing with nailers and furnace and forge owners, for they emerged early in the new century as among the most prosperous of the Birmingham merchants. Pemberton himself dwelt on Bennett's Hill, the highest point in the immediate vicinity of the town which it overlooked. Closely connected with the family of Pemberton were the Lloyds. Sampson Lloyd had removed to Birmingham from Dolobran in 1698²⁵ and soon became an active townsman with a prosperous business in

²¹ T. S. Ashton, *Iron and Steel in the Industrial Revolution*, p. 104 ff.

²² *C.J.*, XXIII (1737), p. 109.

²³ B.R.L. 249987, 17 July 1717.

²⁴ B.R.L. 512877.

²⁵ S. Lloyd, *The Lloyds of Birmingham*, (1907), p. 21.

the iron trade situated at the Smallbrook Street end of Edgbaston Street.²⁶ Like many other local ironmongers, among them John Hopkins and Thomas and William Russell, he obtained much of his bar and rod iron from the forges and slitting-mills at Wildon and Wolverley in the Lower Stour Valley.²⁷ Unlike John Jennens, the Birmingham ironmaster who owned furnaces, mills and forges on the River Tame and at other points in the Midlands, many of the Birmingham ironmongers seem not to have interested themselves in the primary manufacture of iron. Their business lay in the purchase of bar and rod iron, its supply to the nailers and other manufacturers and the collection and marketing of the finished product. Many Birmingham families are known to have carried on business as ironmongers during the early years of the century and to have maintained close commercial relationships with the South Staffordshire manufacturing district. The evidence is that the majority of them prospered and like Charles Blackham²⁸ and Thomas Russell²⁹ invested their newly made wealth in land and property on the fringe of expanding Birmingham. The Birmingham ironmongers included those, like the Spooners, who represented families of long standing in the town. In many cases family history reveals the gradual conversion of a business as goldsmith or cutler into that of ironmonger. In addition, however, there were ironmongers, who, like the Lloyds, were recent immigrants into Birmingham. Into this latter class fell Richard Parkes who had been actively engaged in the manufacture of iron at and near Wednesbury. His removal to Birmingham in about 1713³⁰ may be ascribed, in part at any rate, to the growing importance of trade generally and to the increasingly commanding position exercised by Birmingham merchants in South Staffordshire. Increasingly the town was becoming the financial and business centre of the whole manufacturing district. In some cases business as an ironmonger was supplementary to an interest in one or more branches of manufacturing. Richard Baddeley, ironmonger, of Birmingham, was also, for example, a button maker and the owner of a furnace at Rushall (near Walsall). In his will he described himself as 'gunsmith,'³¹ while he also achieved local fame for his success in obtaining

²⁶ Hill and Dent, *Memorials of the Old Square*, p. 16.

²⁷ I am indebted to Mr. B. L. C. Johnson for this information.

²⁸ B.R.L. 440580, 27 September 1705.

²⁹ B.R.L. 440581, 28 September 1705.

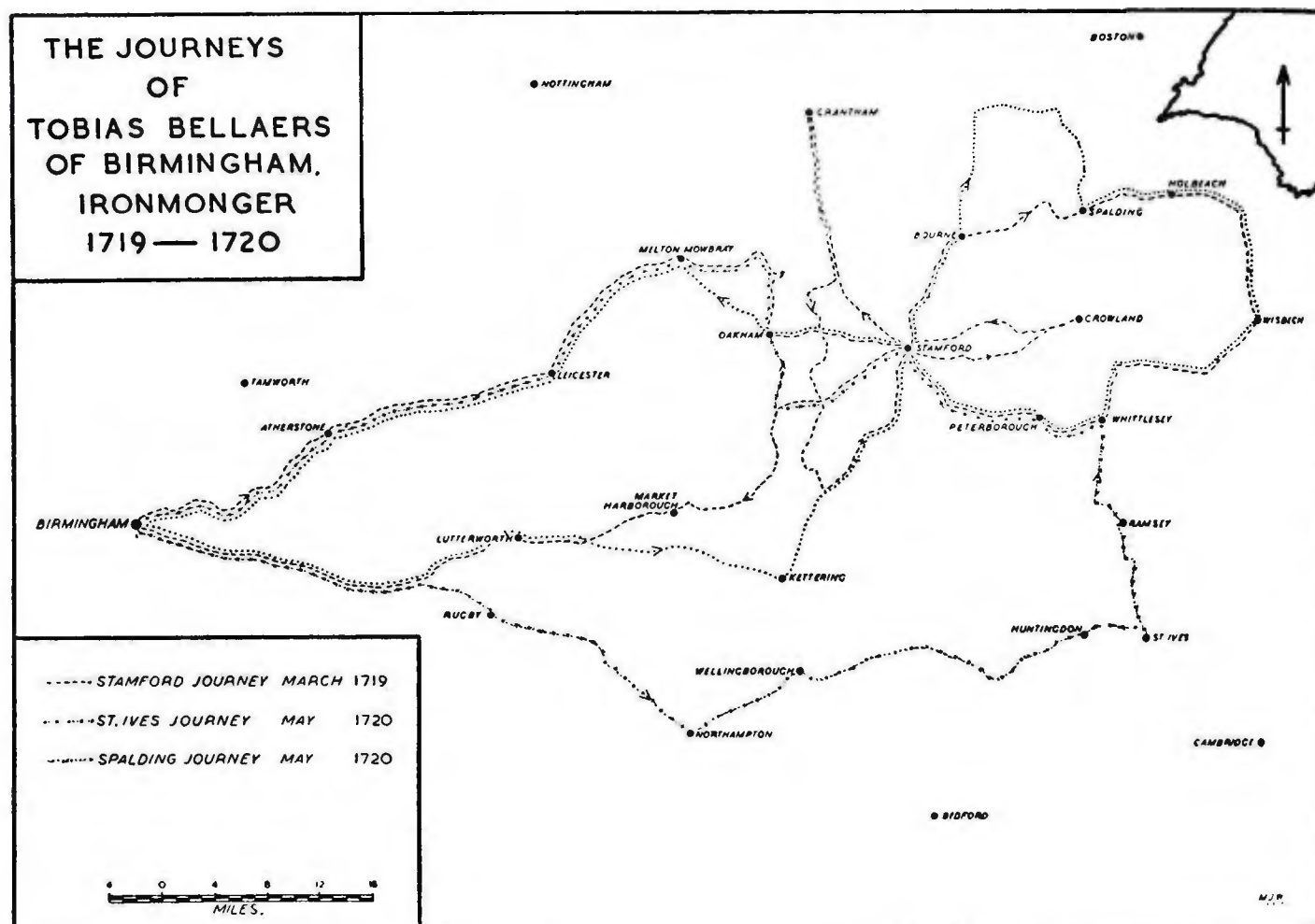
³⁰ Hill and Dent., *op. cit.*, p. 22.

³¹ *Ibid.*, p. 61.

a patent for making iron binding for heavy cart and wagon wheels. This was the first patent ever issued to a Birmingham man.³²

Other ironmongers included Isaac and John Stanton,³³ William Burton,³⁴ Richard Ellis,³⁵ John Hen³⁶ and John Cottrell.³⁷ There were many others and it is evident that the ironmongers as a class had succeeded, by the early years of the century, to something like the position of eminence occupied a century and a half earlier by the mercers.

For some insight into the scope and extent of at least one aspect of the business carried on, we are indebted to one of their number, Tobias Bellaers,



³² R. B. Prosser, *Birmingham Inventors and Inventions*, (Birmingham, 1881), p. 4.

³³ B.R.L. 327103, 1 May 1693.

³⁴ B.R.L. 181679, 27 July 1699.

³⁵ B.R.L. 181697, 10 October 1705.

³⁶ B.R.L. 181703, 4 June 1707.

³⁷ B.R.L. 181735, 13 March 1721.

some of whose letters and accounts have been preserved.³⁸ The present collection of papers is fragmentary and tantalisingly small. Although it represents only a very small portion of the activities of Bellaers, sufficient remains to enable a partial reconstruction of the scope and organisation of his business.

Little is known concerning the Bellaers family itself. The name is not met with in Birmingham prior to 1700, and the family may well have been, as so many were at this period, an immigrant one. If this is so, it is probable that the family was one of some substance, for the name does not occur in the records of certificated immigrants, though the probable date of arrival in the town is almost certainly covered by the extant records.³⁹ It has been suggested, on the basis of references and allusions within the correspondence itself, that Tobias came to Birmingham from Stamford in Lincolnshire. The Stamford family of Bellaers was actively engaged in the saddlery trade, in which it maintained a wide connection, and it may be, perhaps, that Tobias was despatched to the growing Midland centre in the first place as an agent for the purchase of saddlers' ironmongery. By 1716 his business was a prosperous one. Many thriving eighteenth-century Birmingham firms owed their origin to a process not unlike this suggested one. In the words of Yates⁴⁰ 'distant shopkeepers journeyed hither and themselves purchased from the manufacturer the goods which they required. This mode of transacting business being both troublesome and expensive, some purchasers, instead of coming personally, deputed persons in the town to act for them on being allowed a commission; which species of agency, in the course of time, became a distinct business, that of the factor, who travels over the kingdom with patterns, collects the orders of the shopkeepers, and executes them on his own account.' Tobias was quick to build a prosperous and extensive business and to earn for himself a position of respect and some distinction within the town. He became an Overseer of the Poor in 1723,⁴¹

³⁸ These are now preserved in the Birmingham Reference Library as 386746, 'Collection of letters, accounts and papers relating to Tobias Bellaers of Birmingham, ironmonger,' (1716-49). I am much indebted to members of the staff of the Library for their assistance.

³⁹ Vide Pelham loc. cit.

⁴⁰ Geo. Yates, *An Historical and Descriptive Sketch of Birmingham*, (1830), p. 82.

⁴¹ T. Bellaers was among the signatories to a certificate issued to Wm. Hunt to St. Michael's, Coventry, in 1723 (B.R.L. 176970), while the accounts of the Overseers for the year 1723 (Town Book 7 April 1724) confirm that Tobias Bellaers served during that year.

Churchwarden of St. Martin's Parish Church in 1727⁴² and was active in public affairs until 1743 when his signature appears for the last time in the Town Book. He married a daughter of Samuel Vaughton, the prosperous gunsmith and gunbarrel forger, and had a son John, to whom reference is made in Vaughton's will of 1719,⁴³ and, on numerous occasions, in correspondence from Stamford. Tobias was rated in 1736 for four houses in New Street Quarter and a new barn in Edgbaston Street Quarter, at a total of 3s. 8d.⁴⁴ It is probable that his own residence was in Dudley Street, at that time a new and expanding district. This was, of course, in New Street Quarter. After the death of Tobias his son, John, succeeded to the business. John, too, became a well-known Birmingham man. He was Churchwarden of St. Martin's in 1748 and, among other offices, was elected a Governor of King Edward's School in 1748. He was recorded as an ironmonger of Dudley Street in 1767⁴⁵ and remained there until his death in 1772.⁴⁶

The business activity of Tobias Bellaers was that of an 'entrepreneur' who bought nails and metal goods from local merchants and manufacturers and marketed them from his warehouse in Birmingham. He does not seem to have belonged fully to the class of nail ironmongers described earlier.⁴⁷ Although his interest in the nail trade was an extensive one, there is no evidence that he ever employed nailers directly nor is there anything to show the extent to which his business included the purchase and supply of iron rod to the nailmakers. It is clear, however, from his correspondence with James at Stamford, that Tobias was actively engaged in the distributive side of the nail trade, and that it formed a considerable part of his business. Though his buying was done locally, he sold, generally wholesale, to merchants and dealers in the East Midlands and East Anglia. His 'territory' included that part of the country with which he was most familiar, the counties of Lincolnshire, Northamptonshire, Leicestershire, Rutland and parts of Huntingdon. At Stamford his brother James acted as an agent and maintained a certain stock on hand to enable him to deal with local orders. Thus in a letter from James to Tobias,⁴⁸ 'Mr. Cumbrey

⁴² Town Book, I p. 73.

⁴³ B.R.L. 374364.

⁴⁴ Poor Rate Levy Book, Birmingham, 1736 (B.R.L. 244501).

⁴⁵ Sketchley's *Birmingham Directory*, 1767.

⁴⁶ *Aris's Birmingham Gazette*, 23 July 1772.

⁴⁷ Vide also W.H.B. Court, *op cit.*, pp. 199-201.

⁴⁸ 7 April 1720.

pd. me £8. 18. 0. and had 4 bags of Nailes and did answer me he deals with Noebody but yr selfe in that way. Mr. Chapman pd. me £3. 11. 6. and took one bag. Mr. Jno. Graham has had one bag, Will^m Hill has had 1 bag' and then follows an order for bits, chains and 'one dozen of long barrs is all at present.' Business was intermingled with domestic matters. 'I have put you up sum stock, July flower seed and a root of dubil blue violets, my Mother has put sum dubil maregould seed . . . P. S. My spouse has sent Jacky sum gingerbread cakes.'

Locks formed another important department of the business. Again there is no evidence regarding the source of supply. Locksmiths were still active in Birmingham itself but it is possible that towns like Willenhall and Wolverhampton, in which lock manufacture was developing as a specialised and highly localised trade, formed an additional source. Henry Butcher of Stamford writes on 7 April 1720 for '3 dozen of coffin joynts, 2 dozen of Lack'd (presumably lacquered) Locks and 2 doz. of white locks,' while Thomas Bagnall of Uppingham received a consignment despatched on the 13 April which comprised '1 doz. stock locks at 6d., 1 doz. at 10d., $\frac{1}{2}$ doz. plate locks at 6, $\frac{1}{2}$ doz. at 9 and $\frac{1}{2}$ doz. at 12.' An order of a month later demanded '12 stock lox worth about 18d. apiece and ye keys for to open one another so that any one key may open any of ye Lox and send them with speed.'⁴⁹ But locks of all types—spring locks, coffer locks, gate locks, brass locks—indeed every type manufactured by the smiths of Birmingham and South Staffordshire were in Tobias's stock and all were 'sent with speed.' Special orders were taken and executed. 'I pray get me a key made to this lock and lett it be a nice key to carry in my pockett, let it be softened, and my name engraved on the Square of the barrel where it unscrews . . . When my name is on with town name and shire town let it be case hardened again but no ways made bright. P.S. get Ben. Cooper to engrave my lock, he lives with his brother Joseph Cooper.'⁵⁰

The brass trade was developing locally and, in addition to brass locks, brass candlesticks were an important item of trade. Thus, an order received on 14 March 1719 asked for 'six of the best brass Nob'd Candlesticks, newest fashion such as I had' which were to be sent, with other goods, 'by first horse or wagon.' Of greater note was the supplying of

⁴⁹ Letter from Hy Butcher of Stamford, 7 May 1720.

⁵⁰ Letter from Joshua Parkes. Joseph Cooper is probably identical with the Joseph Cooper named as resident in 'one of four houses between the High Street, New Street, a place called the Tolbooth and Townhall, and lands of John Freeher gent and—Inge Esq.' B.R.L. 270058, 27 August 1707.

patten woods and patten rings. These necessary items of footwear, described by a writer of 1688 as 'irons to be tied under the shoes to keep out the dirt' were manufactured in large quantities in the neighbourhood of Birmingham.⁵¹ One can imagine that little difficulty existed in selling such goods in the agricultural and often badly drained counties of Eastern England, 'Mr. Henry Loxton of Gratton Desires you to call of him when yr that way but Desires ye price of patten Woods a grose and rings a hundred. Desires you to send a note to me and I can send it any Friday.' Orders included 'one gross of pattin boards, large and wide heels' from Thos. Blyth of Uppingham.

Tobias spent much of his time travelling from town to town of Eastern England, carrying his sets of patterns, in search of custom. His journeys would, no doubt, have astonished Hutton who considered this practice of 'commercial travelling' to be an innovation of his own generation. 'The practice of the Birmingham manufacturer for perhaps a hundred generations was to keep within the warmth of his own forge. The foreign customer therefore applied to him for the execution of orders and regularly made his appearance twice a year; and though this type of business is not totally extinguished yet a very different one is adopted. The merchant stands at the head of the manufacture, purchases his produce and travels the whole island to promote sales, a practice that would have astonished our forefathers.'⁵² Even Yates⁵³ was convinced that merchants and factors of the type of Tobias were non-existent in the town prior to about 1750.

That Tobias was a man of energy may be discerned from a glance at his itineraries. (See Map, p. 65). Four of these are now extant though of these one is, unfortunately, incomplete. In any case it reveals but slight deviations from the Stamford Fair journey transcribed below.

STAMFORD FAYRE JOURNEY, MARCH 1719

Atherstone	
Leicester	Monday, 14th
Melton	
Wymondham	
Market Overton	Tuesday, 15th
Oakham	
Stamford	

⁵¹ Among local patten makers whose name is known is Edward Birch (B.R.L. 297368, 24 March 1714).

⁵² Wm. Hutton, *History of Birmingham*, (1781), p. 70.

⁵³ *Op cit.*, p. 82.

Burne Spalding	Wednesday, 16th
Holbeach	Thursday, 17th
Wisbech Whittlesey	Friday, 18th
Peterborough Stamford	Saturday, 19th
Grantham Greetham	Tuesday, 22nd
Exton Morcoat	Wednesday, 23rd
Weldon Bullwick Cliff	Thursday, 24th
Stamford	
Milton Crowland Deeping Stamford	Saturday, 26th
Uppingham Harbottle	Friday, 1st April
Lutterworth Coventry Home	Saturday, 2nd April

ST. IVES JOURNEY, MAY 1720

Rugby Northampton	Monday, 2nd
Wellingborough St. Ives Ramsey	Tuesday, 3rd

Whittlesey Peterborough Stamford	Wednesday, 4th
Uppingham Oakham Wymondham Melton	Friday, 6th
Leicester Atherstone Home	Saturday, 7th

SPALDING JOURNEY, MAY AND JUNE 1720

Coventry Lutterworth Kettering	Friday, 27th
Weldon Bullwick Stamford	Saturday, 28th
Burne	Sunday, 29th
Morton Gosberton Spalding	Monday, 30th
Holbeach Wisbech	Tuesday, 31st
Whittlesey Peterborough Stamford	Wednesday, 1st
Oakham Melton Leicester	Friday, 3rd
Atherstone Home	Saturday, 4th

The distances involved on these journeys appear surprisingly great to modern eyes. A journey of between thirty and forty miles a day on horseback was commonplace to Tobias and included many calls on old and potential future customers. It will be seen, too, that Tobias penetrated deep into eastern England and into the heart of the Fen Country. His territory was triangular in extent. From Birmingham at the apex his journeys covered the area between Boston at the north-east corner and St. Ives, near Huntingdon, at the south-east corner. Doubtless were records of other journeys still in existence we should find that Tobias made an even closer cover of a territory possibly even wider in extent.

There is, unfortunately, no means of knowing how many journeys Tobias completed each year. It is not even certain that his travels were undertaken only in summer, for at least one of his journeys, and that a particularly long one, is known to have been begun as early as 14 March. Possibly the dates of the principal fairs in such important market towns as Stamford was an important influencing factor. The roads of eastern England, often constructed on causeways above the surrounding mire and marsh, must have proved as severe a trial to Bellaers as they had been, a few years earlier, to Celia Fiennes.⁵⁴ According to Ogilby's road map no main cross-country route between the West Midlands and the Eastern Counties was in existence north of the Coventry to Cambridge road. And yet the whole of the wares distributed by Tobias was despatched by road — by packhorse, coach or wagon—and none by water.

Tobias Bellaers was but one of many merchants engaged in commerce of this type. Perhaps the most important lesson that may be learnt from the now surviving fragmentary papers and accounts, is the extent to which the growth of Birmingham at this period was dependent not only upon the rise of its own manufactures but on the development of trade. Birmingham became by far the most important centre for the organisation, collection and marketing of the products of the South Staffordshire manufacturing district. Through the town and down the narrow ill-paved streets of Digbeth passed daily 'a great number of carriages, constantly passing, laden with Iron and Iron wares from Wolverhampton and thereabouts to Birmingham and from thence to London.'⁵⁵

Birmingham was, then, an industrial town, and, in addition, a centre exercising an important function relative to the increasingly important South Staffordshire district. In the third place the modern development of

⁵⁴ *The Journeys of Celia Fiennes*, (ed. C. Morris, 1947), pp. 154-5.

⁵⁵ *C.J.*, XX (1726) p. 768.

Birmingham as a service centre can be traced back to this period. At first Birmingham's importance was confined to the performance of commercial, distributive and professional services for the people of the town itself and of the neighbouring villages. As the century grew older, so the importance of this function of Birmingham increased and so the area dependent on the town for each group of services steadily widened.

As a market centre, even in medieval times, Birmingham had always possessed a local sphere of influence. The markets and fairs persisted throughout the century; activity on market day centred on the Bull Ring but extended into the High Town. The Shambles, a row of open butchers' shops, still occupied the heart of the Bull Ring itself.

The merchants dwelt, as of old, in Mercer or Spicer (now Spiceal) Street, Edgbaston Street and the Corn Cheaping, and retail shops had begun to spread outwards along High Street, Bull Street and New Street. Apart from scattered references however, there is little to show how far, if at all, Birmingham had yet developed as a retail distributive centre of any consequence, though by 1755 one T. Lawrence of Birmingham, a haberdasher, was receiving orders from many neighbouring towns, including Rugeley and Lichfield together with business enquiries from as far afield as Cheshire.⁵⁶ The town was already, however, a printing and bookmaking centre of some consequence with a short but noteworthy tradition of publishing. An early localisation of printers and booksellers had developed in the houses round about St. Martin's, but as the eighteenth century progressed the centre of the trade shifted to the High Town, and near to the junction of High Street and New Street.⁵⁷ Here dwelt such men as Thomas Warren who was responsible for the publication of an early newspaper, *The Birmingham Journal*, which had only a very short life.⁵⁸ Here, on the site of the old Toll Booth, was established in 1750 the well-known stationery and book selling business of William Hutton. Here, again, was established the publishing office of Thomas Aris who removed from London in 1741 to become proprietor of the first permanent and successful Birmingham newspaper. It has been shown, that, at the present day, marked activity in printing and publishing, and, in particular, the possession of a vigorous newspaper are among the most accurate indices of a thriving service centre. Furthermore, a number of demonstrations have shown clearly that the extent of newspaper circulation is an 'exact and delicate indicator of the extent and potency'

⁵⁶ B.R.L. 382110, Accounts of T. Lawrence of High Street, Birmingham, 1755.

⁵⁷ Joseph Hill, *The Bookmakers of Old Birmingham*, 1907, p. 19.

⁵⁸ *Ibid.*, p. 41.

of at least one aspect of urban influence over the surrounding countryside.⁵⁹ The growing importance of this activity in early eighteenth-century Birmingham is, at least, suggestive of the increasing importance of its role as a service centre. An attempt has, in consequence, been made to discover the extent of circulation of its newspaper. As far as is known previous examinations of this problem of newspaper circulation areas have confined their activities to the present day and no attempt has been made (at least no published record of such attempt exists) to map the 'spheres of influence' of early newspapers. The matter is fraught with some difficulty. It is doubtful if mid-eighteenth century weekly newspapers were in the present sense reflectors of the influence of great urban centres as are modern daily morning and evening newspapers. At this period, the newspaper as we know it today was in its infancy; the number of newspapers was still limited and many were, in fact, little more than news-sheets carrying London and Foreign news and with little or no matter of local origin. Areas of circulation were still restricted by difficulties of transport, while, of course, statistics of circulation were non-existent. In the construction of the map of 'Circulation of *Aris's Gazette*' the area of circulation has been measured, in the absence of other evidence, from the information contained in local advertisements. Within a few years of the foundation of the *Gazette*, these advertisements became a prominent feature of the paper and as years progressed increased in number as well as in allocation of space.⁶⁰ Advertisements of books, proprietary products and others of a general nature initiated in London have been omitted as of no bearing on the local circulation. For the sake of clarity those of origin within the town of Birmingham itself have also been omitted from the distribution map, as have repeated advertisements. One is left with a picture composed of advertisements entered mainly in Midland market towns like Stafford and Worcester, industrial towns such as Wolverhampton and in rural villages and hamlets. Thus, one notes an advertisement from a saddler at Stourbridge, notices of cock-fighting and other entertainments and the details of houses, farms and businesses to let or for sale.

Thomas Aris had been quick to establish agencies at which advertisements and notices of events could be entered and by 1742 it was possible to make an insertion in the *Gazette* on payment at any one of six places in addition to the Head Office itself, Shrewsbury, Bridgnorth, Worcester, Leominster,

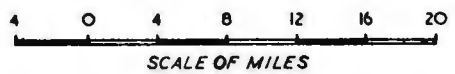
⁵⁹ The available literature on this subject is summarised and discussed in R. E. Dickinson, *City, Region and Regionalism*, (1947), pp. 211-12.

⁶⁰ An almost complete file of this newspaper exists in the B.R.L.

THE CIRCULATION OF ARIS'S BIRMINGHAM GAZETTE 1742-3



▲ DENOTES PLACE OF ORIGIN OF ONE ADVERTISEMENT IN ARIS'S GAZETTE.
 THIS MAP HAS BEEN COMPILED FROM A STUDY OF THE PLACES OF ORIGIN OF LOCAL ADVERTISEMENTS IN ARIS'S GAZETTE
 NATIONAL ADVERTISEMENTS INITIATED IN LONDON AND THOSE ORIGINATING WITHIN THE TOWN OF BIRMINGHAM ITSELF
 HAVE BEEN EXCLUDED. THE EXISTENCE OF AN AGENCY ACCEPTING ADVERTISEMENTS IS INDICATED BY THE SYMBOL □



MJW

Warwick and Wolverhampton. The distribution of these places may be taken in itself as a pointer to the area of circulation and the map (p. 74) bears out the tendency for the area to be widest in the western counties of the Midlands and in the marchlands of Wales. In Worcestershire, south of the line of the Clent Hills, the circulation, at least during the years mapped, appears to have been very much restricted. This circumstance may represent the results of competition from the *Worcester Journal*, a newspaper which, founded originally as the *Worcester Postman*, maintains a prosperous existence to this day. A study of the circulation of this newspaper based in a similar way on local advertisements, confirms this view. In itself this is some evidence of the continued importance of Worcester as a service, administrative and cultural centre, and it is noteworthy that despite the existence of an agency for the *Gazette* at Worcester, so few advertisements from that county appear. In Warwickshire no corresponding competing newspaper was in existence and a more pronounced pattern of advertisements results. The most concentrated area of distribution, was, as might be expected, the increasingly populous district centred on the South Staffordshire coalfield.

We have suggested, then, the beginnings of change in the relative importance of service centres in the West Midlands. Prior to 1700, Worcester, Warwick, Stafford, Coventry, Lichfield and other towns of lowland situation, peripheral to the Birmingham Plateau had been of greatest consequence. Now Birmingham begins to emerge, at least as a centre of commercial services. Its sphere of influence spread gradually outwards from the plateau, competing in increasing measure with those of the older established towns on the fringes.

In the centre of the town this was reflected in the growth of inns and accommodation for travellers to and through Birmingham. The Hen and Chickens in the High Street was one, 'a very good accustomed Inn . . . with Stables, Brew Houses and all Conveniences for Publick Business . . . N.B. There is a very good Bowling Green joining to it.'⁶¹ Others included the Mitre, also in High Street, and the Swan, during this period possibly the most celebrated Coaching House, to and from which ran the early London coaches. Local entertainments began to cater not only for the townspeople but also for visitors to Birmingham from the surrounding countryside. By 1743 no less than three theatres were open, Aston had pleasure gardens⁶² while at Duddeston Hall the Gentlemen of Warwickshire,

⁶¹ *Aris's Gazette*, 14 December 1741.

⁶² Dent, *Old and New Birmingham*, (1880), pp. 90-2.

Worcestershire, Herefordshire and Shropshire met frequently to indulge in a Main of Cockfighting.⁶³ A few years later a 'Society of Cricket Players' of Birmingham were willing to travel no less than 30 miles for a match for 20 Guineas a side.⁶⁴ Birmingham possessed, in addition to its other educational establishments, a Boarding School for 'Young Ladies' of whom 'Great care will be taken in all respects and the tenderest treatment may be depended on.'⁶⁵ This was situated in Church Street 'being an airy part of the town.'

Finally, one can trace the beginning of development of Birmingham as a centre providing financial services. During the first half of the century, no banks as such were, of course, in existence. 'To remedy this defect,' says Hutton, 'about every tenth trader was a banker or retailer of cash. At the head of these were marshalled the whole train of drapers and grocers.' Of this practice we know, for Tobias Bellaers himself had acted on numerous occasions in the capacity of banking agent. The first of the official banks, that of John Taylor and Sampson Lloyd was established in 1765, to be followed by others. The latter half of the century saw, too, the rapid increase in number of retail shops, wholesale warehouses, theatres, musical festivals, libraries, schools and other amenities, hospitals and services of many kinds. Even so, the rate of development of industry, commerce and population had become so rapid that despite their expansion, the service facilities of Birmingham still fell short of the needs of the town and its region. As an administrative centre the town made little headway, its own administration remained anachronistic in organisation and inept in operation.

Related closely to the growth of this threefold function of Birmingham is the whole question of the development of communications and transport services. The town had grown, as we know, at an important meeting place of routes. Furthermore its progress whether in trade, industry or commerce was dependent on the maintenance of communications. Raw materials for processing or manufacture were, of necessity, imported into the town, largely from South Staffordshire, while Tobias Bellaers and his many colleagues relied entirely on the road system for disposal of the finished products.

Of the importance of road transport to and through Birmingham at this time there can be little doubt. There are numerous witnesses to the 'great number of carriages constantly employed in the carrying of Iron and Iron Goods and Coals'⁶⁶ from the Wednesbury and Wolverhampton districts.

⁶³ *Aris's Gazette*, 1 June 1747.

⁶⁴ Langford, *Century of Birmingham Life, 1741-1841*, I p. 88.

⁶⁵ *Aris's Gazette*, October 1754.

⁶⁶ *C.J.*, XX (1726) p. 741.

Other accounts emphasise again the function of the town as a distributive centre for goods passing from Staffordshire and Shropshire into the south-east Midlands and the London district. Maintenance of the roads in the town itself was an important task and Supervisors of the Highways were appointed annually to inspect and oversee repair work. Thus the appointment of John Silk and Thomas Jeffries for the year 1727 was accompanied by a vote of £100 for the upkeep of the highways, of which £20 was set aside for Smallbrook Street alone.⁶⁷ Repairs, however, seem to have remained in arrears of work required and many of the town's streets acquired notoriety from their ill-paved state. The maintenance of Deritend Bridge across which passed almost all the east to west traffic was of particular importance. The 'wretched' bridge of the early years of the century was replaced about 1750 by a five-arched bridge. This, too, proved unsatisfactory and was again replaced by the end of the century.

The countryside around Birmingham, in common with much of early eighteenth-century England, possessed roads of varying quality. Those on the clay lands of Arden and those which crossed the Coal Measures of Staffordshire included notoriously bad stretches. That from Wolverhampton was described in 1726 as being 'dangerous and almost impassable,' so bad, in fact, that 'the King's carriages for the Use of the Soldiers going that way, could not pass through that Road this Winter.'⁶⁸ So bad was this road at Wednesbury that the ruts in the road were deep enough to damage the foundations of the houses.⁶⁹ The road could scarcely have been improved by the twelve colliers indicted in 1748 at Stafford Assizes for sinking pits in the public lanes.⁷⁰ In Birmingham itself agitation for road improvement was not lacking and a succession of Acts of Parliament for the turnpiking and repair of the principal roads to and from the town were obtained. The first Birmingham Turnpike Act embraced the Warwick and Stratford Roads.⁷¹ The main road from Birmingham to Wednesbury together with a number of other roads in South Staffordshire were included in an Act of 1726⁷² while in the same year authorisation for the turnpiking of the roads between Bromsgrove and Dudley and Birmingham was obtained.⁷³

⁶⁷ Town Book, p. 92.

⁶⁸ *C.J.*, XX p. 741.

⁶⁹ *Ibid.*, p. 765.

⁷⁰ *Aris's Gazette*, 15 August 1748.

⁷¹ 12 Geo. I c. 6.

⁷² 13 Geo. I c. 14.

⁷³ 13 Geo. I c. 15.

Turnpike Acts for the main roads to Stonebridge (the Coventry road) and Stourbridge were not obtained until 1744 and 1753 respectively.⁷⁴

It is improbable that the establishment of turnpike trusts was followed by immediate improvements. In the first place, as Cossons has pointed out, many of the trusts were responsible for unwieldy lengths of road.⁷⁵ Repair of the South Staffordshire roads was in any case hampered by the constant traffic of the coal and iron wagons and a lasting improvement was only obtained following the construction of the Birmingham canal which relieved some of the roads of the heavy raw material traffic. The road to Dudley remained 'rather below indifferent' and was still 'despicable beyond description' in 1781.⁷⁶ But the state of the roads may have hampered but certainly did not deter traffic in the early years of the century. Transport costs were higher in winter than summer but the carriages and wagons of coal and iron continued to use the rutted tracks.

The manufacturers of Birmingham were also active in support of proposals for improving water transport into the Midland counties. Pig and bar iron from America and Sweden destined for the workshops of South Staffordshire and Birmingham was imported via both the Severn and Trent. At Bristol transference of the iron took place into barges for the journey by river to Wribbenhall, a suburb of Bewdley and river port, where it was transferred to pack-horses for the journey to the mills and nailshops of the manufacturing district. The journey by river was slow, and despite the agitation from Birmingham, men were not replaced as barge pullers by horses until the end of the century. The interest of Birmingham men in the Severn grew as the town became increasingly the centre of commerce in manufactured products and the home of leading dealers in bar iron.

Iron for Staffordshire was carried also up the River Trent to Burton. 'My father,' declared Wm. Whitehouse, 'bought the foreign bars at Burton upon Trent, before the Birmingham Canal was built and brought them by land carriage to Birmingham.'⁷⁷ The importance of the Trent Navigation was suggested again, in a petition from the people of Birmingham to have the River Derwent from Derby to the Trent made navigable because, it was declared, 'their trades do chiefly consist in Steel and Iron and other ponderous commodities and the charge of land carriage is so great that it is a discouragement to these trades which by this navigation will be improved and the said

⁷⁴ 18 Geo. II c. 19; 26 Geo. II c. 47.

⁷⁵ Arthur Cosson, 'Warwickshire Turnpikes,' in *Trans. B'ham Arch. Soc.*, LXIV (1941-2) p. 59.

⁷⁶ Hutton, *op. cit.*, p. 263.

⁷⁷ Cit. T. S. Ashton, *Iron and Steel in the Industrial Revolution*, p. 245.

charge lessened.⁷⁸ There is, though, little evidence to indicate the precise extent to which river traffic on the Trent and Severn was used at this period by Birmingham men. It is probable that full use of these rivers was not made until after the construction of the Birmingham Canal, which, in 1769, met the Staffordshire and Worcestershire Canal at Autherley Junction, near Wolverhampton. But advertisements in *Aris's Gazette* suggest that for some time it had been customary to send goods overland to Burton and thence down the Trent to Hull, a journey which took about eight days to complete.⁷⁹

Birmingham had developed, also, as a centre of activity of carriers, wagons and stage coaches. In 1679, Sir William Dugdale had come 'out of London by the Stage Coach of Birmicham to Banbury.'⁸⁰ By 1731, Nicholas Rothwell of Warwick had organised a weekly service of coaches and wagons to London, via Warwick, Banbury and Aylesbury; the journey by coach started 'every Monday at six o'clock in the morning' and the traveller arrived in London on Wednesday morning. Ten years later further coaches were in operation and services increased steadily in frequency, if not immediately in speed. By 1748 the columns of *Aris's Gazette* were able to announce both the relative attractions of a number of competing services between Birmingham and the capital, and the increasing activity of the local stage, wagons and carriers.

Halfway through the century the urban functions at present exercised by Birmingham were in course of crystallisation. Industry prospered and the number of manufacturers increased year by year. The commercial links with the South Staffordshire district grew stronger and were finally confirmed during the next few decades. Birmingham was growing in importance as a centre providing services and amenities for a widening region. Within the town itself, a new stage had opened in 1746 with the commencement of building on the Newhall Estate. As the town grew in consequence as an industrial, commercial and regional centre, so the increase in size and population grew even more rapid. 'Thus,' said Hutton, 'her internal property is covered with new erected buildings, tier within tier. Thus she opens annually a new aspect to the traveller; and thus she penetrates along the roads that surround her, as if to unite with the neighbouring towns for their improvement in commerce, in arts, and in civilisation.'

MICHAEL J. WISE.

⁷⁸ *C.J.*, XI p. 410.

⁷⁹ *Aris's Gazette*, 28 March 1774.

⁸⁰ W. Hamper, *Life, Diary and Correspondence of Sir William Dugdale*, (1827), p. 141. It seems probable that coach services through Birmingham were in existence even earlier than this.

SOME FACTORS INFLUENCING THE EXTENT
AND DIRECTIONS OF GROWTH OF BIRMINGHAM
BETWEEN 1750 AND 1800

List of Maps and Diagrams

- Fig. 1. William Westley's Plan of Birmingham, 1731
2. Samuel Bradford's Plan of Birmingham, 1750
3. Thomas Hanson's Plan of Birmingham, 1778
4. The Growth of Birmingham in the Eighteenth Century
5. Birmingham Parish: Assessment of Land, c.1790
6. Birmingham Parish: Geology
7. The Birmingham Estates in the Eighteenth Century
8. The New Hall Estate: Progress of Building
9. The New Hall Estate: Occupations of Lessees
10. The Crescent, Birmingham, as it was projected

"The itch for building is predominant: we dip our fingers into mortar almost as soon as into business" Wm. Hutton.

I

Building developments in Birmingham during the second half of the eighteenth century were remarkable for their formal orderliness. Here were found excellent examples of the contemporary zeal for limited town planning. Neatly laid out estates, fashioned, as was the custom, after London models, with long lines of plain three-stor^{ed} houses, rectangular street patterns and formally designed central gardens, sprang up about the outskirts of the early eighteenth century manufacturing and commercial town.

The development of Birmingham at this period is worthy of study also from a different point of view for, as will be seen shortly, the feature of the extension of the town almost exclusively in certain directions presents certain very attractive problems to the student of urban geography.

Sources for the study of the growth of Birmingham at this period are found, firstly, in contemporary maps and plans, secondly, in the many descriptions of travellers and local observers and, thirdly, in the many hundred deeds and documents relating to the erection of houses and to the sale and exchange of property, which

are now preserved in the Birmingham Reference Library.

The most important maps are those of Samuel Bradford, published in about 1750, and Thomas Hanson, 1778.¹ Bradford's Plan (Fig. 2), a finely engraved production² to a scale of approximately sixty-six yards to the inch, carried, in addition to views of St. Martin's and St. Philip's Churches, an Alphabetical List of Streets giving details of the number of houses and inhabitants. Thomas Hanson's Plan (Fig. 3), equally well designed, and published at approximately the same scale, provides an accurate survey of the progress of development by 1778, but provides little information regarding the number or distribution of inhabitants, though giving a wider range of views of the principal public and private buildings.³ It will be remembered that William Westley's Plan had been published in 1731 (Fig. 1), and a comparative study of the three plans can yield valuable information concerning the direction and character of town growth.

II

Before proceeding to examine the principal directions of town growth during the second half of the century, it is desirable to record some of the chief

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1. Both these maps are included in the volume of Plans of Birmingham published in 1884 on a reduced scale by the Public Works Committee of Birmingham.
 2. The engraver was Thomas Jefferys, a well known London publisher and "geographer".
 3. These are not reproduced on Fig. 3.

WESTLEY'S PLAN 1731

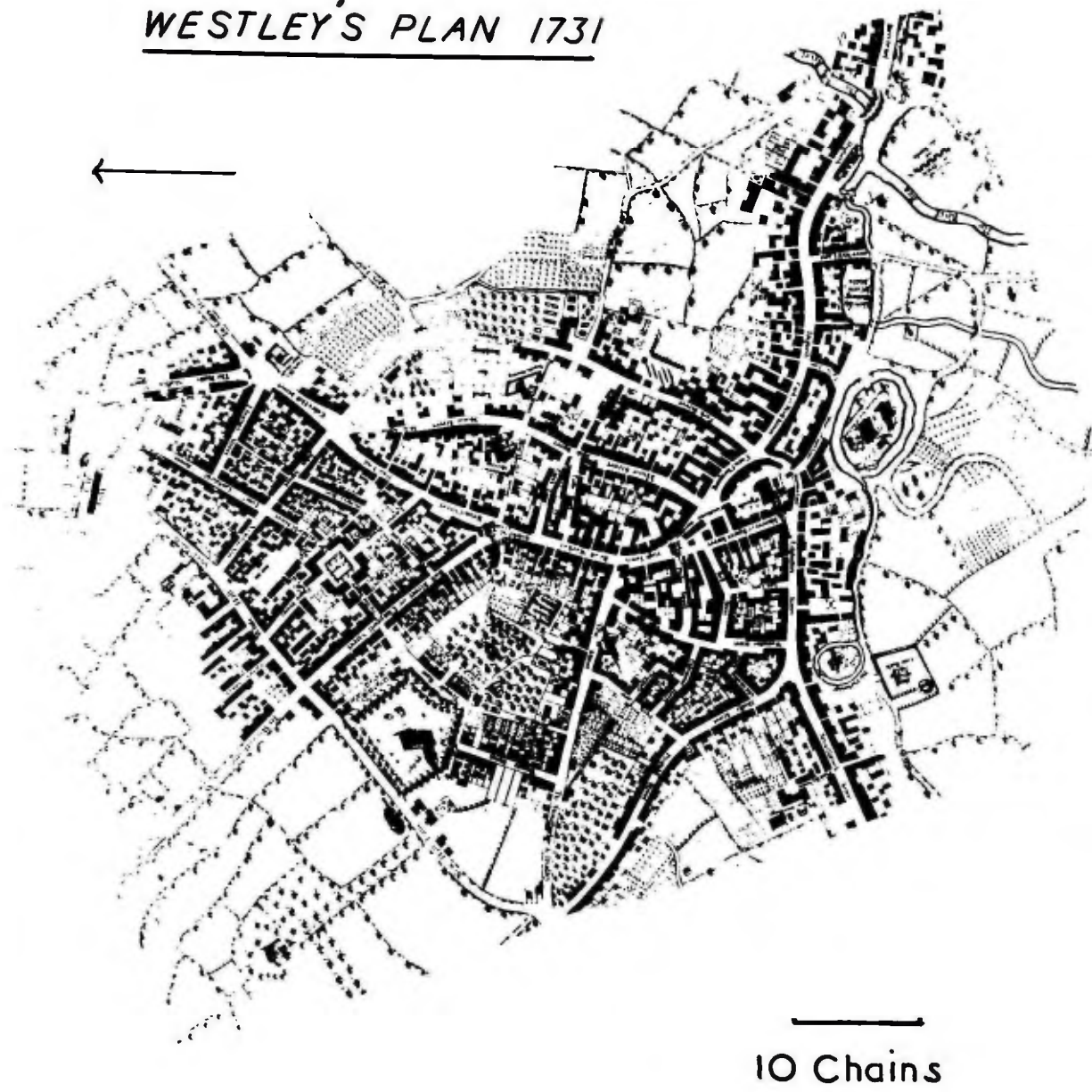
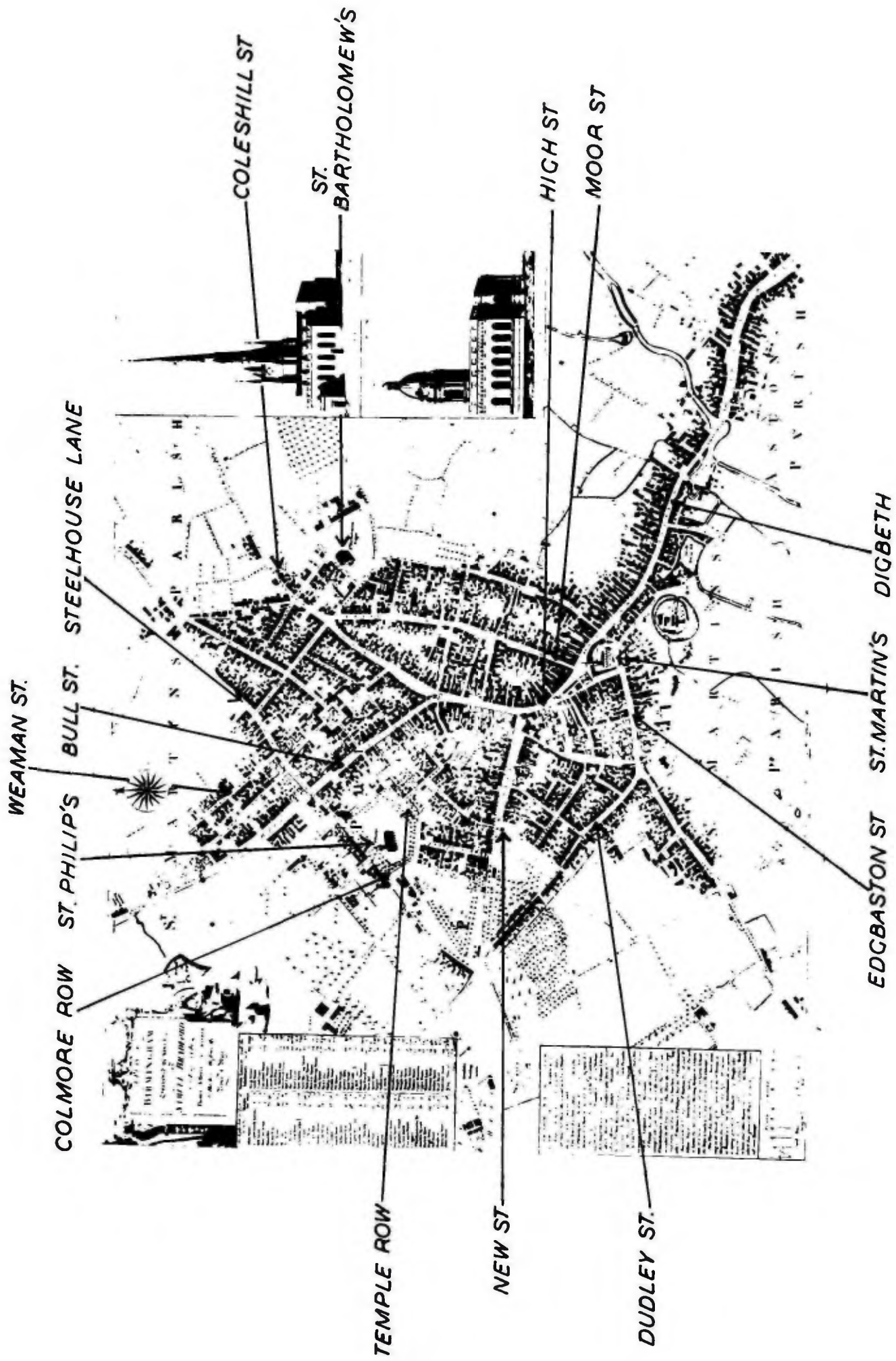


FIG. 1



BRADFORD'S PLAN 1750

FIG. 2

features of the urban pattern in 1750 (Fig. 2).

In the south east of Birmingham, there had been little change during the two decades following the publication of Westley's Plan. Digbeth, the main road leading down from St. Martin's Church to the River Rea, remained, as in 1731, a long narrow ribbon of settlement. South west of St. Martin's Church, some small advance had been made along Edgbaston Street, while much had been done in filling the gap between that street and the line of New Street higher up the slope. But here, as, for example, in Peck Lane and King Street, building had been often of little distinction.

In the Moor Street extension, north east of the Parish Church, land recorded by Westley as marked out for building had been fully developed by 1750. Furthermore, St. Bartholómew's Church had been erected and around its Churchyard new streets were in course of development. Along Coleshill Street, the direction of the main route to north east warwickshire, the building line had been brought as far as Stafford Street and here "Land for Building" was recorded. But development here, like the new growth shown by Bradford north west of Steelhouse Lane and Colmore Row, was, as yet, in its infancy and belongs to a new stage in the story.

In the central districts of the town, and particularly in the High Town, houses, shops and workshops

had become still more congested. Almost all the available sites were now fully built up. Of the most important of the open sites shown by Westley, that between Temple Row and High Street, only a portion remained in 1750, for Cherry Street and Cannon Street now crossed the area occupied earlier by Walker's cherry orchard.

Reference to Hanson's Plan of 1778 (Fig. 3), reveals the importance of new trends, of which Bradford's survey shows only the beginnings. There are four chief differences in the extent of the town as shown on the two plans.

On the western side of the town, a rapid advance had taken place between Edgbaston Street (and its continuation Smallbrook Street) and New Street on a broad front to the line of Suffolk Street. For the most part, the houses built in this district were of only moderate quality and the area became rapidly a working class one, degenerating during the early part of the nineteenth century into a slum. On the eastern side of Birmingham, rapid extensions had taken place around and to the north of St. Bartholomew's Church and along the Coleshill and Aston roads. These developments had been foreshadowed in 1750. Of greatest importance, however, were the extensions to north west of the Steelhouse Lane-Colmore Row line. Here, Snow Hill, the main road to Wednesbury and Wolverhampton, separated the development in the Weaman

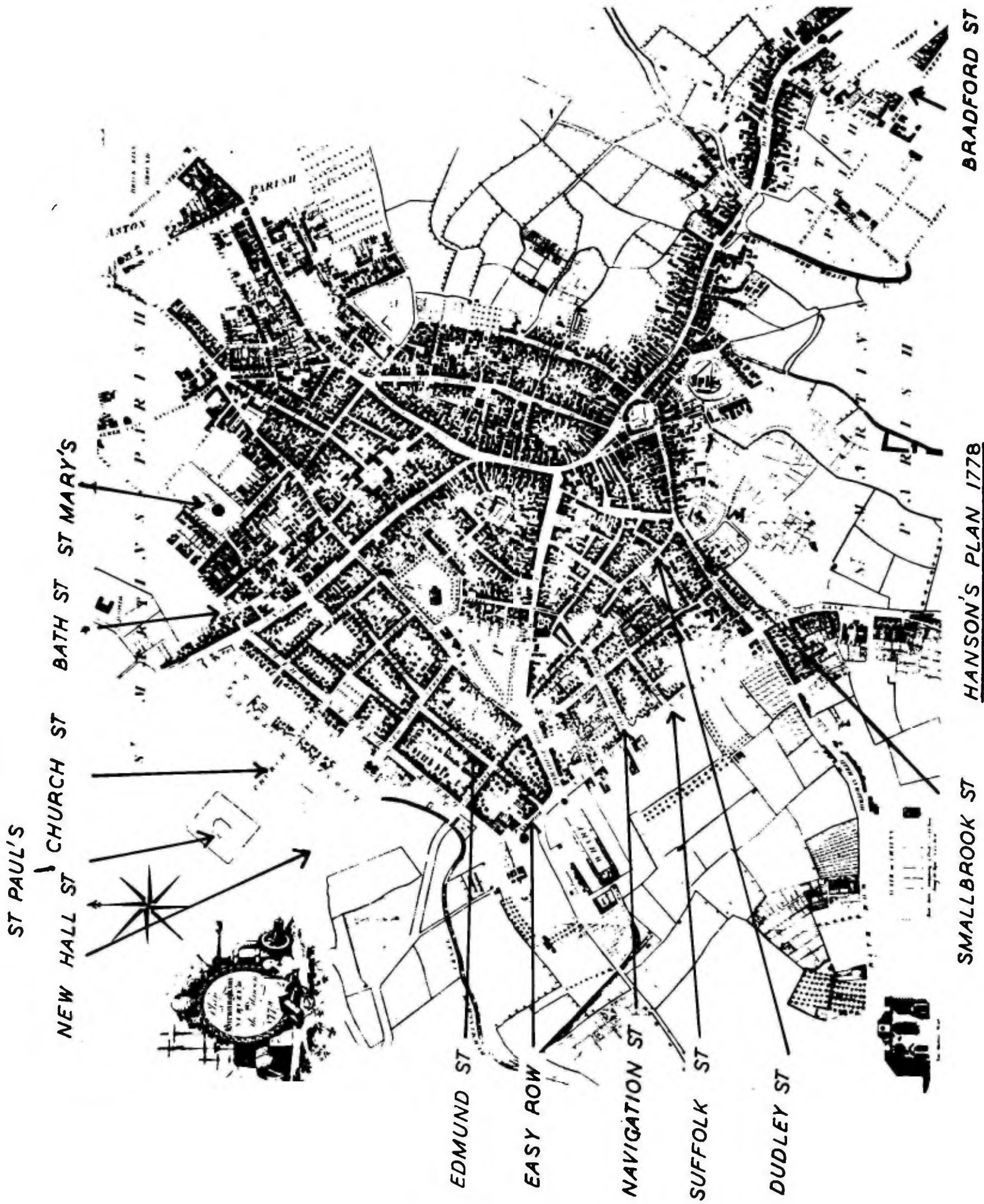


FIG. 3

Street area to the north from that on the New Hall estate of the Colmore family to the south west. On both estates, new churches, St. Mary's and St. Paul's respectively, had been erected and the building line had been advanced, by up to a quarter of a mile, to the newly cut Lionel and Bath streets. Furthermore, projects for the immediate further advancement of the New Hall Estate were included on the 1778 plan. Finally Hanson's plan, as would be expected, reveals a still further congestion of building in the 'old' town. Within the quadrilateral bounded by Colmore Row, to the north west, Bull Street and High Street to the east, Edgbaston Street to the south and Dudley and Pinfold Streets to the south west, many open spaces shown on Bradford's plan as gardens and orchards, as, for example, between New Street and Pinfold Street, had been built over. Over most of the quadrilateral, the building pattern had been consolidated; the rural patch at the western end of New Street remained anomalous in its now wholly urban surroundings.

It will be seen from a study of fig. 4, which compares the Birmingham of 1778 with that of 1731, how great had been the extensions of the intervening half century. Especially important were the advances to the north of St. Bartholomew's Church and north and west from St. Philip's and the line of Colmore Row. Practically no extensions had taken place, within the period, on the

THE GROWTH OF BIRMINGHAM IN THE EIGHTEENTH CENTURY

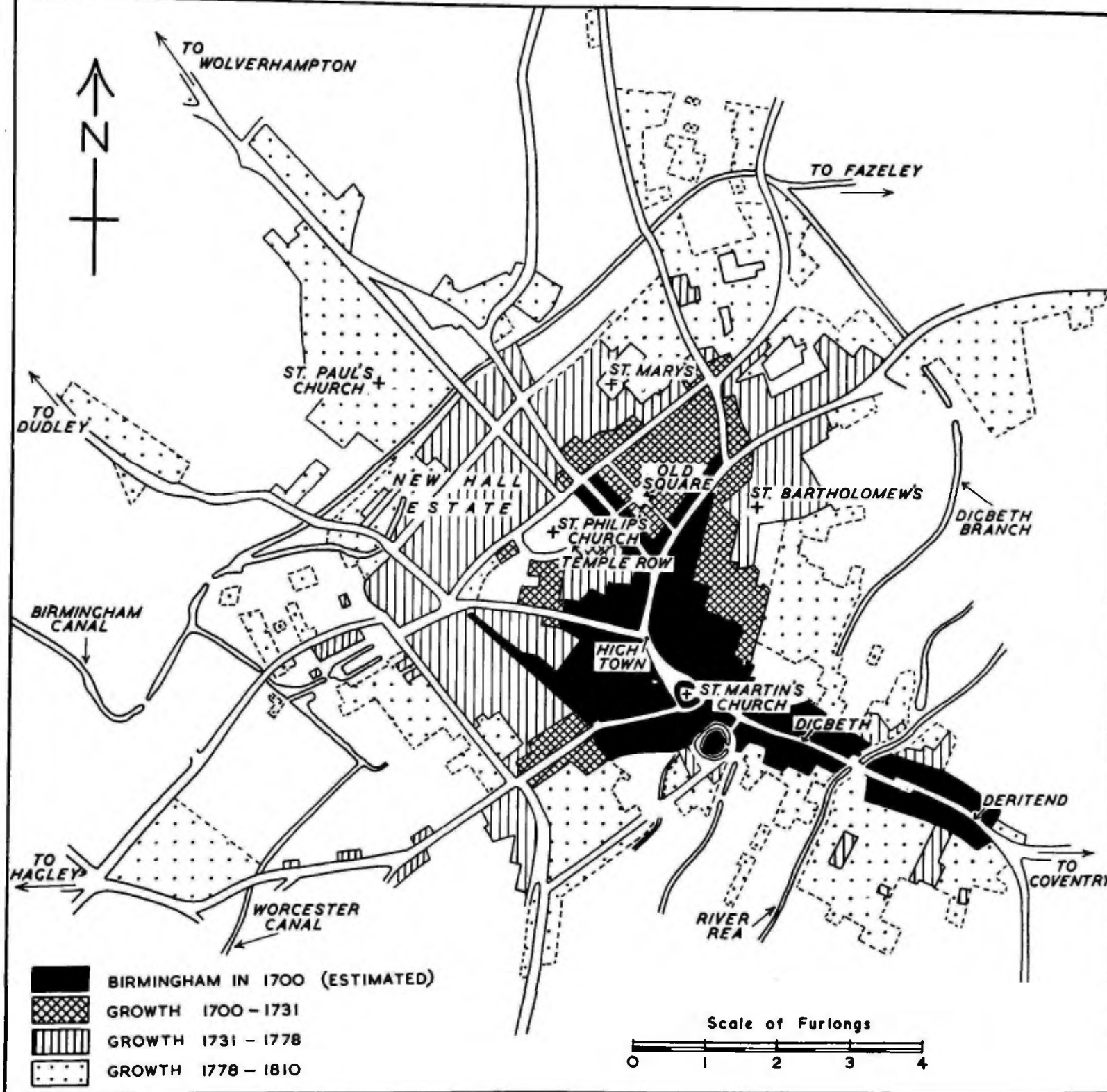


FIG 4

south eastern or Rea Valley side of Birmingham. In plan, the Digbeth-Deritend ribbon remained almost unaltered. In the last quarter of the century, northerly and north westerly extensions remained the most important, though, towards the end of the century, the pattern on the south eastern side of Birmingham began, at last, to change. It is important to note that, during the eighteenth century, Birmingham did not grow outwards steadily in all directions. Development to the north and north west was considerable; on the other hand, expansion of the town to the south east remained severely limited until the last decades of the eighteenth and the first decades of the nineteenth centuries. Digbeth, developed in medieval times along a locally important routeway, and when proximity to water supplies, obtainable from the Rea and its tributaries, was an advantage for trade purposes, remained a long, narrow built up corridor.

The building advances of the eighteenth century bore a special character and have left firm imprints upon the present regional pattern of the city. At the same time, this one-sided character of the urban development poses a special problem. One is tempted to ask why so large an area, to the south east of the town, closely adjacent to the main centres of trade and industry, should have remained undeveloped, while, to the north west of the town, each new year saw the addition of new

streets.

Before an answer to this question can be given, it is necessary to examine and assess the various factors controlling town development during this period.

III

The force of physical conditions on the direction of urban development should be given early consideration. The south eastern districts of the town in 1750, and still in 1778, consisted principally of the narrow Digbeth-Deritend corridor, which descended the hill from St. Martin's Church and crossed the lowlying ground of the Rea valley. In the vicinity of the Rea itself and of the mill leets and numerous tributary brooks lay an extensive tract of water meadows and land liable to occasional flooding. The presence of the Moat and of the Town mill pool (Fig. 3), as well as of the mill streams themselves may well have inhibited further building on the southern side of Digbeth. The general character of this quarter of Birmingham was well indicated in a description written by two travellers through the town in 1766 ... "the upper part l.. stands dry on the side of a hill, but the lower is watery and inhabited by the meaner sort of people".¹ It might be claimed, then, that the badly drained conditions and water barriers would

1. George Beaumont and Capt. Henry Disney, "A New Tour through England".

militate against an extension of settlement in Digbeth.

In contrast, the higher and relatively dry slopes of the Keuper Sandstone ridge offered good, well drained building land. At an earlier period the additional advantage of easily accessible sand and, possibly, stone for building purposes had been of some importance. There was, also, and this was of especial note at a time when population was increasing rapidly, an adequate supply of good water. Many private and several public wells were sunk into the Lower Keuper Sandstone. Leases of land for building purposes often contained clauses specifying "free and common use of a draw well".¹ Maintenance of the public wells was, incidentally, a constant concern of the Parish officials. A report of 1735² described "the Draw Well near the sign of the Fountain in New Street" and another Draw Well near the Welsh Cross as out of repair. Mr. Jonathan Johnson was, therefore, secured to "repair the said Draw wells with Buckets, roaps, Curbs and all the other Matereals (except Bricks, Lime, Mason's work and Cleaning) for the sum of Four Guineas".

The contrast between the higher, well drained north western slopes of the Rea Valley and the lower lying watery clay lands and meadows of the valley bottom was

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1. As, for example, in a lease of land and property "lately erected" near Bull Street in 1707. B.R.L. 181703. dated 4th June 1707.
 2. In the entries for that year in the Town Book.

a very real one which found reflection in the contrast between the "faire buildings" in New Street and Dale End and the closely built workshops and tenements of the Digbeth Quarter. In the light of later evidence, it is probable that there was, in fact, in 1750, little demand for building land on the south eastern side of Birmingham below the general line of Edgbaston Street and Park Street.

Further light upon the influence of physical factors on the land utilisation pattern can now be thrown from an examination of an assessment of land in the parish of Birmingham. The exact date of this assessment is uncertain but internal evidence suggests that it was made during the last decade of the century, and, most probably, between 1790 and 1794. It has been found possible, by comparing the details given in the assessment with Snape's plan of Birmingham parish in 1781, to produce a map showing the assessment of the majority of fields (Fig. 5). No assessments are recorded, unfortunately, for land immediately adjoining the built-up area. Here many plots were already earmarked for future building: other land was used intensively for gardens and small allotments. There is no reason to suppose that agricultural rentals changed relatively within the parish between that date and, say, the date of Hanson's plan and the map may be taken as indicating at any rate, approximately, the position in the middle of the century. It will be noticed

Fig. 5.

Snape's map of the Parish of Birmingham, which was published in 1781, gives, for each plot and parcel of land, numbers referring to entries in a reference book of owners and occupiers of land. Of the original reference book there is now, unfortunately, no trace.

Recently, however, the writer discovered in the Birmingham Reference Library a volume entitled "Survey of Birmingham Canals" by the surveyors Kempson and Robins. The material in this volume had been transcribed by Mr. Joseph Hill, the Birmingham antiquary, from original documents in the possession of Mr. Bickerton Williams, in about 1897.

Included in this volume was an assessment of land in Birmingham Parish which refers to the parcel numbers quoted on Snape's map, and gives details of owners, occupiers and value per acre. This material has been utilised in preparing Fig. 5.

The assessment bears no date but is believed to have been made shortly after 1790. This is a tentative conclusion made following a comparison of the details in the assessment with the contemporary Poor Law Rate Books. Investigation into this assessment is continuing and it is hoped to publish a full report in due course.

PARISH OF BIRMINGHAM

ASSESSMENT OF LAND

ABOUT 1790

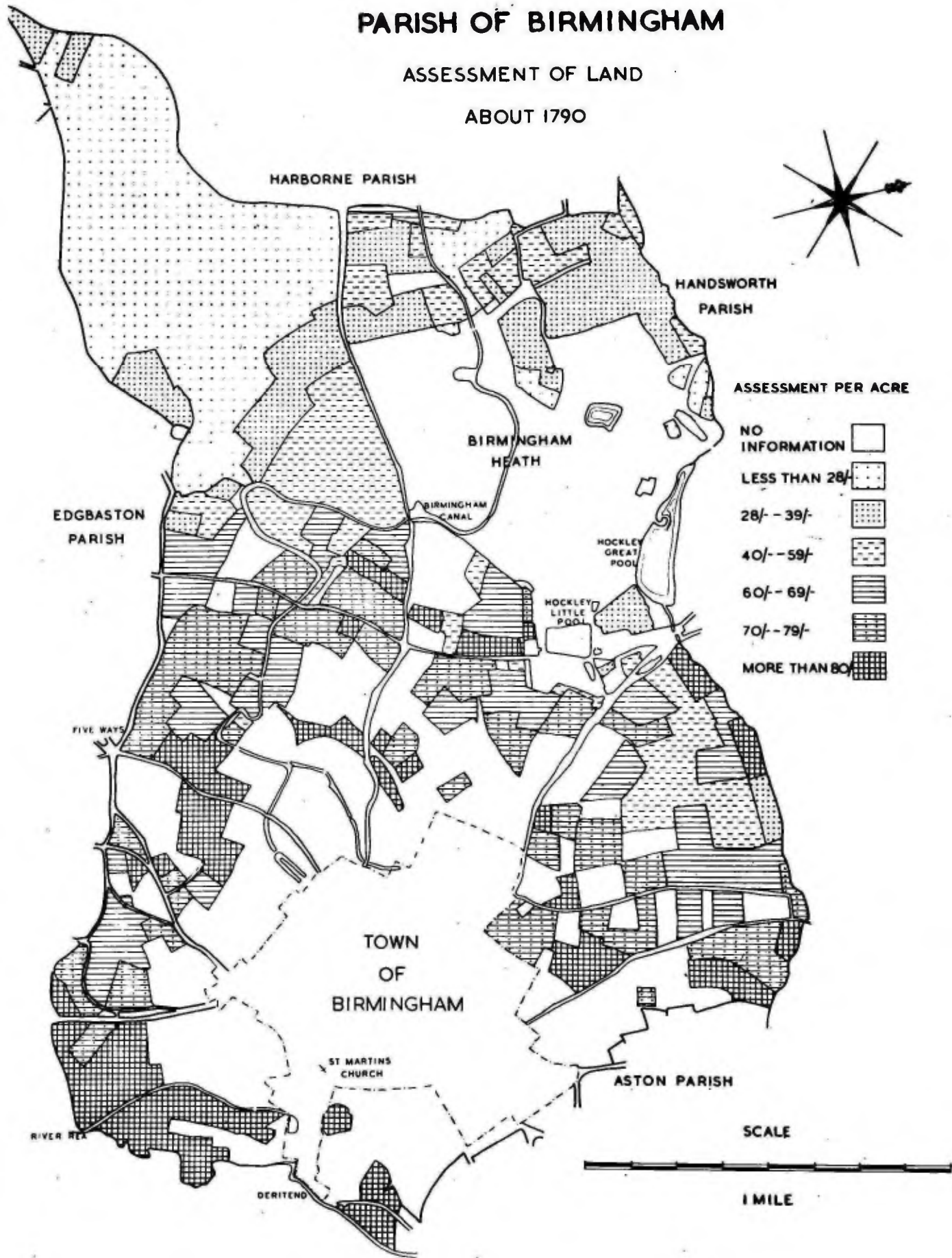


FIG. 5

PARISH OF BIRMINGHAM GEOLOGY

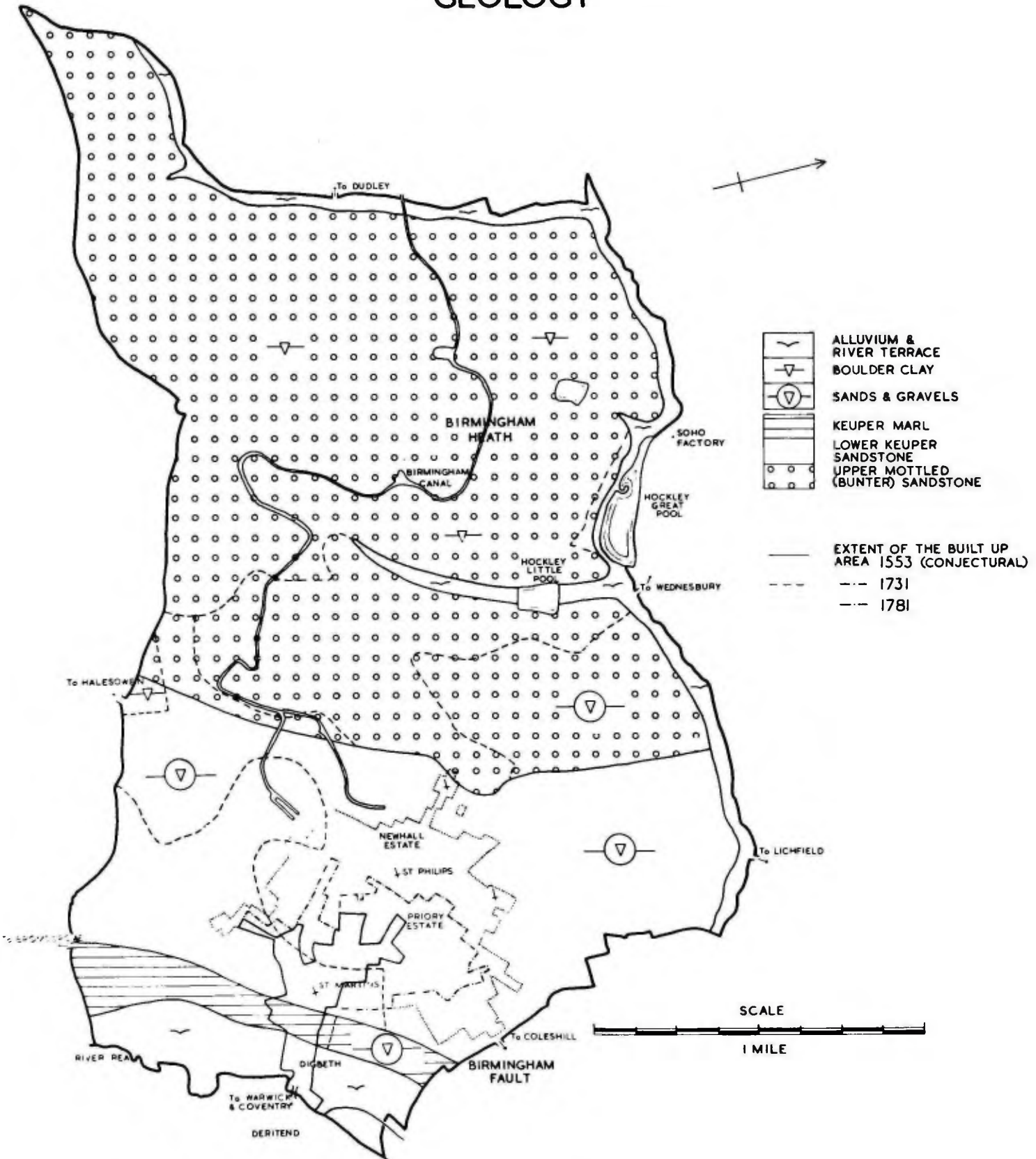


FIG. 6

that the highest assessments (those of 80/- and over per acre) occur most frequently in the east of the parish and that there is, generally speaking, a gentle gradation to the lands of poorest value in the extreme west and north west. Comparison of Fig. 5 with the geological map of the parish (Fig. 6) provides a ready explanation. The highly assessed land lay, for the most part, in the lowlying Rea valley and consisted primarily of water-meadow; land of medium - high quality (between 60/- and 80/- per acre) was underlain by soils derived from the Lower Keuper Sandstone with, in places, a thin cover of glacial sands and gravels. Well drained, and of comparatively high fertility, this land was in the 1750's cultivated intensely in small fields and gardens.¹ Poorer land lay in the high slopes of the western part of the parish where the Bunter Sandstone with its cover of boulder clay and gravels gave rise only to poor, acid soils across which extended the waste and commonlands of Birmingham and Handsworth Heaths together with poor quality grazing land assessed at less than 30/- per acre.

It might be argued, then, that an additional factor inhibiting growth in the east of the parish existed. In the flood plain of the Rea and on the lower slopes of

1. Bradford's Plan (1750), Hanson's Plan of Birmingham (1788) and J. Pigott Smith's Plan (1824-5) give in detail the location of the gardens which surrounded the town at this date. Cultivation was intensive and depended not only on the immediate vicinity of the market but also on the large quantities of manure available from the town in which (as yet) arrangements for the disposal of waste were primitive.

the Rea valley, high desirability for farming was added to the 'watery' disadvantages of the district from the building point of view as a factor limiting development. To the north west of the town, however, it might be said that the desirability of the land for building outweighed its value agriculturally and the profits to be obtained from newly built housing estates much more than balanced, in the eyes of landowners at least, the loss of good farming land.

The importance of main lines of communication in attracting to themselves both industrial and residential building is considered by some to have exerted an important influence in determining the shape of the town at this period.¹ The town is described as possessing a 'natural tendency' to expand along the main road to the north west on account of the close commercial and industrial links with South Staffordshire. Traffic with the growing towns and villages of the coalfield passed almost wholly down Snow Hill. Much of the through traffic between the coalpits and nailshops of Staffordshire and the rural markets of the East and South Midlands passed along the same road together with almost all the local trade in raw materials and semi-manufactured goods between the Dudley, Wednesbury, Wolverhampton industrial triangle and the workshops of

1. In conversation with the writer, Dr. L.D. Ettliger has reaffirmed his opinion that this was a dominant influence in accelerating the spread of the town to the north west.

Birmingham. At a time when new building land in the heart of the town was difficult to obtain and when competition for centrally placed houses and workshops was keen, a position on or near the main route along which supplies were delivered, and through traffic from London to Shrewsbury passed, would be an advantage. Coal and bar iron, semi-finished gun-locks, nails and pattens could be delivered without the hindrance of passage through the congested central streets. Furthermore, merchants and ironmongers dwelling on the north west side were at an advantage in their joint dealings in Staffordshire and Birmingham. In this connection an additional attraction was the proximity of the Soho Manufactory, founded in 1761, which lay only some two miles from Birmingham near the main road to Wednesbury and Wolverhampton. The total influence of Matthew Boulton, its founder, on the industrial life of the district will be considered later, but it is of some importance to note that the success of Boulton's new factory, depended for many years on a close industrial liaison with the small manufacturers and outworkers of Birmingham. Many years elapsed before a sufficient number of houses had been erected in the immediate vicinity of the Factory to house all the workers employed there. A position near to Soho, or near the road to Soho, at this period when Boulton's new venture was growing rapidly in prestige, was certainly desirable from many points of view.

The importance of the influence of this road on the pattern of settlement is demonstrated in the existence of a marked "finger" of building along Snow Hill which is shown clearly on both Bradford's and Hanson's plans. It has been claimed, moreover, that New Hall Street when first cut in 1746 was intended as a further outlet and main road to South Staffordshire, and that some, at least, of the building activity near to the line of this road was attracted on that account.¹ Even in the mid-sixteenth century, the influence of the main route-ways upon the town plan was already clearly evident. This factor may still have had a considerable effect in attracting building development to the important route north westwards some two hundred years later.

By the later 1760's, the renewed demand for improved transport facilities between Birmingham and the South Staffordshire Coalfield had resulted in the construction of the Birmingham Canal. The cutting of the Birmingham Canal had commenced in 1766, and the canal was completed to its junction with the Staffordshire-Worcestershire Canal at Autherley Junction near Wolverhampton three years later. Thus the coal pits of Bilston and Wednesbury were connected by water with the manufacturers of Birmingham, who provided one of the largest markets for coal in the Midlands. The opening of the Canal had

1. L.D. Ettliger and R.G. Holloway, St. Paul's, Birmingham, Architectural Review, 1947, 228.

important results on the development of industries¹ and it also increased the demand for land in the north west of the town. The Canal wharves were situated in Easy Row² (Fig. 3) and the situation of these wharves must be considered as a possible factor influencing the location of new building developments. A few years later, an arm of the Canal was carried round the north west of the town to a junction with the Birmingham-Fazeley Canal and the advantages of a canal-side location for the larger factories began to be recognised.

We have traced, then, the influence of physical factors upon the desirability of building land and upon relative agricultural values. The attractions of a north westerly location from the point of view of access to Soho and, by road or canal, to South Staffordshire have been discussed. There is little doubt that many of these factors had exerted since 1700 an important influence on the directions of growth of the town and that all continued to be important throughout the later decades of the century. A further factor must now be taken into account.

IV

In the early decades of the century the built up area of Birmingham was in a highly congested state.

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1. These are discussed in the essay on "Trade and Industry in the latter part of the Eighteenth Century".
 2. Hanson's Plan, 1778.

Almost all the land about the fringes of the town was entailed in the hands of private families and not yet available for building purposes. As has been shown,¹ the purchase and subsequent development of the Priory Estate had some influence in alleviating the demand for building land. By 1731, the Priory Estate was almost fully built up and the outward pressure of the town renewed.

In considering the growth of the town after this period, it is important to bear in mind the situation of the principal estates in relation to the built up area. This is shown on Fig. 7. It will be seen that the estates of four principal families, those of Jennens, Weaman, Colmore and Sherlock, were involved. The Jennens estate lay immediately north of the town near the extremes of Moor Street and Park Street.² The Weaman and Colmore estates lay, principally, north and north west of Steelhouse Lane and Colmore Row, divided by Snow Hill, the main road

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1. vide Birmingham and its Trade Relations in the early Eighteenth Century, p. 56.
 2. For much of the century the seat of this family was at Gopsal, near Leicester. The Jennens family had migrated to Birmingham towards the end of the sixteenth century and the marriage of Wm. Jennens to Joan Elyott is recorded in St. Martin's Parish Register for 1560. William died in 1602 but his son John and grandson Humphrey, both of whom became well known Midland ironmasters, increased the family's holding in the vicinity of Birmingham. By the middle of the eighteenth century the family owned considerable estates in and near Birmingham, though the extent of the estate adjoining the built up area was smaller than in the case of the Colmore and Sherlock families. (Details of the Jennens family history are given in Bickley and Hill, Survey of the Borough and Manor of Birmingham in 1553, p.97, note 139).

THE TOWN OF BIRMINGHAM IN RELATION TO THE PRINCIPAL ESTATES c.1750

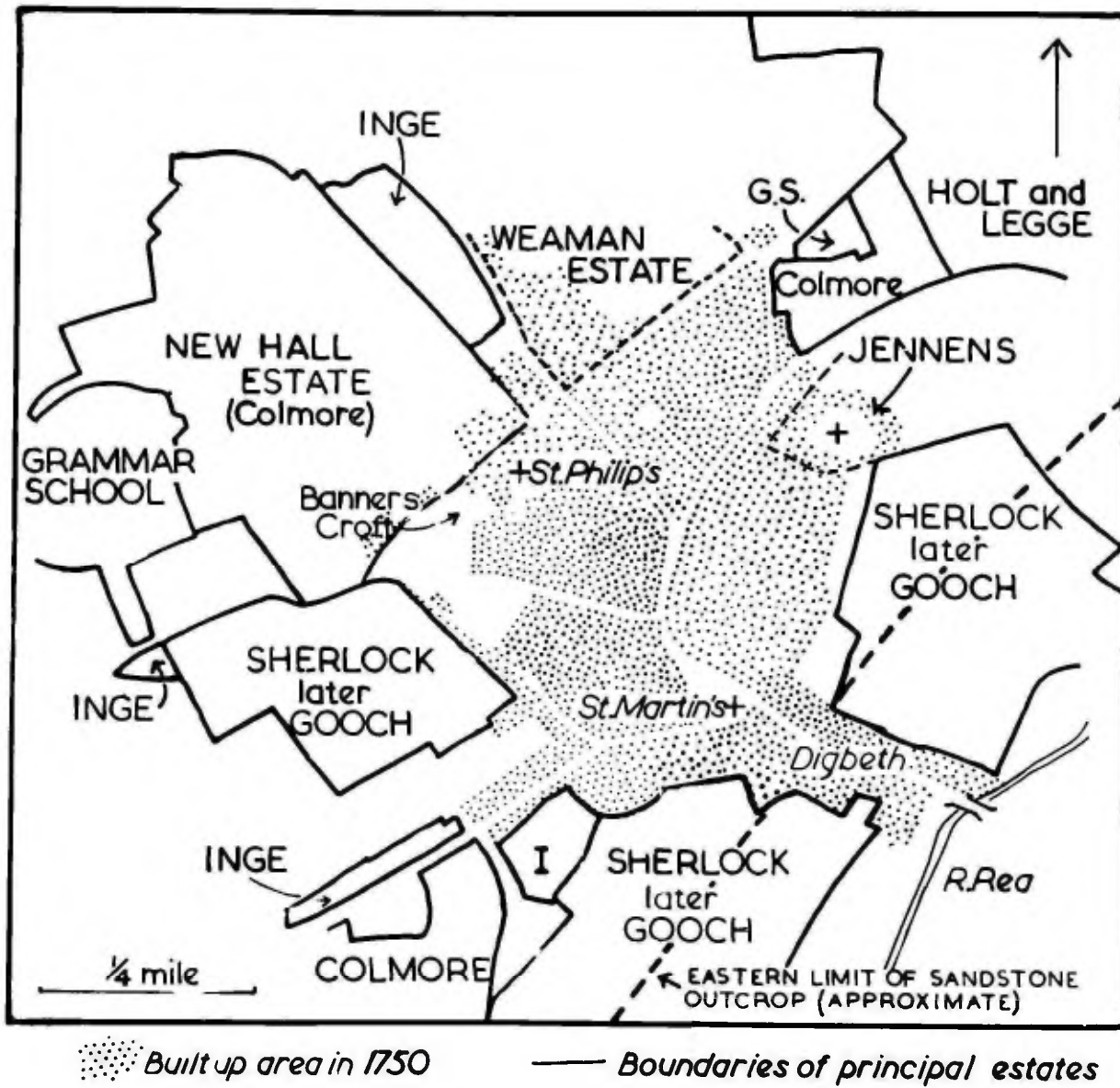


FIG. 7

to Wolverhampton.¹ The estates of Bishop Sherlock² lay in two sections. The larger extended over almost all that part of the Rea valley within the parish of Birmingham. and included the fields and pastures on either side of Deritend. A smaller section lay immediately west of Dudley Street and extended from New Street in the north to Smallbrook Street in the south.

The earliest estates to be developed were those of Jennens and Weaman. In 1731 that part of the Jennens estate immediately adjoining the town was let in small gardens. By 1750, however, development was in progress; some building was already complete by this time and the remainder of the land was marked out for building plots. Furthermore, for the convenience of dwellers in this northward extension, a chapel dedicated to St. Bartholomew was provided in 1749, the land being the gift of John Jennens, proprietor of the estate. On two sides of the Church, Chapel Street and Bartholomew Street were laid out and the estate quickly took form.

Some building on the Weaman estate had been completed before 1731. Here, a building estate was laid out on formal lines, with streets intersecting at right angles. Part of Weaman Street was in existence by the

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1. The Colmores were a family of long standing in Birmingham and acquired lands in many parts of the district as a result of a long period of prosperity as mercers. The full extent of the Colmore estates is shown in B.R.L.411566. Collection of plans of the Colmore Estate.
 2. Thomas Sherlock, Bishop of Bangor, who later became Bishop of London.

late 1720's. By 1745 many closes on this estate were, in a similar state to one already, "marked or measured out and fronts at one end ... to a street or passage lately laid open over and along the said Close ... and called or intended to be called Weaman Street and at the other end adjoins or abuts to a street or passage ... called ... Slaney Street".¹ The estate continued to grow, though more slowly after 1750 and St. Mary's Church was not erected until 1774.

Birmingham was expanding rapidly in trade and population and the limited extent covered by the Jennens leases was far from sufficient to meet the demand for land caused by the process described by Hutton as "the itch for building". Birmingham was, in the mid 1740's, "a place of great Trade and Resort, where the Buildings and Inhabitants have, of late Years continued to increase".² In view of this it is not surprising to find that representations were made to other landowners to grant leases for building purposes. In particular was this the case with the land shown on Fig. 7 as belonging to the Sherlock estates. The situation of these estates and their division into two portions has been already noted (see Fig. 7). Much of this land was bought by Sherlock from the holders of the manorial rights early

1. B.R.L. 575327, dated 18th July 1745.

2. Preamble to "An Act to empower Anne Colmore, widow ... to make Building Leases of Lands in and near Birmingham", 20.Geo.II c. 16 (1746).

in the century.¹

Now there is no doubt that during the first half of the century Bishop Sherlock was unwilling to permit building of any sort on his lands. This is recorded by Hutton² who writes "(The Bishop) was frequently solicited to grant building leases, but answered his land was valuable,³ and, if built upon, his successor at the expiration of the term, would have the rubbish to carry off: he, therefore, not only refused, but prohibited his successor from granting such leases". This refusal of Sherlock's to permit the granting of building leases has been taken by some as a final answer to the problem of the direction of the growth of Birmingham. Development it is said, could not have taken place south east of the town, that is, on either side of Digbeth because of the wilful obstinacy of Bishop Sherlock. In other words, the explanation of the curious shape of Birmingham is seen in a historical accident which brought the land south east of the town into the hands of a conservative minded, reactionary landowner.

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1. As recited in "an Act to empower Sir Thomas Gooch to grant leases for building purposes in Birmingham" 6. Geo. 3 c 61 (1766), "Thomas Sherlock, by will dated 23 June 1758, gave and devised all his Freehold lands at or near Birmingham to his wife Judith and then to his nephew Sir Thomas Gooch". Bishop Sherlock died on 18th July 1761 and his wife in 1764. The extent of the Sherlock estates in 1720 is set out in a MS Rental of the estate of Dr. Sherlock by John Brown (B.R.L. 206553).
 2. History of Birmingham, (1781) p. 50.
 3. As indeed it was (see Fig. 5). See also B.R.L. 206553-8. Rentals etc. of the estates of the Rev. Dr. Thos. Sherlock. mss. (1720-31)

However, before this argument is accepted as final, certain other considerations must be borne in mind. It will be recalled that the land of Bishop Sherlock in the vicinity of the town was divided into two parts. One section included the meadow lands in the lower part of the Rea Valley. The second portion lay immediately west of Dudley Street, which marked the edge of the built up area in 1750. While the Rea Valley lands, by reason of their watery nature were, almost certainly, unsuitable for building land, the Hill Street - Navigation Street portion (as the second part may be called) was eminently suitable. Comparison of Figs. 7 and 6 will show that the latter area was in fact underlain by the Lower Keuper Sandstone and it possessed the usual advantages attaching to building land underlain by that particular formation. It is true that the Hill Street - Navigation Street area does not lie on the summit of what has been described as the Birmingham ridge; it is, however, situated well above the poorly drained lands of the lower valley on a rock bench, which, probably, marks a stage in the evolution of the Rea Valley drainage. There existed, therefore, a most important difference in the relative attractions of these two portions of the Gooch estate for use as building land.

Now, there is no real evidence, other than that contained in the Bishop's statement, for the existence of

any demand for building land in the Rea valley sector of the ~~Gooch~~^{Sherlock} land. On the other hand examination of the contemporary Poor Rate records reveals, for the period immediately after 1750, a tendency for the town to expand quickly towards the Hill Street - Navigation Street sector. This was good building land and it seems probable that this was the area to which Bishop Sherlock referred as under demand for building purposes.

The proof of this is seen in the re-action to the Act of Parliament passed in 1766 enabling Sir Thomas Gooch (Sherlock's successor) to dispose of the estate for building purposes. Building took place rapidly in the Hill Street - Navigation Street area, an estate was laid out on rectangular lines¹ and building plots were seized upon eagerly. Hanson's plan, published only twelve years after the Act had been obtained, shows this area as almost fully built up. In contrast, building on the Rea valley section of the estates had been almost nil.

There seems little doubt, therefore, that although the location of the Sherlock estates and the attitude of their holder influenced the pattern of Birmingham particularly by restricting development in the Hill Street - Navigation Street area, they can not be held primarily responsible for the absence of building in the Digbeth district and the maintenance of the curious pattern in

1. Vide Fig. 3.

the Rea valley. For even when controls on use of the Sherlock-Gooch estates were withdrawn, this land still remained free from building. It is more proper to see the chief cause of this in the nature of the terrain in the Rea valley.

Support for this hypothesis is derived also from the experience of Mr. Henry Bradford, who, in 1767, opened, for building, land on the south eastern side of the Rea stream, just opposite to the Gooch lands (Fig. 3). Aris's Gazette for August 3rd of that year carried an advertisement "to any person who will build upon the said land and carry on a considerable trade there". But despite this open encouragement to manufacturers the site (Bradford Street) was not popular, at first, due to the competition of areas with much more attractive conditions for building.

There is little doubt that there was no great demand for land in the Rea valley itself at this stage. Really active building in the portions of the Gooch estates situated there was delayed until the cutting of the Digbeth arm of the Birmingham-Fazeley Canal at a later date. This introduced a new situation and the combination of good water communications and cheap land encouraged, at the end of the century and in the early years of the nineteenth century, the erection of workshops, factories and associated workers' houses. It was no

coincidence that this district grew, in the first half of the nineteenth century, into one of the worst industrial slums of the town.

V

The most attractive of the new estates built during the second half of the century was, undoubtedly, the New Hall Estate of the Colmore family. The estate extended for some three-quarters of a mile from Colmore Row north westwards towards Birmingham Heath. From north east to south west the estate ran from Livery Street (on the west side of the present Snow Hill Station) to Easy Row, a distance of some 600 yards.¹ (Fig. 8). The land was well suited to building purposes, lying high with good drainage and water supply facilities. Though not large by the standard of the London estates, this estate offered greater possibilities for planning than any of the other Birmingham properties already discussed.

The legal history of the Estate was a complicated one and before an extension of the town could be made across Colmore Row it was necessary for an Act of Parliament to be obtained.² This was obtained in 1746; the process

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1. Collection of plans of the Colmore estate. op. cit.
 2. It is not proposed to enter into a detailed discussion of the legal position of the Birmingham estates. Briefly, before long building leases could be granted it was necessary to secure the passage of a private Act of Parliament. The legal history of the Colmore Estate is set out fully in "An Act to empower Anne Colmore ... to make building Leases of Lands in and near Birmingham" 20 Geo. II c 16, 1746. Owing to legal doubts regarding the title of the Estates "and as few persons would be

of division of the land into building plots was begun immediately and the first leases were granted in the following year.¹ The response to the opening of the New Hall Estate was immediate. By 1750, the date of Bradford's map, a number of houses had been already built in Colmore Row and Great Charles Street and the general plan of the Estate was beginning to take shape. The early planning of the estate is of interest not only for its influence on the morphology of, and location of industry in, Birmingham at this period but also for its results upon the street plan and regional character of modern central Birmingham. The layout of the New Hall Estate affords a good example of eighteenth century planning at work and the design was, it has been suggested, modelled to some extent on the Marylebone Estates in London.² The plan for the Estate appears to have been designed and executed in two main stages, which are illustrated by Bradford's Birmingham Plan of 1750 and Hanson's of 1778 (Figs. 2 and 3). The original design was for a limited development of streets parallel to Colmore Row with the main avenues outwards from the town, Church Street and Newport (later New Hall)

willing to build upon any Part of the Premises, under a Lease liable to be defeated or avoided upon that Contingency; and as the making such Leases will be a great improvement of the said Estate and a manifest Advantage to all the persons that can be intitled to the Freehold and Inheritance thereof ... Therefore ... Be it Enacted that ... it shall and may be lawful for the said Anne Colmore, widow ... to demise, lease or grant all or any part ... of the said lands ... for any term or number of years not exceeding One hundred and Twenty Years".

1. vide Calendar of Deeds and Documents relating to the Colmore Estates (B.R.L. 418663).

2. Ettlenger and Holloway on site

NEW HALL ESTATE

PROGRESS OF BUILDING

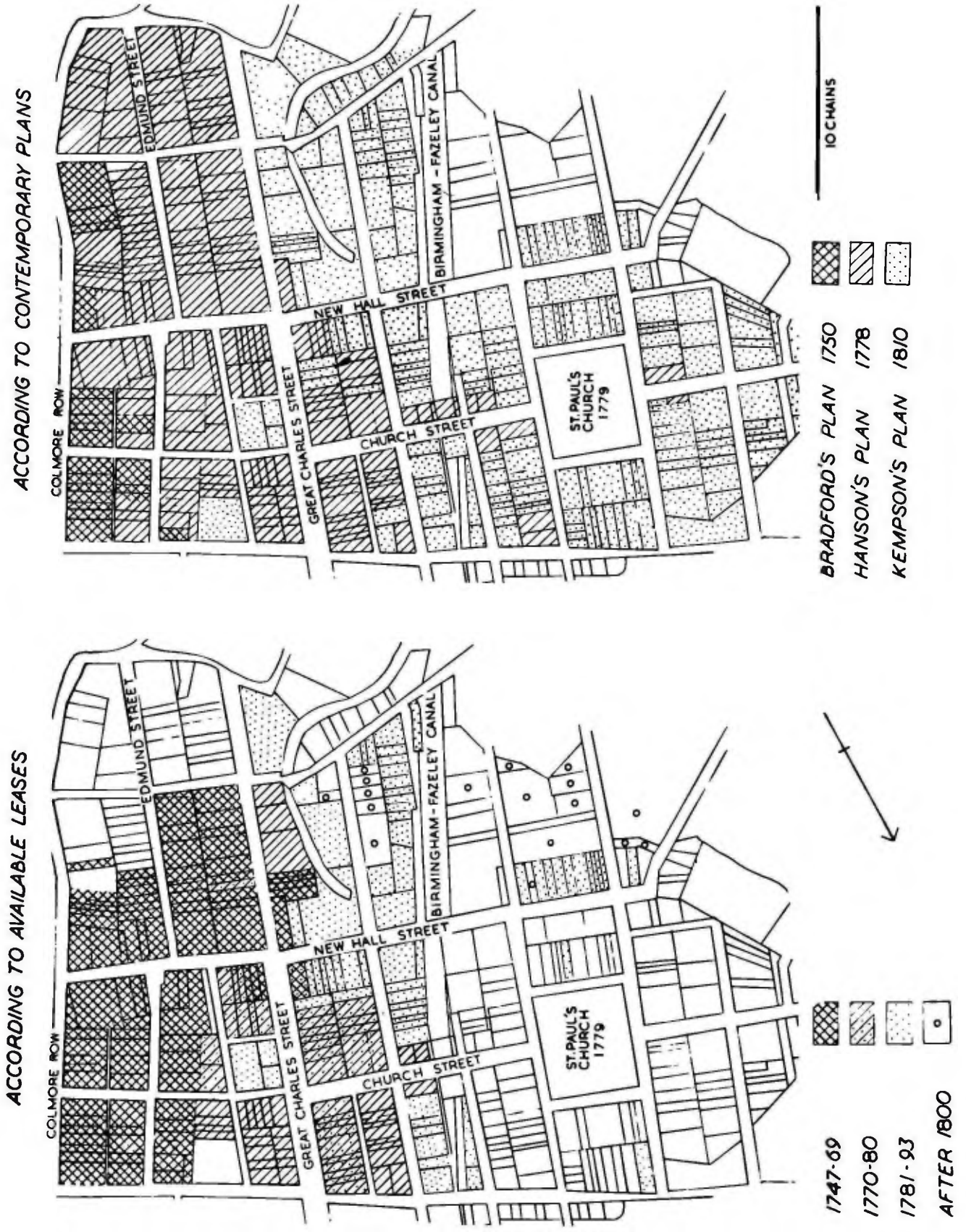


FIG. 8

Street, crossing at right angles. In contrast with the haphazard development of the older quarters of Birmingham, the streets were driven straight, crossing one another at right angles, with the building plots laid out in a regular and geometric fashion. Hanson's later Plan revealed the second half of the design, a plan based on an even closer application of geometric principles. The design for the street lines was, by this time, carried north westwards to the extremity of the New Hall estate and based on a very definite chessboard pattern. It is important to note that the second part of the plan was aligned at a slightly different angle to the first, a change which involved firstly some modifications of street lines. In the 1750 plan for example Little Charles and Harlow (later Edmund) Streets were shown as continuous (Fig. 2), while, by 1778, the line of Edmund Street had been changed to conform with the layout of the later half of the plan, a distinct break occurring between Edmund and Little Charles Streets (Fig. 3). Secondly a change of line was necessary in continuing Church Street, one of the main north west - south east avenues through the estate. The extreme width of New Hall Street, which ran parallel to Church Street, suggests that it was possibly designed as a new exit to the town in the direction of Wolverhampton. If this was the case the opportunity for development of a new main route was never utilised for

New Hall Street, even today, stops short at the point where the Colmore lands terminated. Building across the line of the street, just outside the estate, effectively prevented its continuation as a main road, traffic being diverted at a very awkward angle into the very secondary Graham Street.¹ The second stage in the planning of the estate envisaged the building of St. Paul's Church to serve as a central square for the northern end of the estate and to meet the needs of the newly settled population.² An open market place, New Hall market was planned at the junction of Great Charles Street and Church Street, but the absence of reference to this market in records and newspapers of the period suggests that the market, which must have had difficulty in competing with the more established centres in the heart of the town, never became firmly established.

The rapid development of the district can be

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1. vide Snape's Plan of Birmingham, 1781. New Hall Street is represented as terminating at a hedgerow at the extreme north west end of the New Hall estate. Figott Smith's map of Birmingham, 1824-5 gives a clear picture of the building development at the end of New Hall Street and the awkward turn into Graham Street.
 2. The building of the Church was authorised by Act of Parliament in 1772 and built between 1777 and 1779. It was built upon land given by the Colmore family and was until 1841 a Chapel of East of St. Martin's, the Parish Church of Birmingham (Eutlinger and Holloway, op. cit.). There seems little doubt that the building of a Church or Chapel acted as an advertisement for and an added attraction to a new estate. Hutton, for example, writing of St. Bartholomew's Chapel, on the Jennens estate, noted that "Wherever a Chapel is erected, the houses, immediately, as if touched by the wand of magic, spring into existence".

traced from contemporary maps, from entries in the parish Rate Books and from the collection of leases of the Colmore Estates now preserved in the Birmingham Reference Library.¹ Unfortunately the collection of leases is by no means complete but Fig. 8 which utilises evidence from this source as well as from maps and plans is believed to give a reasonably complete picture of the main stages in the building of the estate.

By 1770, twenty four years after the passing of the Act, an almost complete block of building extended from Colmore Row as far as Great Charles Street. Ten years later, houses extended up Church Street as far as St. Paul's Chapel, which was consecrated in 1779. Most of the later leases are unavailable and it is impossible to give a complete picture of the third stage in the development of the estate. In any case, building, suffered a check during the last decade of the century, but by 1810 almost all the building plots on the estate had been taken up.

Plots were usually large enough for the erection of at least two houses. The original leases contained no such restrictive covenants as had been imposed, at an earlier period, on the Priory Estate and there was no bar to the erection of workshops or to the carrying on of trade²

1. B.R.L. 411566.

2. The lessee was bound only "to erect, build or cause to be erected upon the piece of parcel of land, one or more good and substantial dwelling houses with proper and necessary outbuildings". (Extract from Lease from Chas. Colmore to Jos. Rickard).

In addition, the land was cheap, ground rents at approximately 2d per square yard being the rule.¹ Development was speculative and many craftsmen took up a number of plots, erecting houses to meet the needs of likely tenants or buyers. Likely tenants were, it seems, not hard to find and, in particular, those engaged in the commerce and manufactures of the town, encouraged, no doubt, by the lack of restrictions and by the congestion in the older quarters, were active in taking plots and leasing houses.² The records of the estate reveal clearly how those manufacturers active in the 'newer' trades of the town - the button and toy makers, engravers, japanners, platers and jewellers, quickly took advantage of the opportunity to settle on the new estate. A migration of manufacturers of this type from the older, congested quarters of the town to the new estates began. James Thornton, for example, by trade a chaser, who is recorded in the early Rate Books³ as an occupant of premises in Dale End Quarter had, by 1784, removed to Lionel Street. Similarly, Chas. Freeth, a founder and caster who, in the 1751 Rate Book, was named as occupying premises in the Middle Town Quarter.

1. At a later stage in the development of the estate as much as 6d per square yard was being charged on canal side locations.
2. This process of leasing land and erecting houses for speculative sale is well illustrated by an advertisement in Aris's Gazette, 13th September, 1762. "To be sold. A Piece of Land for Building upon, fronting New Hall Street in Birmingham on which have been lately erected several large and convenient Workshops and other Buildings (held under a lease granted for 107 years of which 104 are yet to come) at the yearly rent of £3.13. 6d.
3. As, for example, that of 1751.

NEWHALL ESTATE

OCCUPATIONS OF LESSEES

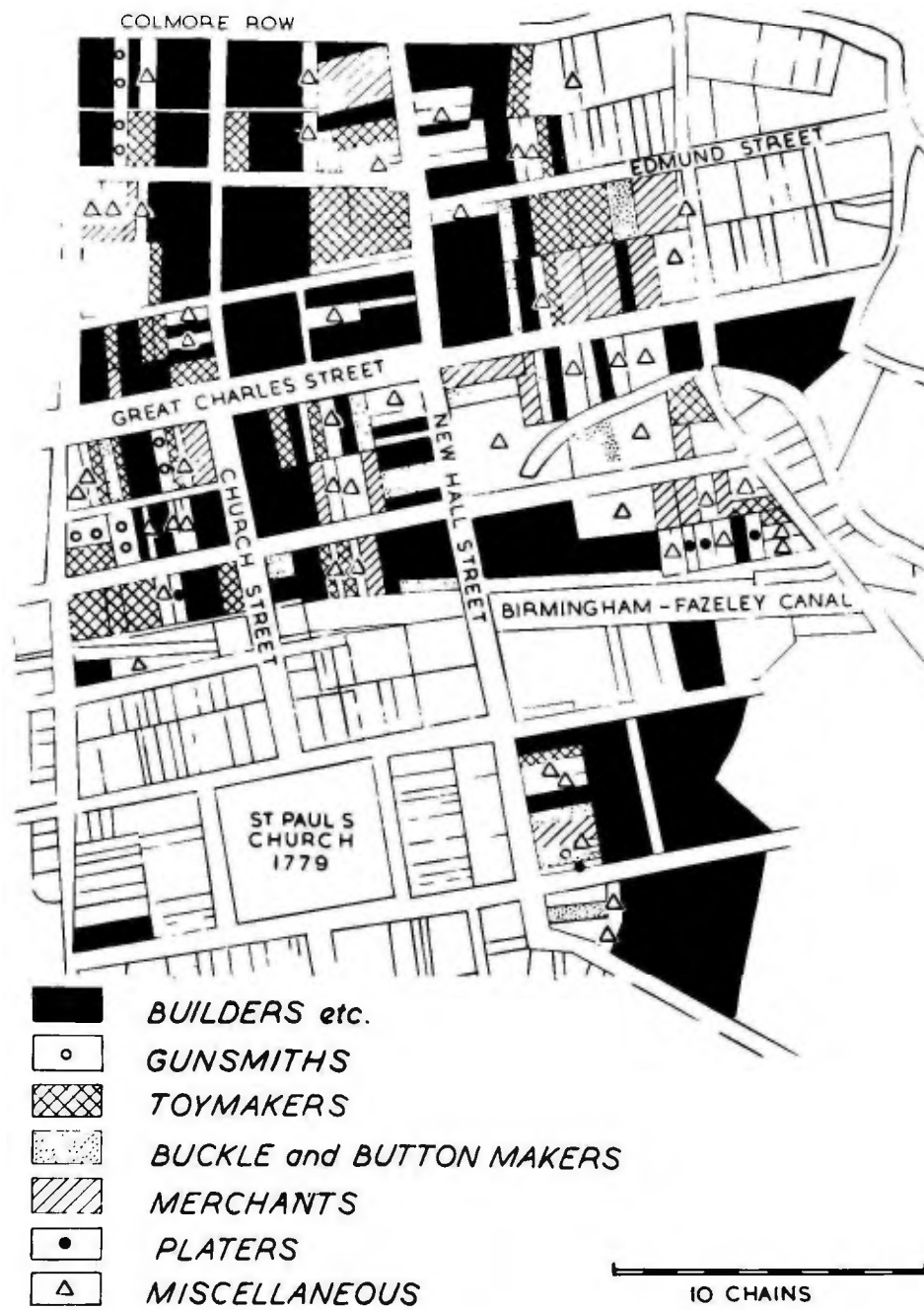


FIG. 9

obtained, in 1771, plot No. 397 in Great Charles Street by lease from Charles Colmore. and

It will be seen (Fig. 9) that rather more than one-third of the lessees of plots were builders or men engaged in carpentry, joinery, bricklaying or other branches of the trade. These were speculative builders, of the type recently discussed by Mr. John Summerson in his account of building advances in Georgian London and, in almost every case, there is no record of the occupation of the ultimate occupiers of these plots. The chief trades of Birmingham were, however, well represented in the occupations of lessees. For the period 1747-1769, for example, no less than 16 toymakers were named in the 90 leases studied. Buckle makers, button makers, gunsmiths, merchants and factors were all well represented.

It must not be assumed too readily that the leasing of a plot by a toymaker, meant, necessarily, that a toymaking establishment was established on the same plot, though it is suggested that this was, in fact, what often happened. The important thing is, however, that it was Birmingham manufacturers of the 'newer' type - toymakers, button makers etc., who were interested in the development of this estate. The older trades associated with smithery find only extremely sparse representation. But a fuller discussion of the effect of the building of this estate upon the distribution of industry in Birmingham

will be attempted later.

The development of the New Hall Estate was, thus, of great importance in influencing the new plan of Birmingham. After 1746, a flow began from the older congested quarters of the town to this new and more spaciouly designed area. Birmingham grew rapidly to the north west. In the first twenty years competition came only from the much smaller Weaman estate and the smaller and somewhat less attractive Jennens estate, as well as from the small areas of land owned by the Inge family for which a Building Act had been obtained in 1752.¹ Further competition developed after 1766 from the Gooch estate west of Birmingham and the tendency for Birmingham to develop almost exclusively north westwards began to slacken gradually. Other land around the margin of the town was opened up. The Rector of St. Martin's had gained powers to lease the Glebe lands in 1773.² Other Acts followed.³

Finally, by the last decade of the century, building was in progress, at long last, in the 'watery' valley of the River Rea. But the story of this district, around Gooch Street itself, belongs more properly, however, to the nineteenth century.

VI

So the rapid outward growth of Birmingham

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1. 26 Geo. II c 12 (1752).
 2. 13 Geo. III c 6 (1773).
 3. for example the Moland Act 29 Geo III c 28 (1789) and Parker and Robbins 29 Geo III c 36 (1789).

continued, until at the very end of the century occurred a check, due to the depression in manufacture and trade as a result of wartime circumstances. A reminder of this break in the expansion of the town is offered today by a group of houses in "The Crescent", Cambridge Street, overlooking an arm of the Birmingham Canal.

"The Crescent" lay, in the 1790's, on the very western fringe of Birmingham, near to the fashionable Easy Row, the canal wharves and the Hagley and Dudley roads and overlooking to the north the, as yet, virgin fields and pastures towards Smethwick. It was here that Mr. Charles Norton, "having been solicited by several gentlemen who are desirous of inhabiting houses in the Crescent", planned to erect fashionable houses to be "an ornament to the town of Birmingham".¹ The carrying on of trade or erection of shopping or factories was to be prohibited,² the houses were to be stone fronted, with the central building designed as a chapel and the whole was to be shut off from close contact with the rest of Birmingham by iron gates to be erected at each end of the street. The impressive design for the Crescent, which was to consist when finished of a "superb range of twenty three stone houses, elevated upon a terrace 1,182 feet long and 17 feet high", is shown in Fig. 10. By 1795

1. C. Norton, Proposals with the plan and Specifications for Building the Crescent in Birmingham, (Birmingham, 1795). First intimations of the project to erect the Crescent were given in Aris's Gazette of 3rd November, 1788.

2. Ibid.



PERDUEVILLE, TENN. — CRUISE — YOUR TRIP TO — A — TOWN — BIRMINGHAM

FIG. 10

only one wing, which still stands, was complete: "the remainder are now at a stand" owing perhaps, to the war with France, which has been the destruction of our commerce and caused about five hundred of our tradesmen to fail".¹ The remaining houses were never completed.

Thus, at the end of the century, economic circumstances halted temporarily the expansion of Birmingham and in the words of the local historian "laid the spirit of building". In the nineteenth century, the building of Birmingham was to be taken up again with a fresh vigour, in new directions and at a rate which would have astonished the planners and builders of the eighteenth century. The buildings of a century and a half have not yet, however, completely hidden Birmingham of the eighteenth century, for many buildings, and the formal street patterns of the estates remain to add dignity and style to many parts of the modern city centre.

1. W. Hutton, History of Birmingham, 3rd Edition (1795), p. 468.

INDUSTRY AND TRADE IN BIRMINGHAM
DURING
THE SECOND HALF OF THE EIGHTEENTH
CENTURY

List of Maps and Diagrams

- Fig. 1. The distribution of Gunsmiths in Birmingham, 1777
2. The distribution of Toymakers in Birmingham, 1777
3. The distribution of Button makers in Birmingham, 1777
4. The distribution of Buckle makers in Birmingham, 1777
5. The distribution of Jewellers in Birmingham, 1777
6. Manufacturers registered at the Birmingham Assay Office, 1773-1784.
7. The distribution of Brassfounders in Birmingham, 1777
8. The Soho manufactory in 1805
9. An Estimate of the Iron manufactured into Nails, c.1775.
10. The distribution of customers of Messrs. Gough of Birmingham, 1792-3
11. The Bull Ring and Shambles at the end of the Eighteenth Century

I

"I had been before acquainted with two or three principal towns. The environs of all I had seen were composed of wretched dwellings replete with dirt and poverty; but the buildings in the exterior of Birmingham rose in a style of elegance ... I was surprised at the place, but more so at the people: They were a species I had never seen: They possessed a vivacity I had never beheld: I had been among dreamers, but now I saw men awake: Their very step along the street shewed alacrity: Every man seemed to know and prosecute his own affairs: The town was large, and full of inhabitants, and those inhabitants full of industry".

So wrote William Hutton¹ of his first impressions of Birmingham on his first visit in 1741. The results of the intense industrial and commercial activity of the first half of the century were seen in a further expansion of the town, in the widening of manufacturing and business interests and in a marked growth in wealth during the latter half. Between 1750 and 1800 the population was almost trebled.² Men of enterprise, recorded local observers, came from all parts of the kingdom to this growing centre of trade and manufacture. During the

1. History of Birmingham, 1781, p. 63.

2. In view of the special study of the growth of population which is being undertaken by Mr. R.J. Hetherington, the subject is not treated in detail in these essays.

second half of the eighteenth century, Birmingham emerged fully as a thriving manufacturing town with a broadly based industrial structure. By the end of the century, Birmingham was firmly established as an industrial and commercial centre of national importance. The trading links with South Staffordshire, already noted as in existence early in the century, grew even closer: Birmingham's function as a regional centre became more sharply defined.

Despite the temporary depression in certain trades, during the wartime period at the end of the century, the large measure of industrial prosperity enjoyed during the period under review was due, in no small measure, to the widening of the industrial basis of the town. A directory of 1770,¹ for example, enumerated no less than 1,331 manufacturers in 75 principal trades. Examination of the lists of trades and manufacturers reveals the existence of a number of groups of industries. These included, as in the earlier part of the century, gun manufacture and assembly and the button and buckle trades. The toy trade grew rapidly and from it developed an important jewellery and high quality plate manufacture. Finally, the brass trade, which, also, had been in existence on a small scale prior to 1750, underwent a complete transformation during the last three decades of

1. Sketchley and Adams Tradesmen's True Guide or Universal Directory, Birmingham, (1770). A note on the reliability of the local directories as source material is included as an appendix to this essay.

of the century.

Within each group of trades, the range of articles manufactured grew wider year by year; in the gun, toy and jewellery groups, particularly, specialisation of process became an increasingly important feature of the organisation of the industry: the growth of both small and large factories working side by side with the small domestic workshops of the typical Birmingham "small master" introduced new complexities into the industrial structure. During the last three decades of the century the introduction of steampower and its application to the driving of machinery was responsible for important changes in the structure of industry and in the industrial location pattern.

II

The latter part of the eighteenth century witnessed a further rapid decline in the relative importance of the simpler metal, textile and leather trades, for which, in the sixteenth and seventeenth centuries, Birmingham had been locally celebrated. Though leather working, for instance, persisted in a small way in the town during this period and indeed throughout the nineteenth century, the trade became increasingly concentrated in the town of Walsall, ten miles to the northward. Similarly, at a time when saddlers' ironmongery was reported a flourishing

trade in Walsall,¹ in Birmingham it was declining steadily in comparative importance. Birmingham was no longer the home of large numbers of general smiths, nailers and edge tool manufacturers. Digbeth no longer, as in Camden's day, 'resounded with hammers and anvils'.

But the majority of trades which had become staple in the town during the first half of the eighteenth century continued to flourish. Of special importance was the gun trade.² Established in Birmingham during the last twenty years of the seventeenth century, the gun trade depended, largely, for its raw materials upon the import of semi-finished parts from the South Staffordshire towns of Wednesbury and Darlaston, the further processing and assembly taking place within Birmingham itself. In the early decades of the trade's prosperity, the majority of gun smiths had been located in the lower parts of the town around Digbeth and Edgbaston Street. By 1777, however, (Fig. 1)³ a certain measure of concentration of manufacturers in the Snow Hill - Steelhouse Lane area had already been achieved and this foreshadowed the intense concentration which developed in the same district during the nineteenth century. Though a fuller discussion of the factors influencing the concentration of gun manufacturers in a

1. Stebbing Shaw, History of Staffordshire, 2, (1801), p. 75.

2. The development of this trade is considered in more detail in a later essay.

3. A note on the method used in preparing the diagrams of industrial distribution at this period is included in the Appendix to this essay.

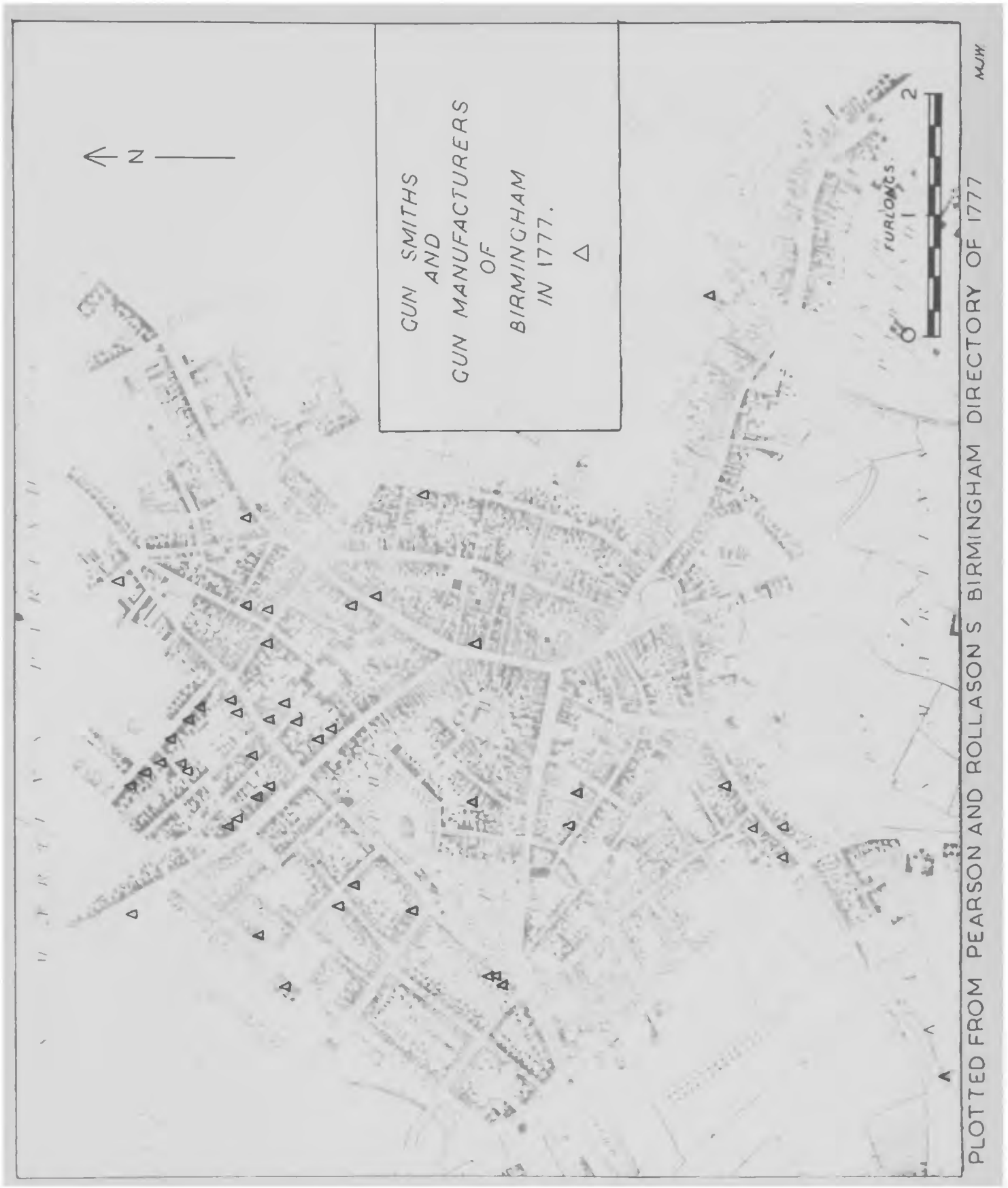


FIG.1

confined quarter will be given later,¹ it may be said here that a major cause was the growing subdivision of the trade and the consequent dependence of manufacturers and process workers upon proximity to one another. It is of interest to note, also, that the localisation of gun manufacturers was taking place very largely in the streets developed upon the old estate of the Weaman family. Here land was available for building purposes at a time when the gun trade was in a highly prosperous condition. Many manufacturers were in search of more commodious premises; workmen, branching out into business on their own initiative, found suitable accommodation in the streets and houses springing up in the mid-century period around Steelhouse Lane and Weaman Street. Furthermore, the presence in Steelhouse Lane of the workshop of Samuel Galton, a large employer and merchant in the trade, may have provided an additional attraction.

The toy trade, whose existence has been noted early in the century, flourished greatly in the later period. Directories of the 1780's enumerated over fifty principal branches of the fancy steel toy business, ranging from fine steel chains to dress ornaments, from hooks and eyes to steel pens, pencil cases and steel mounted eye glasses. A local Directory enumerated the "infinite variety" of articles produced by the toy makers. "These artists", it declared, "are divided into several

1. vide infra "On the Evolution of the Gun and Jewellery Quarters in Birmingham".

Branches, as the Gold and Silver Toy makers, who make Trinkets, Seals, Tweezer and Tooth Pick cases, Smelling Bottles, Snuff Boxes and Filigree work, such as Toilets, Tea Chests, Inkstands, etc., The Tortoise Toy maker makes a beautiful variety of the above and other Articles; as does also the Steel who makes Cork Screws, Buckles, Draw and other Boxes; Snuffers, Watch Chains, Stay Hooks, Sugar Knippers etc. and almost all these are likewise made in Various Metals".¹ In a typical "puff", the same directory averred that "No place in the World could vie with them (the toymakers of Birmingham) for cheapness, beauty and elegance". And there is little doubt that, in this particular case, the Directory was right.

It should be remembered that the characteristic manufacturer in this and allied trades was still a small master, typical of the period, who "used his house as a workshop, annexed another and then built upon his garden or Yard as his needs increased". This was a time of expansion in which workmen set up as masters, and in which new branches of the toy trade sprang up yearly.

For manufacturers of this type, conditions on the New Hall Estate were excellent. The new houses provided more pretentious and roomier accommodation for the dual business of living and working. There were opportunities for building workshops in the yards and

1. Sketchley's Birmingham, Wolverhampton and Walsall Directory (3rd edition), 1767, pp. 56-57.

gardens. Furthermore, there were no restrictive covenants to prevent the development of industry. For the versatile proprietors of small scale toy making enterprises', requiring only small workshops and little capital equipment, to whom so much of Birmingham's industrial success has been due, the New Hall estate offered ideal conditions. The plain three-storeyed houses soon became the homes of workshops and small factories. Aris's Gazette of 13th September, 1762, for example, announced that, in 1762, within three years of the granting of a building lease for a plot in New Hall Street, "several large and convenient workshops" were among the buildings erected. In 1774, No. 41, Edmund Street was a "good well built dwelling house" and was let together with its "shops that will employ about 20 hands in most of the toy trades".¹ The attraction of the new estates for manufacturers of this type was noted a few years later by the local historian. "It is not wonderful", declared Hutton, "that a person should be hurt by the falling of a house; but with us a man sometimes breaks his back by raising one. This private injury, however, is attended with a public benefit of the first magnitude; for every 'House to be Let' holds forth a kind of invitation to the stranger to settle in it, who, being of the laborious class, promotes the manufactures".²

1. Aris's Gazette, 17th January, 1774

2. Hutton, op. cit., p. 49.



FIG. 2

The prosperity of the local small metal trades acted, at this time, like a magnet, in attracting to the town men of ability and enterprise desirous of participating in the process of industrial expansion. It is doubtful whether this immigration would have been on such a large scale but for the presence of these growing estates providing cheap and ample accommodation for small manufacturers.

The tendency for manufacturers in the small metal trades to concentrate in the new estates is reflected in the distribution map of the toy trade in 1777 (Fig. 2), which has been plotted from Pearson and Rollason's Directory of that year. No toymakers were recorded for the Digbeth quarter: indeed, of some 40 toymakers enumerated, thirteen were already established on the New Hall estate, seven on land of the Weaman family and nine in streets developed by John Pemberton and Stephen Newton, earlier in the century, on the site of the grounds of the ancient Friory of St. Thomas.

A rather similar distribution pattern was characteristic of the button trade at this period (Fig. 3). This manufacture increased rapidly in importance during the 1770's and 1780's and remained a staple trade of Birmingham throughout the nineteenth century.¹ Further

1. The main branches of the trade were enumerated at this time as the "Gilt, Plated, Silvered, Lacquered and Pinchbeck, the beautiful new manufacture Platina, Inlaid, Glass, Horn, Ivory and Pearl: Metal Buttons such as Bath, Hard and soft white etc. There is likewise made Link Buttons in most of the above metals, as well as of

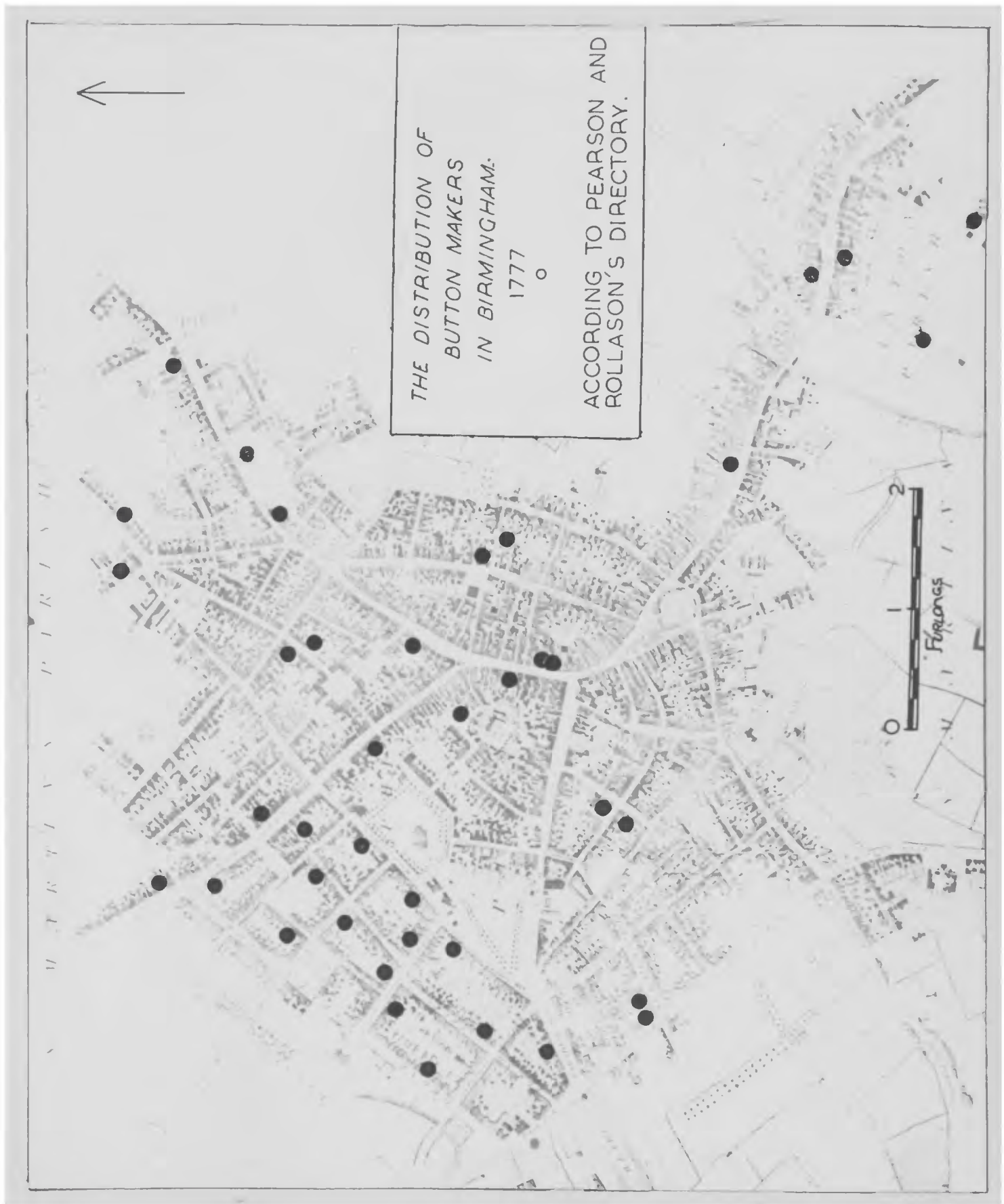


FIG. 3

advances in the 1790's, in particular the development of the gilt and plated button branches, led to an increase in the importance of this trade: workmen were attracted from other trades and, within a few years, between 4,000 and 5,000 workpeople were said to be employed in the gilt and plated branches alone. Though a tendency to a more intensive concentration on the 'new' estates became even more manifest towards the end of the century, no marked localisation of the industry seems ever to have developed.

In the buckle trade, the tendency to concentration on the new estates was not quite so readily apparent. In the distribution map (Fig. 4) there is, it is true, some suggestion of concentration in the Snow Hill and Weaman Street district, but this never became of great importance. The buckle trade was but sparsely represented in the New Hall estate and a number of bucklemakers remained in the older quarters of the town. The reason for this difference in distribution is probably to be found in the relative prosperity of the two trades. Whereas the button trade was responding to an expanding market, the buckle trade, due mainly to changes in fashion, now neared the end of its century old existence in Birmingham. Many buckle workers were, in fact, deserting the trade and entering either the button manufacture or new branches of the toy

Paste, Stones etc." (Sketchley's Directory, 1767). In 1770 there were 83 button makers compared with only 44 bucklemakers. By 1780 the button makers numbered 104 and by 1788, 180, though this total declined during the industrial depression of the Revolutionary Wars period.



FIG. 4

industry.

Developed partly out of the toy trade, but also as a result of a deliberate attempt on the part of some local manufacturers to raise the standard of quality of manufactures, the jewellery trade was now entering upon a century of almost uninterrupted prosperity. Hitherto "Brumagem pretences" had achieved notoriety for the cheap toy and allied trades. Now, under the leadership of Matthew Boulton and other leading manufacturers, Birmingham entered the market for jewellery and plated goods of high quality. This manufacture had been handicapped earlier by the lack in Birmingham of an Assay Office. The Birmingham toys, including rings, chains, lockets, thimbles, ferrules etc. had been, of course, exempted from Assay and so had not suffered by lack of an Assay Office in the town itself. The nearest Office to Birmingham was that at Chester, some 80 miles distant, a remoteness which imposed a severe handicap upon those manufacturers desirous of promoting the manufacture of high quality goods and silver and gold plated wares. After some delay, the Act of Parliament necessary for the opening of a local Assay Office was obtained in 1773 and within a short time no less than forty local manufacturers had registered as silver plate manufacturers. In the promotion of the Assay Office Act, Matthew Boulton had played a large part, as he did also in so many other matters concerning the

industrial and commercial prosperity of the town. In assessing the factors influencing the growth of industry at this period, due weight must be given to the presence in Birmingham of men of this calibre. Other aspects of Boulton's work will be discussed later: here it may only be said that in the foundation of the high quality plate and jewellery industry, social factors, and in particular the presence of men of Boulton's type, were as important as any other.

Two maps of the distribution of the jewellery trade in the 1770's have been prepared. The first (Fig. 5) presents the distribution of the jewellers enumerated in Pearson and Rollason's Directory of 1777. The general distribution pattern is not surprising. A number of jewellers remained in the older portions of the town, though many of these were, doubtless, retailers rather than manufacturers, but the great majority were located in areas developed after about 1740. A minor concentration is apparent, for example, in Cherry Street and Temple Street, in houses built during the 1740's and early 1750's. The Newton Street and Lichfield Street area, immediately north of the town, housed many jewellers and the trade was well represented, also, on the Weaman and New Hall estates. Fig. 5 must be regarded somewhat critically, however, as not fully representative of the growing high quality manufacture. There can be no doubt that the



FIG.5

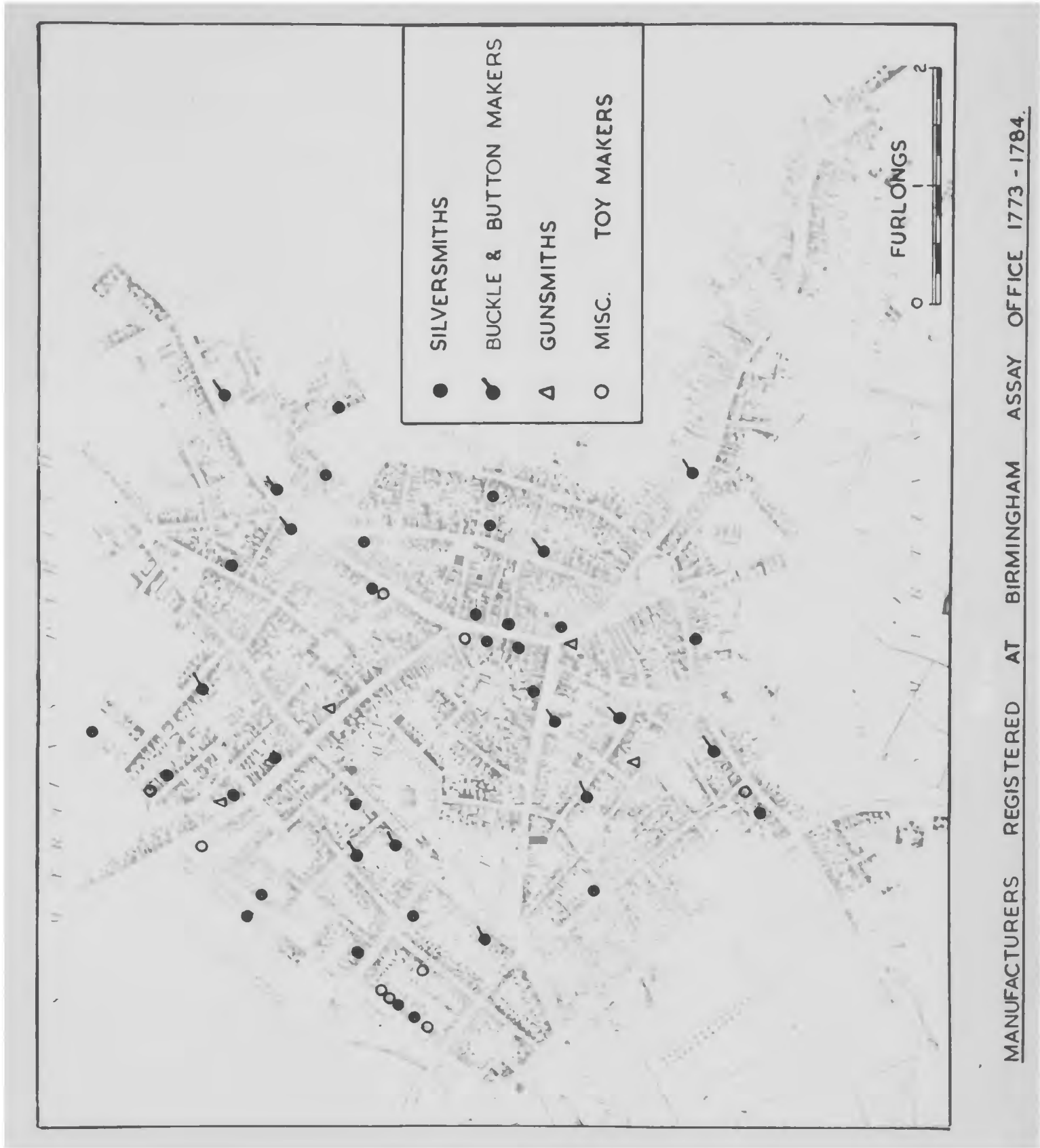


FIG. 6

jewellers enumerated in Pearson and Rollason's Directory as in all other directories of the period included many toy makers and manufacturers of cheap, fashion articles.

A further attempt to establish a distribution of high quality jewellery manufacturers is reproduced as Fig. 6. This map records the addresses of all manufacturers registered at the Birmingham Assay Office between the years 1773-1784,¹ and so cannot be regarded as an accurate representation of the distribution at any one period. Furthermore, for other reasons, the list of registrations at the local Assay Office does not necessarily provide a complete list of manufacturers dealing in precious metals. The registrations include men of a number of categories, silversmiths and manufacturers of silver plate, and men using silver and other precious metals in the gun, toy and buckle and button trades. It will be noted that, due to the differences in date and type of the records on which the distribution maps have been based, there is, in some cases, no direct correspondence between the distributions shown on Fig. 6 and on Fig. 5. Like the majority of these maps, however, Fig. 6 reveals an increasing tendency for the 'new' trades of Birmingham to concentrate on the recently built estates. Thus the main types of location shown for the manufacturers'

1. reproduced in a paper by the Master of the Assay Office, Mr. Arthur Westwood. "The Manufacture of wrought Plate in Birmingham". Trans. B'ham. Arch. Soc. 29, p. 52 et seq. The Act of Parliament authorising the establishment of an Assay Office was passed in 1773.

registered at the Assay Office were firstly in shops in the central streets of the town, where manufacture and retail trade were often combined, and, secondly, in the streets of the New Hall and Weaman estates.

III

Important new developments in the scope and scale of the industries of Birmingham were in progress during the latter part of the eighteenth century. The first of these was the rapid increase in importance of the brass trade, which was to take its place, during the nineteenth century, as a staple trade of the town, alongside the gun, jewellery and button manufactures. The second was the increase in number and size of large factories, while, thirdly, the introduction of the steam engine exerted a considerable influence not only upon the prosperity but on the location of Birmingham trades.

The rise of the brass trade in the early part of the century has been already noted. For its original existence in the town, the brass trade had depended largely on the demand for its products from other trades, notably the gun, toy, buckle and later the embryo engineering industries. A new phase in the growth of the brass manufacturing industry was indicated by the establishment of Turner's Brasshouse¹ in about 1740 in response to the growing demand for brass from local manufacturers. The

1. This was situated in Coleshill Street, at the extreme eastern end of the town and was shown there on Bradford's Plan of c. 1750.

trade passed through a period of some difficulty however. Despite the local availability of fuel the cost of importing the raw materials of copper and calamine by road precluded brass manufacture on a large scale. Furthermore, local brass founders and workers were handicapped by the high prices maintained by the brass manufactories at Bristol and Cheadle. The advent of the canal into the town in 1767-9, coupled with the maintenance of high price levels for imported brass, were enough to persuade local brassfounders and other consumers to commence direct manufacture in Birmingham on a much larger scale than in the case of any previous attempt. A Birmingham Brass and Spelter Company was formed in 1781¹ and brasshouses were erected alongside the canal in Broad Street. It is not intended to present here a detailed history of the brass trade in Birmingham during this period but only to point out that, even following the construction of canals linking Birmingham with the main river systems of the country,² the progress of the local brasshouses was not maintained without some difficulty. Brass manufacture was a commercial proposition in the town only because of the high price levels maintained elsewhere and because of the insistent demand from local manufacturers. Here,

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1. The complicated negotiations between manufacturers resulting in the formation of this Company are dealt with at length in H. Hamilton, *The English Brass and Copper Industries to 1800*, (1926), pp. 214-240.
 2. The development of the canal system is dealt with in the essay on Birmingham and the Changing Regional Pattern during the Eighteenth Century, and is, therefore, omitted from this essay.

it is important to distinguish between the manufacture of brass, the actual compounding of copper and calamine into brass, and brassfounding, the casting of ingot brass into finished or semi-finished products. Brassfounding, in particular, benefiting from the increased demand consequent upon social and industrial developments, progressed steadily. By 1770, 38 brassfounders were recorded, and the number shows a steady rise to 56 in 1788 and 71 in 1797. The development of specialisation was a feature that was to be continued into the nineteenth century. Advances in cockfounding followed the increased use of steam power. Cabinet brassfoundry became a separate branch while brass was supplied in a variety of forms to buckle, button, toy and other manufacturers.

The degree of specialisation was never carried to the same degree as in the gun and jewellery trades and even during the nineteenth century no marked localisation ever became characteristic of the brass industries. The 1777 distribution map (Fig. 7), which has been compiled in order to complete the industrial distribution pattern for that year, presents, on the whole, a very general pattern. Few brass founders were situated in the central streets of the town, and it is, perhaps, surprising to find none in the Dudley Street district immediately west of St. Martin's, though much of that area was small, poor quality housing unsuited to conversion into foundries and

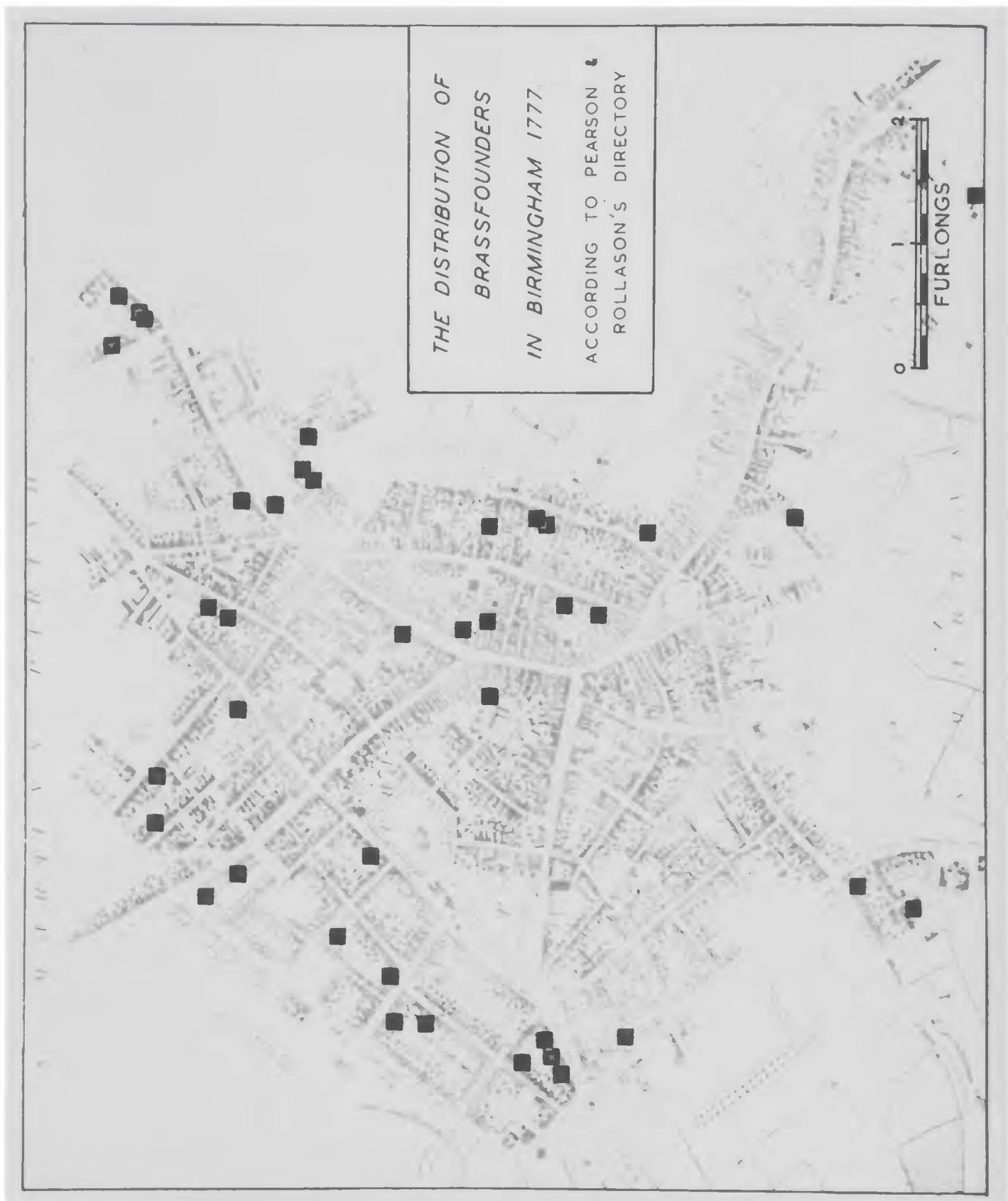


FIG. 7

workshops. One is tempted to interpret the cluster of brassfounders in the Paradise Row area as indicating the attraction of a site near to the canal, but although canalside locations were sought for by brass manufacturers in the nineteenth century, it is doubtful whether this influence was at all important in the case of brassfounders as early as 1777. A significant cluster of brassfounders in the St. Bartholomew's district north of the town may have resulted from the situation nearby of Turner's Brasshouses. Otherwise, the distribution, as might be expected, represents a fairly general spread in the newer portions of the town.

The gradual appearance of workshops and factories of increased size was a second principal feature of the industries of Birmingham at this period. The earlier manufacturer had been, almost exclusively, a small master, employing in his workshop only members of his family and, perhaps, a mere handful of workmen and apprentices. Dwelling houses had been modified to include such features as "a warehouse, shops and other outbuildings with an entire yard, all commodiously laid out for carrying on most other as well as the Jewellery manufactory".¹ By the middle of the century, shopping to employ twenty or up to forty pairs of hands in the toy and allied trades was to be found both in the older and newer industrial

1. A typical advertisement from Aris's Birmingham Gazette.

districts.¹ Most celebrated of all the factories that arose at this period were those of John Taylor and Matthew Boulton. John Taylor was himself a local 'small master' who "in the space of about forty years acquired, from almost nothing, nearly the sum of £200,000".² The secret of his success lay in the development of new branches of the button, toy and enamel trades, and in his 'wonderful genius' for invention and organisation. "In his shop", wrote Hutton, "were weekly manufactured buttons to the value of £800 exclusive of other valuable productions". Of even greater fame was the Soho Manufactory, founded by Matthew Boulton in 1761.³ Boulton himself came from

a family of buckle and steel toy makers whose business

1. As numerous advertisements in the Gazette bear witness.
2. Hutton, op. cit. p. 74.
3. An extensive bibliography has grown up about the Soho Factory and the associations with it of Matthew Boulton and James Watt. It is not intended to provide here a comprehensive account of the Factory but only to indicate those aspects of its development which are most relevant to the review of Birmingham's industrial development at this period. Strictly, of course, Soho was in Staffordshire, outside the parish of Birmingham. Some of the principal sources of reference are:-
H.W. Dickinson, *Matthew Boulton (1737), James Watt, Craftsman and Engineer (1735)*.
E. Roll, *An Early Experiment in Industrial Organisation (1730)*.
R.B. Prosser, *Birmingham Inventors and Inventions (1781)*.
The Birmingham Reference Library contains an extensive (but as yet uncatalogued) collection of MSS relating to Boulton and Soho.
An illustration, showing the Factory at the end of the eighteenth century will be found in the essay on *Birmingham and the Changing Regional Pattern during the Eighteenth century*, contributed to *Birmingham and its Regional Setting*.

had been established in Birmingham early in the century. The workshop of Boulton's father, situated in Snow Hill, was a small enterprise typical of Birmingham at the period. Boulton himself was a man of great ambition and, aided by a considerable fortune acquired through inheritance and marriage, began to formulate plans for removal of the business from the cramped quarters in Snow Hill to "a manufactory of ample floor space supplied with water power, where workmen of the different hardware and toy trades should be brought together".¹ Boulton's plans included the practical application of new principles of technical management formulated by himself and other leading local manufacturers, the production of new articles and a raising of the quality of manufactures. In addition, Boulton sought, by marketing his products himself, to avoid the increase in cost and delay occasioned by disposal of the finished article through the local merchants and factors. To that end, Boulton took into partnership, in 1762, John Fothergill whose task lay principally in the establishment of home and foreign agencies, through the medium of which manufactured goods could be sold.²

Boulton's search for a suitable location for his new factory led him to consider seriously a site on Handsworth

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1. H.W. Dickinson, Matthew Boulton.
 2. Ibid, pp. 45-6. This partnership did not prove an unqualified success and Boulton's enterprise in breaking away from the established system of marketing involved him, eventually, in considerable financial embarrassment. The partnership was dissolved in 1781.

Heath, some two miles from Birmingham itself and just beyond the boundary of Birmingham parish (Fig. 8). Here, the Hockley Brook, a tributary of the Tame, provided power adequate for the requirements of a rolling mill. The site has been, in fact, already utilised for this purpose for, in 1757, John Wyrley, Lord of the Manor of Handsworth, had granted to Edward Ruston and a partner a lease of land on Handsworth Heath with liberty to divert the Hockley Brook and to form a pool for the requirements of a water mill for rolling metals. In the following year Ruston constructed a "Canal full half a mile in length ... to a place for ye working of a Mill which he accordingly erected".¹

Boulton purchased Ruston's lease in 1761 and set to work to rebuild the mill. In the summer of that year the old mill was pulled down and rebuilt, new workshops and a warehouse were added and dwelling houses erected for the employees. Despite the very considerable improvements and additions thus made, Boulton found the premises "still not sufficient for his great designs", and, accordingly, in 1764, the foundations of the Soho Manufactory itself were laid.² (Fig. 8)

Boulton's concern with the production of goods of quality had a considerable influence in raising the

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1. Letter from B (Boulton) to F (Fothergill), cit. Dickinson, Matthew Boulton, op. cit.
 2. S. Shaw, History and Antiquities of Staffordshire, 2, (1801), p. 118.

prestige of the town, which had become notorious for the manufacture of cheap, tawdry trinkets and toys. In this he helped to lay the foundations for the growth of the manufacture of high class jewellery and plate as a staple trade of Birmingham. The Soho Manufactory became one of the showplaces of England, attracting world wide fame on account of its new principles of industrial organisation and the high quality of its products. Merchants, manufacturers and workmen were attracted to Birmingham. "The building" we are told "consists of four squares, with shops, warehouses, etc., for a Thousand Workmen, who, in a great variety of Branches, excel in their several Departments; not only in the fabrication of Buttons, Buckles, Boxes, Trinkets, etc., in Gold and Silver ... but in many other Arts, long predominant in France ... The number of ingenious mechanical Contrivances they avail themselves of, by the means of water Mills, much facilitates their Work, and saves a great portion of Time and Labour ... Their excellent ornamental pieces have been admired by the Nobility and Gentry, not only of this Kingdom but all Europe; and are allowed to surpass anything of the kind made abroad".¹

1. Swinney's Birmingham Directory, 1774.
 Some idea of the ramifications of the business activities of Boulton at the end of the century may be gathered from the list of interests given in Bisset's "Magnificent Directory" of Birmingham published in 1800.

M. Boulton and Button Co.	-	Buttons in General
Boulton and Smiths	-	Buckles, Latchets, etc.
M. Boulton and Plate Co.	-	Silver and Plated Goods
M. Boulton	-	Mint for Government Coin
M. Boulton	-	Medals, Rolled Metals, etc.

Above all, the Soho Manufactory will be remembered for its associations with the development of steam power. By this period, the limited supplies of water power in the immediate vicinity of Birmingham were being used to the maximum possible extent. The course of the Hockley Brook from Soho to its junction with the Tame was marked by a succession of pools providing water power for mills and forges.¹ The demand for power facilities continued to increase, and the story of Soho is interesting in illustrating the steps taken, firstly, to augment existing supplies of water and, secondly, to introduce entirely new sources of power. The history of the Soho Factory represents a well nigh perfect example of the transition from water to steam power.

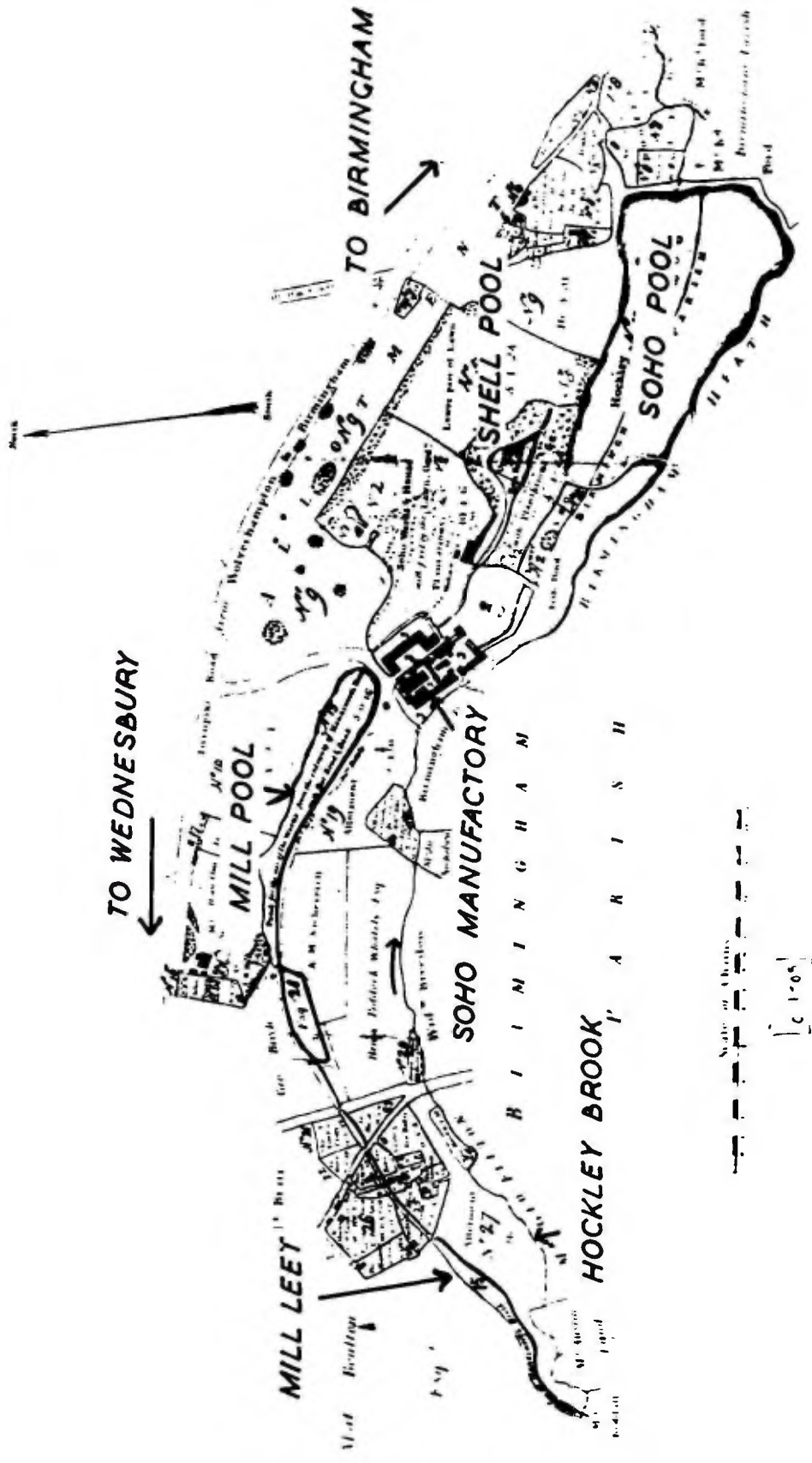
At an early stage Boulton realised the inadequacy of the water power derived from the Hockley Brook and attempted to supplement this source in a number of ways. By 1770 two mills were at work,² the second worked probably by water derived from the Shell Pool (Fig. 8).³ By 1765

M. Boulton	-	Mercantile Trade in Birmingham
Boulton, Watt and Sons	-	Iron Foundry, and Steam Engines

J. Watt and Co.	-	Letter Copying Machines
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Even this scarcely does justice to the great influence wielded by Boulton in encouraging and developing trade and industry in Birmingham and the immediate neighbourhood.

1. See, for example, the distribution of mills and forges on Henry Beighton's Map of Warwickshire, 1722-25.
2. Letter from Boulton to James Adam, Oct. 1, 1790, cit. Dickinson, op. cit. p. 60.
3. Shell Pool, according to Shaw, was artificially constructed probably by utilising a clay pit dug in 1761 to provide clay for brickmaking in the reconstruction of Roston's mill. The pool was fed from a spring and the water ran directly into the factory.



SOHO MANUFACTORY 1805

FIG. 8

horses had been employed in an attempt to increase the power supply but "the enormous expence of the horse power" very soon put Boulton "on thinking of turning the mill by fire".¹ In 1767 experiments were carried out with a Savery engine installed to return used water from below the mill back into the mill pool, but this proved an unsatisfactory and uneconomic arrangement. The first introduction of a Watt engine to Soho occurred in 1773 or 4 when Watt's original Kinneil engine² was erected and set to work to perform the same task of pumping back water. This proved a success and the increase of power obtained resulted in further additions to the mill. In 1778-9 the Kinneil engine was replaced by a larger and more powerful one.

Meanwhile, the partnership of Boulton and Watt embarked upon the exploitation of Watt's patent. The great advantage of Watt's engine lay in its economy of fuel, a circumstance that made it a particularly attractive proposition in districts remote from the coalfields. Contrary to general belief, steam engines were not actually manufactured at the Soho Factory. Engine parts were made, to Watt's specification, by a number of firms and assembly was carried out on the site under the supervision of Watt's engineers. Thus, the cylinders and condensers

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1. Letter from B.(Boulton). cit Dickinson op. cit.
 2. Constructed at Kinneil in 1769 with the object of pumping water from the collieries at Kinneil belonging to Dr. Roebuck, proprietor of the Carron Iron Foundries.

were manufactured by John Wilkinson of Bersham (and later Bradley), pipes by Reynolds at the Ketley Ironworks, castings by Joab Parsons of Burton on Trent or Nicholas Ryder of Marston Forge, and so on.

This practice began to change, gradually, following the development of the rotative engine. The first use of rotative steam power at Soho took place in 1788 to assist a water wheel in providing power for a new rolling and laminating mill. At the outset of this development difficulties were encountered due to the prior development and patenting of the crank by James Pickard in 1780 but following the development of the "sun and planet" gear by Watt in the following year, the number of rotative engines produced began to increase. Due to the increasing mechanical intricacy of these engines, it became increasingly difficult to leave the manufacture of parts to independent contractors, while on the other hand Soho Factory possessed neither space nor equipment for the purpose. It was decided therefore to erect new premises for the sole purpose of constructing engines. Land for this purpose was bought on 27th August, 1795 and the Soho Foundry was opened on 28th January, 1796. The site was an excellent one for the purpose. The Foundry lay on the heath, about a mile from Soho Factory, adjacent to the Birmingham Canal, from which an arm was cut direct into the works. Initial difficulties

arose of obtaining adequate skilled labour for casting and other operations but this was eventually overcome and the Foundry developed into a highly profitable concern.

Towards the end of the century steam had begun to replace water as a source of energy for the heavier industrial operations of the district. Furthermore, steam engines were installed at convenient points within the town and power "let out" by means of shafting the neighbouring manufacturers. The introduction of steam power into industry was a gradual process, however, for water power was still in use in rolling and other mills on the Rea, Cole and Tame streams until midway through the nineteenth century. In the town itself power had been supplied where necessary, by horse mills, such as that advertised for sale in Aris's Gazette of 4th April, 1774. "To be sold, an exceedingly good Horse Mill, very little worse for use, with cast metal Coggs: will answer much for stamp buckles, link and stamp buttons and in many other trades".

As early as 1760 Twigg's "fire engine" was at work grinding swords and bayonets. Gradually, the horse mill was superseded by the "Fire" mill. Pearson and Kollason's local Directory for 1781 carried a long advertisement for the Fire Mill in Snow Hill and enumerated at length the advantages of steam over water power. "It

can be worked with a very small water supply and is not liable to be stopped in any weather, floods or frosts as water mills are and may be worked 24 hours a day if necessary. It is situated so near the manufacturers as to save the expense of carriage and extra servants to take care of a mill at a distance". At Snow Hill, the processes for which the new mill was chiefly employed were the boring and grinding of gun barrels but, it was stated, "the proprietor has almost completed a mill for the use of chape, button and buckle makers".¹

Local directories of the period provide further descriptions of the increasing use in industry to which steam power was being put. A further advertisement for Charles Twigg's Snow Hill mill,² proclaimed it as supplying power for the "rolling of metals, and grinding and boring of gun barrels". "This mill", it continued, "is erected also for polishing of steel goods, finishing Buckles, Buckle chapes and a variety of other articles usually done by foot lathes. The whole is worked by a Steam Engine and saves Manufacturers the trouble of sending several miles into the country to water mills". By 1800, at least seven such engines were at work in the town and the stage was set for the rapid expansion of the use of steam power which occurred during the first half of the nineteenth century.

1. Pearson and Hollason's Birmingham Directory, 1781.
2. Bailey's Directory of Birmingham, 1783.

Almost the last of the handicaps from which Birmingham had suffered - the lack of highly efficient water power facilities in the immediate vicinity of the town - was now removed. The local streams had been utilised to the utmost for power and, by the end of the eighteenth century, few possibilities for water power development remained. Now the application of steam power for manufacturing purposes removed this bar to the industrial progress of Birmingham.

Birmingham's industries at the end of the century exhibited a broadly based structure. The heavier and simpler iron trades were, it was true, gathered on the South Staffordshire coalfield. The town's industries comprised, firstly, a variety of metal trades in which, by skilled manipulation and assembly, a high value was added to a comparatively small quantity of raw material. These were trades that depended on ready availability of fuel and proximity to the increasingly important South Staffordshire iron district, the existence of a close community of skilled craftsmen and process workers and, of equal importance, on the presence locally of a band of merchants and factors whose duties lay not only in organising the sale and disposal of the finished product but also, in some cases, in obtaining the raw material for supply to local manufacturers.

These small metal industries in their turn,

together with changing social conditions, gave rise to a demand for locally manufactured brass. Once difficulties of transporting raw materials had been overcome by the development of the canal system, the brass manufacture and its ancillary trades grew quickly.

Finally, the steam engine emancipated Birmingham men from dependence on water power and enabled, during the nineteenth century, a wider variety^y of industrial operations to be undertaken.

Birmingham then possessed many advantages for advancement as an industrial centre, including proximity to the coalfield, an established reputation as the home of skilled workmen in a variety of trades, a position at the heart of a local network of communications by road, and, later, by canal and the presence of an established system of distribution of the finished product. Is it, then, any wonder that these opportunities were seized upon by men of the industrial calibre of John Taylor and Matthew Boulton who in their turn and by their own endeavours advanced the industrial development of the town by yet another stage.

IV

The rise of Birmingham as a centre providing commercial services has been illustrated, for the early part of the century, by reference to the functions of

the Birmingham ironmongers.¹ In 1700, the business of an ironmonger had been, as we have seen, an extensive one, embracing, at its widest, all aspects of the iron trade from the purchase of pig and bar iron to the disposal of the finished product. By the second half of the century it was becoming more usual to use the term "ironmonger" with reference only to wholesale and retail dealers in hardware goods.

An examination of the position and function of the Birmingham ironmongers in about 1775 reflects the change in usage of the term. It reveals also, however, something of the way in which the industrial interests of Birmingham were changing from the primary iron trade to the newer trades of toy, button and nonferrous metal manufacture.

As far as the organisation of the nail trade was concerned, for example, Birmingham still exercised an important, but by no means a dominant, influence. The manufacture of nails had come increasingly into the hands of men in the newly growing industrial villages and towns of South Staffordshire. A list of so-called 'nail manufacturers' in 1775 has been preserved in the Birmingham Assay Office.²

1. vide Birmingham and its Trade Relations in the early Eighteenth Century.

2. Assay Office MS. "Thomas Green, Birmingham - Matthew Boulton", March 29th, 1775. I am indebted to Mr. Arthur Westwood, Master of the Assay Office for permission to inspect this MS. It should be borne in mind that the nail trade in 1775 was reported to be "less brisk than formerly".

Of the 46 names which appear, the majority are not manufacturers but nail ironmongers of the type familiar in the early years of the century. Some are described in the contemporary Directories as nail factors, others as ironmongers and it is probable that most dealt in locks and other similar products as well as nails. All were responsible for the employment of nailers and for the disposal of the finished handmade nails. Of the 46 names listed, Birmingham claimed 10, the majority of whom were in a fair way of business. The largest firm in the district was now, however, that of Gibbons of Kingswinford. West Bromwich, Dudley, Tipton and Halesowen could each boast of firms larger than any in Birmingham. Birmingham's 10 merchants accounted for only approximately one-sixth of the total iron manufactured into nails. It will be seen that actual organisation of nail manufacture was now controlled largely by merchants located in the actual manufacturing district. The distribution of these nail merchants (Fig. 9) does, in fact, reflect fairly closely the distribution of the nail trade in South Staffordshire at this time.¹ Among the factors influencing this distribution had been, firstly, the availability of imported bar iron on the western side of the district. With local production inadequate to meet total demand, iron imports from the Forest of Dean as well as from abroad

1. I am indebted to Mr. B.L.C. Johnson, M.A., for discussion on this point.

AN ESTIMATE of the IRON supposed to be manufactured into NAILS annually
by persons at the under places c.1775

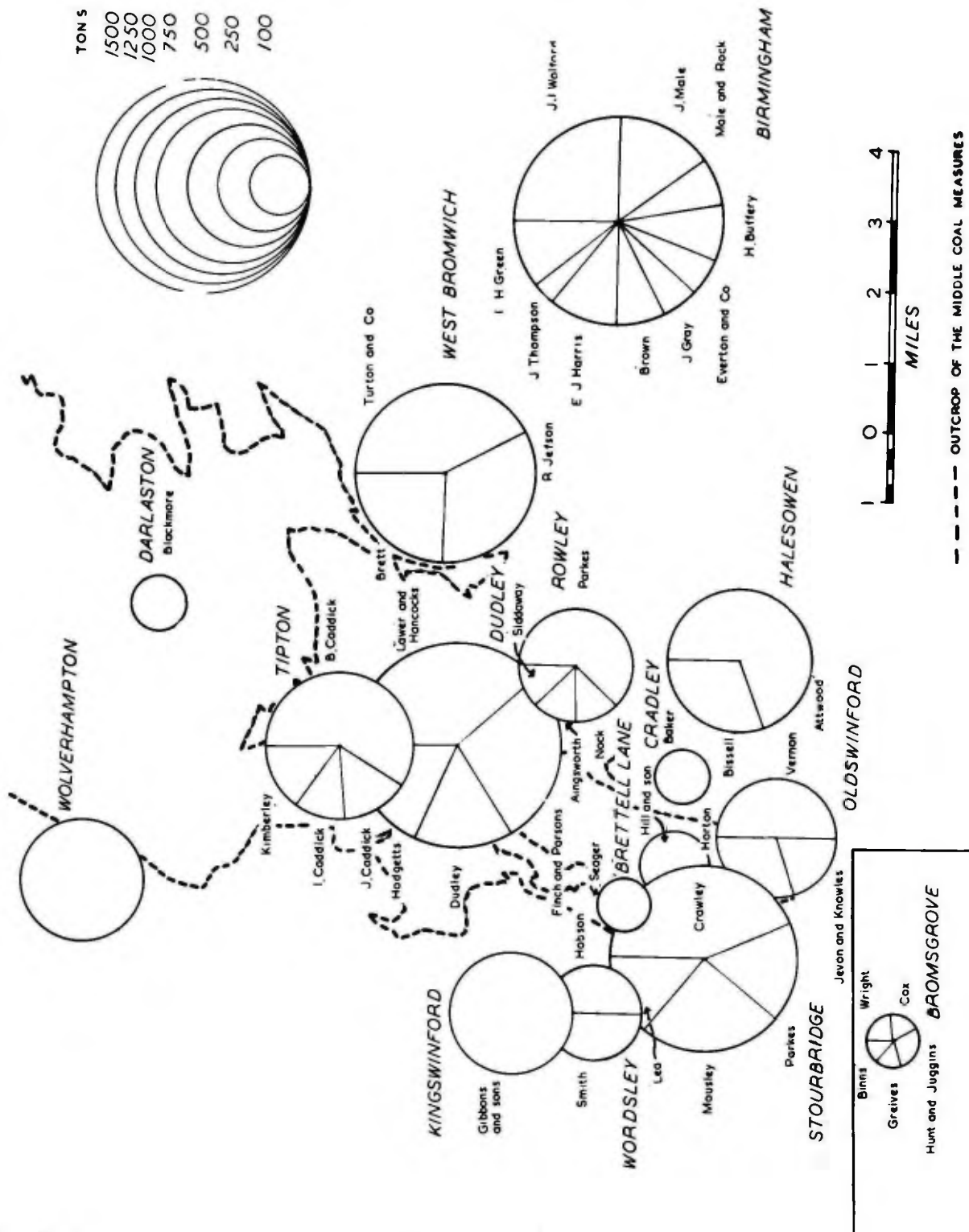


FIG. 9

passed up the Severn to the forges and slitting mills in the Stour Valley. Here the relative availability of water power had proved a decisive factor in locating mills, and around the source of their raw material the nailers themselves had settled.

The balance in the nail trade had passed then to the western sector of the district. But if the importance of the nail ironmonger was declining in Birmingham, it may have been, also, on account of the rise of a new class - the self-styled merchants and factors. During the latter half of the century tradesmen of this character increased rapidly in numbers. Comparison between Directories may sometimes give misleading results, but the general trend is clearly shown in the following comparison of three Directories.

	Ironmongers	Merchants	Factors
Sketchley & Adams, 1770	18	43	25
Pearson & Rollason, 1777	21	77	7
Wrightson, 1825	17 ¹	88	129

The business of this new class of merchants and factors was a wide and undefined one. Many were simply financial agents, others retained interests in the iron trade, combining them with the marketing of gilt toys, buckles, jewellery, brass goods; others dealt solely with the latter. Yet another class concerned itself with the import and distribution of consumer goods - textiles, food, drink,

1. Iron and steel merchants.

boots and shoes for the growing population of Birmingham and its district. These were still concentrated mainly in Mercer (Spiceal) Street - the old centre of their activities. Included in this group was the Mr. William Bradbury whose business comprised the wholesale importation and disposal of vegetables including 'Early potatoes from the Sea Sands, Cheshire'.¹ Yet another group specialised in export. By the end of the century Birmingham toys, brass and other products were on sale in almost every known corner of the earth. The export business was carried on on a large scale by merchants who often specialised in the particular needs of certain countries or regions. Messrs. Thomas Maullin and Thomas Breidenbach, for example, were Export Merchants in Summer Row whose special interests included trade with Southern Europe and, especially, Italy.² Their counting house at Friday Bridge House on the banks of the Birmingham Canal still stands, a large, solid Georgian monument to a firm, representative of its class, led by men of great energy and initiative.

The staple merchanting firm was, then, that of an entrepreneur between manufacturer and consumer. These were firms, often with little or no direct interest in manufacture, which were concerned, primarily, with the distribution of the products of the Birmingham and South Staffordshire workshops to purchasers in Great Britain.

1. Aris's Gazette, March 14th, 1774.
2. BRL. 568857.

A typical firm of this sort was Messrs. Gough and Sons whose Day Book for the years 1792-1794 has survived.¹ Gough's dealt with a wide variety of goods. Birmingham products were represented in 'Superfine burnished Coat Buttons', Metal Candlesticks and Snuffers, rings, button hooks and gilt toys; South Staffordshire wares in nails, screws, spades and edge tools, files, knives, locks and fire irons. The list of wares is almost inexhaustible and special orders were catered for. The distribution of customers, plotted from the despatches recorded in the Day Book (Fig. 10), reveals a tendency for sales to have been concentrated, in the case of this firm, in the south and south-west Midlands with agencies for export operating at Bristol and London. The promotion of sales was in the hands of travellers. No longer, in the case of the larger enterprises, did the proprietor travel the country in search of custom. The modern system of commercial travelling with representatives responsible for individual regions was in course of evolution. Thus in 1774, a certain John Marshall was representing Joseph Guest of Birmingham in the 'Western Counties', in a district extending from Bridgewater to St. Austell.²

The list of merchants of 1777 included many names of families whose business fifty years earlier had been that of ironmongers. One notes, immediately, the

1. BRL. 49862E.

2. Aris's Gazette, January 24th, 1774.



FIG. 10

names of Henry Henn, Russell and Co., Abraham Spooner and Charles and Sampson Lloyd. A new sign of the vitality of the town's commerce appeared in 1783 when "the commercial part of the community banded together to prepare for the establishment of a General Commercial Committee". On the 12th August, Mr. Samuel Garbett presided over a Town's meeting, the Commercial Committee was formed¹ and Birmingham became the fourth town in the country to possess such a body. The immediate objects of the Committee were largely defensive, including the prevention of the enticing away of expert and valuable workmen to other towns and countries. During the early years of the nineteenth century, the Committee developed its activities and particularly after its reformation in 1813 as the Chamber of Commerce² began the activities of assistance to, and organisation of, local manufacturers and merchants for which it has since been well known. During the century the field of influence of the Chamber of Commerce widened steadily and the importance and extent of its influence at the present time is a wide one.³

V

We have considered, hitherto, the growth of the town's function as the trading capital of a growing

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1. G.H. Wright, *Chronicles of the Birmingham Chamber of Commerce, 1813-1913 and of the Birmingham Commercial Committee, 1783-1812* (1913), p.11.
 2. *Ibid*, p. 49.
 3. Vide J.N. Jackson, *Regional Functions and Sphere of Influence of Birmingham in "Birmingham and its Regional Setting"*, p. 331.

manufacturing district, as a centre of trade and the home of ironmongers, merchants and factors. We have now to trace a gradual growth in the function of Birmingham as a service centre and to elucidate, as completely as the evidence will allow, the origin and early development of the present complex of town and country relationships. In the growth and widening extension of this function we shall find yet another partial explanation of the remarkable growth of the city.

An important feature of this aspect of Birmingham's eighteenth century life was its growth as a centre of banks and financial houses. The provision of credit had long been a necessary and flourishing business in the Birmingham in which new firms were born overnight, in which enterprise was free and unrestricted and in which opportunities existed for men of initiative to rise quickly from the ranks of journeymen to the dignity of workshop proprietor. "A public bank" we are told by Hutton, "is as necessary to the health of the commercial body as exercise to the natural". In the absence of professional bankers in Birmingham "about every tenth trader was a banker or retailer of cash. At the head of these were marshalled the whole train of drapers and grocers". Of this tendency we are aware, for Tobias Bellaers himself¹ had acted in the capacity of banker on more than one occasion.

1. vide supra, Birmingham and its Trade Relations in the Early Eighteenth Century.

Development of the 'official' banks was a feature reserved to the latter half of the century. The inception of the first by Messrs. Taylor and Lloyd, which was, incidentally, a direct ancestor of the present Lloyd's Bank, was the result as might, perhaps, have been predicted, of a partnership between a leading and wealthy manufacturer and one of the most prosperous of all the prosperous merchants of Birmingham. The bank itself was established in 1765¹ at the corner of Bank Passage in Dale End.² The success of Taylor and Lloyd's was followed by the opening of three rival banks by Robert Coales, Francis Goodall and, in 1791, by Isaac Spooner.³ Two more followed in 1804 and Birmingham was now a banking centre of no mean importance. Even so, the connection between the banking and merchanting professions was still alive even comparatively late in the century, for in at least one bank the senior partner, Mr. Moilliet, still carried on, in addition, the business of a continental merchant.⁴

As a distributive centre, Birmingham had possessed a local sphere of influence since early medieval times through the influence of its weekly markets and periodical fairs. Despite the growing importance of the markets, Birmingham, as late as the middle of the eighteenth century,

1. Aris's Gazette, June 10th, 1765.

2. E. Edwards, Personal Recollections of Birmingham Men, (1877), p. 49.

3. R.K. Dent, Old and New Birmingham, p. 338.

4. E. Edwards, op.cit., p. 49. Pp. 45-68 of this volume contains a detailed description of the activities and organisation of the early nineteenth century Birmingham banks.

Fig. 11.

This sketch, by Samuel Lines, well illustrates the state of the Bull Ring and Shambles at the opening of the nineteenth century. The shops of the Birmingham butchers, open fronted to the still cobbled and poorly paved streets are clearly seen. St. Martin's Church was still ringed about by houses of a much earlier period and outside the churchyard gates is seen the parish pump, to which reference was made in an earlier essay.

The sketch is indicative of the general civic backwardness of the town, at this period, for with a population soon to verge on 100,000, public administration was still in the hands of parochial and manorial officials and of the Commissioners of the Streets, whose powers were limited to "laying open and widening certain streets and passages ... and cleansing and lighting the streets, lands and passages and ... removing and preventing nuisances and obstructions therein".

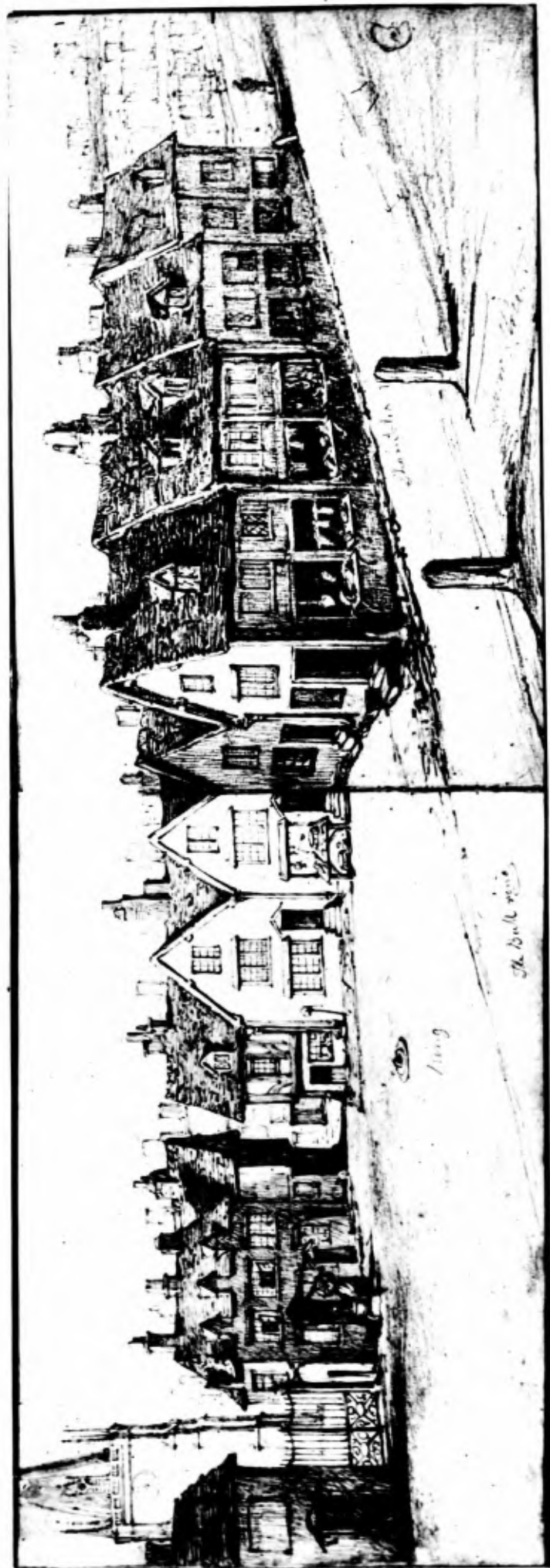


FIG. II

was still without an adequate central market place where all the articles offered for sale might be concentrated at one point, and the stalls and sellers were, in consequence, scattered among the various streets of the town. Some of the principal market sites are suggested on Westley's Plan; our knowledge of them was completed by Hutton. The ancient market for Corn was situated in the Corn Cheaping which formed part of the Bull Ring. This may, at first, have been an open space but by the early part of the century it was filled by permanent tenements in which butchers and other retailers had set up their shops. The state of the Shambles, as it was known during the latter part of the century, is well shown in a sketch by Samuel Lines of about 1805 (Fig. 11).¹

In addition to the corn and the local meat market the Bull Ring housed also the vegetable market. By the end of the century the town was ringed with gardens and allotments² the produce of which, together with that of local farms, was offered for sale in the Bull Ring. Hutton's description of the Bull Ring in 1781 gave some idea of the general congestion: "Butchers stalls occupied Spiceal Street; one would think that a narrow street was preferred, that no customer should be suffered to pass by."

1. The sketch is extracted from a sketch book dated 1820 in the Birmingham Reference Library. According to the Birmingham Weekly Post, 5th December, 1947 the sketch was made at the time of erection of the Nelson Statue in 1809. The Shambles had certainly been removed by 1815 and according to Showell's Dictionary of Birmingham (p. 43) were actually removed by the Commissioners of the Streets in 1806-7 at a cost of nearly £2,500.
2. Plan of Birmingham by J. Riggett Smith, 1824-5.

Flowers, shrubs etc. (were sold) at the ends of Philip Street and Moor Street; beds of earthenware lay in the middle of the foot ways; and a double range of insignificant stalls in the front of the shambles choke up the passage".¹

Early in the century the cattle market was held in High Street but in 1769 the standings were removed to Dale End and in 1776 to Deritend.² For long the demand for space had been greater than that available. In Hutton's time New Street housed the market for pigs, sheep and horses, "cheese issued from one of our principal inns, and afterwards from an open yard in Dale End: fruit, fowls and butter are sold at the Old Cross; nay, it is difficult to mention a place where they were not".

By the end of the century the market had grown to a considerable size. A survey and valuation of the Manor of Birmingham recorded the existence, on September 12th, 1822, of 24 standings of Earthenware, 100 of Vegetables, 72 of Butchery, Hardware and Drapery Goods, 15 of Butter and 7 of Irish Linen in addition to 140 pens for pigs, 72 for sheep and 261 for Cows and Heifers. The Tolls, after allowing "for the expence and uncertainty of collecting them", were worth a reasonable profit of £300 - £320 per annum.³ Definition of the area of circulation of the goods bought and sold in the market at the end of the century

1. Hutton, op.cit., p. 231.

2. Showell, op.cit., p. 142.

3. B.R.L.398252, Survey and Valuation of the Manor of Birmingham, c.1812-1824.

is not easy. Formidable difficulties face those who attempt studies of the sphere of influence of markets at the present time. Evidence for such studies is, of necessity, collectable only by patient personal enquiry and field work. It is possible, then, to build up only a very general picture of the extent of the circulation area in say 1800, but of the importance of the market to the West Midlands as a whole, there can be little doubt. To Marshall, despite its many imperfections, which he was not slow to catalogue, Birmingham market was still "the grand mart of the Midlands".¹ It was much visited by "friends from the country" who it was reported, preferred the Thursday to the Tuesday market.² Cattle and sheep were driven to the market from all quarters, from the rich pastures of Leicestershire, the marchlands of Wales, the Cheshire grasslands and from the Cotteswolds.³ Vegetables for the market came from as far afield as Tamworth and the Vale of Trent and from the Evesham district to the south west.⁴ Here the conversion of sandy heathlands into market gardens had just begun; this process was to quicken rapidly after the coming of the railways.⁵

But the ancient rights of the Lords of the Manor stood in the way of improvements to the market facilities.

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1. Wm. Marshall, *Rural Economy of the Midland Counties*, 1, (1790), p. 371.
 2. *Survey and Valuation*, p. 48.
 3. Marshall, *op.cit.*, Wm. Hawkes Smith, *Birmingham and its Vicinity*, (1836), p. 29.
 4. Wm. Hawkes Smith, p.29.
 5. K.M. Buchanan, *The Land of Britain, Worcestershire*, p. 646

Acquisition of the rights was carried out in two stages. In 1806 the Commissioners of the Streets in Birmingham leased the rights on payment of an annual rental of £60¹ while in 1825 the rights were purchased outright² and measures for improvement were announced. Already in 1815 the land adjacent to Moat Row had been cleared of old buildings and new buildings and stalls for a cattle market erected. This became the Birmingham Smithfield and the choice of its site was far reaching in its consequences for the nineteenth and twentieth century city. Around this new Beast Market, and between it and the retail Market Hall, erected, only after much controversy,³ in the Bull Ring in the early eighteen thirties, has developed the present 'Market Quarter' of Birmingham. This is one of the most definite and well marked of the city's regions or functional areas and one whose site has a profound bearing on many aspects of the modern regional geography and on problems of future planning in the city. These early nineteenth century developments in the provision of market facilities have been discussed briefly and noted principally because of their tardiness. Birmingham

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1. Conrad Gill, Birmingham under the Street Commissioners 1769-1851. Birmingham University Historical Journal, No. 2, p. 268.
 2. Dent, Old and New Birmingham, p. 419.
 3. The site proposed for the Hall and on which it was eventually built, comprised the Philip Street-Bull Street-Worcester Street-Bull Ring quadrilateral. The alternative site suggested was in the High Town and bounded by High Street, Moor Street and Castle Street. vide Charles Fiddian, "A letter on the subject of the proposed New Market Place", 1828, and other pamphlets.

had achieved its status as a principal market centre of the Midlands, by, at the latest, halfway through the previous century in spite of the lack of adequate market facilities. It was only some fifty years later that proper buildings were erected. The lack of adequate provision of facilities and buildings for fulfilling the service and commercial functions of the town has been a feature of its nineteenth century growth and is, at the present time, one of the greatest handicaps under which the city labours.

During the latter half of the century the increase in population and size of the town was responsible for a spread of the shopping centre, principally along the newly expanding 'arms' of the town in Bull Street, Dale End and the upper half of New Street. Despite this increase in size it is doubtful whether, by the end of the century, Birmingham was, to any great extent, a particularly attractive shopping centre in its own right. Limitations of transport still imposed severe restrictions on the development of retail 'spheres of influence'. There is no doubt, though, that on market days the Birmingham shops were at their busiest and there was probably little difference in extent between the circulation area of the markets and the sphere of influence of the shops. Thomas Lawrence of Birmingham, haberdasher, was already in 1755 receiving orders from many neighbouring towns including

Rugeley and Lichfield and business enquiries from as far away as Cheshire.¹

It remains to consider, finally, Birmingham's development during the century as a centre providing amenities and cultural facilities and the extent to which its growth in size, population, wealth and trade was matched by its responsibilities for the administration of the surrounding districts.

The town had long possessed a Grammar School² which was growing in wealth as a result of the increase in value of its land and property in and around the town. Despite its increase in revenue the school was in decay at the end of the century and, by 1825, could count no more than approximately 100 scholars.³ It was not until 1830 that first steps were taken to improve the accommodation and organisation of the school and not until 1878 that comprehensive reforms resulted in the entire remodelling of the school's organisation.⁴ By the end of the eighteenth century a number of schools and academies of various types had grown up in and around Birmingham. Most of them were small and designed to meet purely local demands. Beyond their names and, in a few cases, an outline syllabus⁵

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1. B.R.L. 382110. Accounts of T. Lawrence of High Street, Birmingham, 1755.
 2. Founded in 1552.
 3. Dent, *The Making of Birmingham*, (1894), p. 322.
 4. *Ibid.*, p. 547.
 5. Printed in advertisements in *Aris's Gazette*. See for example the *Gazette* for January 24th, 1785.

little is known about the majority of them. A very few of the local schools are known to have achieved national regard and catered for students from a wider area. Outstanding among these are the successive schools established by Thomas Wright Hill and his sons Matthew Davenport and Rowland Hill.¹ The first of them was established at Hill Top near Birmingham about 1803. It was later removed to Hazelwood, near the Hagley Road, and, finally, in 1827, to Bruce Castle, Tottenham. The educational ideals of the Hills were in advance of their time. They set out new standards for the education of young people and experimented continually in an attempt to discover new and improved approaches and techniques for use in the teaching of many subjects, including Geography. Other experiments included the elaboration of a curious system of government, with a constitution and code of laws which left a large proportion of the administration of the school in the hands of the pupils. It was a system "impossible in Utopia which next succeeded in Birmingham". The school founded its own magazine and the numerous publications of Matthew Davenport Hill² helped to make its fame widely known. It was visited by many national figures and, according to Dent, "many

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1. Vide An Early Nineteenth Century Experiment in the Teaching of Geography, by the present writer. Geography, 33, pp. 17-21.
 2. In particular M.D. Hill, Public Education: Plans for the Government and Liberal Instruction of Boys in Large Numbers, 2nd edition, 1825.

of the leading men of liberal opinions" sent their children to it as pupils.¹

With the exception of the Grammar School and the establishments of the Hills, the schools of Birmingham did not, however, add very much to the distinction or to the amenities of the town. All but Hill Top school and a limited number of less advanced private academies catered only for local pupils. By 1827 there was accommodation in the public schools of the town for 14,099.² There were, however, other educational institutions of a non-scholastic character. The first Birmingham Library was founded in 1779.³ So small and insignificant was it that its entire collection of books was housed, for the first years of its existence, in an old fashioned corner cupboard in a house in Snow Hill. The Library was, at first, open for only one hour each morning, and as might be expected, made, for many years, but a very small impression on the intellectual life of Birmingham. By 1786 the total number of volumes had risen to 1,000 and by 1787 some indication of its slowly growing influence is seen in the resolution "that those Subscribers who live One Mile from the town be allowed one Day extra for the return of a Book, and those who live at the distance of Two Miles be allowed two Days extra".⁴ New premises

1. Making of Birmingham, p. 320.

2. Hutton's History of Birmingham. Edition of 1827. The development of educational services in nineteenth century Birmingham was considered by the present writer in a dissertation presented in the Department of Education in the University of Birmingham in June 1940.

3. Dent, Old and New Birmingham, p. 98.

4. Ibid, p. 201.

to house the 3,400 volumes were opened in Upper Priory in 1790, the facilities for borrowing improved and a Reading Room opened while in 1797 a newly built Library building was opened in Union Street.

The establishment of a Philosophical Society in 1800¹ was followed during the first early decades of the new century by the inauguration of other educational societies. In 1812 the Philosophical Society had equipped itself with Lecture and Exhibition Rooms in Cannon Street. The Mechanics Institution, commenced in 1825, and the Society of Arts established in 1821 were two of the more important of the new Institutions. The development of the educational institutions of Birmingham is largely, however, a nineteenth century story, and it was not until the latter part of that century that adequate provision for either elementary or adult education existed in the town.

In 1765, a project for the erection of a Hospital was entered upon,² a site on the north side of Birmingham was secured in 1767 and the erection of building began in 1768.³ The establishment of the hospital depended entirely on the subscriptions of local merchants and manufacturers and despite the support received from Charles Lloyd and others, the project languished for a time, and it was not until 1779 that the building was completed and the Hospital

1. The Making of Birmingham, p. 324.

2. Aris's Gazette, November 4th, 1765. The inaugurator of the project was Dr. John Ash.

3. Dent, The Making of Birmingham, p. 117.

opened to patients.

If it may be truly said that Birmingham languished in the provision of educational and health services, the same cannot be fully maintained in respect of its entertainments "Man", said Hutton, "seems formed for variety" and local entertainments had begun by 1800 to cater not only for the townspeople but also for visitors to Birmingham from the surrounding countryside. The first permanent theatre on the site of the present Theatre Royal commenced its career in 1774.¹ In addition "at a convenient distance from Birmingham, are Duddeston gardens, commonly called Vauxhall, where during the summer season, Musical Entertainments are exhibited after the manner of that near London. The gardens are well laid out, and the house affords good Entertainment. There is for amusement a fine bowling green, billiard table etc."² There was, too, the Cockfighting for it was at Duddeston that the Gentlemen of Warwickshire, Worcestershire, Herefordshire and Shropshire met frequently to indulge in a Main.³ Birmingham had, furthermore, its "Society of Cricket players" who were willing to travel no less than 30 miles for a match of 20 Guineas a side.⁴

Musical concerts had for long been held in

Birmingham but the Musical Festival of 1768 marked the

1. R.D. Dent has exhaustive accounts of the theatrical history of Birmingham during this period in his volumes on The Making of Birmingham and Old and New Birmingham.
2. Pearson and Rollason, op.cit. p. XXIV.
3. Aris's Gazette, 1st June, 1747.
4. J.A. Langford, A Century of Birmingham Life, 1741-1841. 1, p. 88.

commencement of the series of Festivals which, in the early nineteenth century, were the most important of the provincial Festivals and of more than national fame. The immediate object of the first festival was the raising of funds for the General Hospital. A second followed in 1778 and in 1784 the first of the celebrated Triennial Festivals began.

It will be seen then, that by the end of the century the service functions of Birmingham were under development. The town possessed a newspaper which served a wide region, the local importance of its markets and wholesale services was of long standing. If its educational facilities were, in general, backward, the town provided instead, entertainment of varied character which gentlemen of the whole of the West Midlands were in the habit of attending. The centre of the town changed gradually in character. Retail shops and hotels replaced the workshops and factories of the small manufacturers.¹

At the same time, observers declared that "Birmingham is not a place a gentleman would chose to make a residence".² Its disadvantages included its "close population, the noxious effusion of various metallic trades and above all the continual smoke arising from the immense quantity of coals consumed".³ And, indeed,

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1. L.B. Recollections of New Street, Birmingham in the Year 1817.
 2. Grafton and Reddell, A Brief History of Birmingham, (1797), p. 4. This History is largely a re-edition of Hutton's earlier work.
 3. Ward's Directory of Birmingham, (1798), p. 4.

the more wealthy local manufacturers and merchants had by now acquired residences a mile or more away from the industrial town.

Despite the temporary depression through which industry and trade passed (with the chief exception of the gun manufacture) during the wartime period in the last decade of the century,¹ the foundations of the nineteenth century industrial prosperity were now laid. The nineteenth century staple industries of jewellery, gun, button and brass manufacture were now firmly established. Birmingham was developing as a commercial centre, providing an increasing variety of services for an expanding region. Birmingham was now the "busy depot and commercial metropolis" of the West Midland manufacturing district.

But its own local government remained in a backward state. Until after the passing of the Municipal Corporations Act and the granting of the Charter in 1838, the local administration remained in the hands of the manorial and parochial officials and of the Commissioners of the Streets. From a regional point of view, administrative power still rested in the hands of the older county towns in the valleys fringing the Birmingham plateau, and more than a century was yet to pass before Birmingham could

1. It is not proposed to enter into the economic history of this period which is dealt with fully in D.J. Davies, *Condition of England during the Revolutionary and Napoleonic Wars as illustrated by the history of Birmingham, 1789-1815*. Thesis in Birmingham University Library.

add to its other functions that of regional administration.

APPENDIX

A note on Local Directories as a source of study
for the development of Industry and Trade.

During the last four decades of the century a new source of information regarding the industrial and commercial life of Birmingham becomes available in the form of local Directories. Of the first such record, a 'Catalogue' of tradespeople compiled by Thomas Juxon in 1752¹ and of the first published Directory, which appeared in 1763, no trace now remains. A copy of the Third edition of this Directory is, fortunately, available in the Birmingham Reference Library.² In 1773, the 'New Birmingham Directory: and Gentlemen and Tradesman's Compleat Memorandum Book' was published by Miles Swinney, a well known local printer.³ Mrs. Ann Pearson and James Rollason were responsible for 'The Birmingham Directory or Merchant's and Tradesman's Useful Companion' published in 1777 and revised three years later. Bailey's western and Midland Counties Directory of 1783 has some mention of the town, while Charles Pye brought out a new Directory in 1785 with a new edition in 1787 and completely revised versions in 1791 and 1797. At the turn of the century the first of an important series of Directories by Thomas Chapman was in course of publication while, in 1800 also,

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1. Benjamin Walker, Birmingham Directories, Trans. B'ham. Arch. Soc. 58, (1937), pp. 2-3.
 2. James Sketchley's Birmingham, Wolverhampton and Walsall Directory, 1767.
 3. Benjamin Walker, op.cit., p. 17.

James Bisset brought out his celebrated and highly ornamental 'Poetic Survey and Directory of Birmingham'. Despite the magnificence of which Bisset boasted, this production contains the names of some three hundred manufacturers only and omitted to give their addresses.

The majority of the Directories published before 1800 consisted principally of lists of names and addresses classified under the chief trades and occupations, though some, including Pearson and Kollason's of 1777, supplied only a list arranged alphabetically. Additional information supplied often included a historical account of the town of doubtful veracity, details of the more important churches, public buildings and institutions and a list of the carriers and stage waggons plying for hire in the district. The histories were usually potted versions of Hatton¹ and are now of little value, but a certain amount of useful information concerning the type of product and the relative importance of trades is to be found in the accounts of leading industries. Thus, Sketchley's Directory of 1767, the earliest available, described the processes of the gun trade "it is necessary to observe the number of Hands they go thro' before compleated, viz., the Barrel Makers, who wiolds the Barrel, the Borer, the Filer, then 'tis proved, after this it goes to the Ruff Stocker; in the Lock Branch there is the

1. The first edition of William Hatton's History of Birmingham appeared in 1781.

Forger and Filer, and dependant on these are the Furniture Castor, the Engraver, Polisher and Finisher, who are the Gun and Pistol Makers".¹

The details of transport facilities afford a useful basis for a study of the communications of the West Midlands at this period, of which little opportunity has been made to the present time. Of even greater importance in a study of the growth of the town itself are the actual lists of persons engaged in each trade. It is possible from these to gauge the relative importance of trades and also to prepare distribution maps to illustrate the location and possible grouping of individual trades within the streets of Birmingham. A method has been devised whereby it has been possible to convert the lists of names and street numbers for each occupation into reasonably reliable distribution maps. Details of this method are given later.

Before considering the development of industry and the results obtained from plotting information supplied by Directories, some reservations must be made concerning the accuracy of this information. Doubts regarding this are raised by a comparison of Directories, for many discrepancies emerge when comparison of Directories of similar dates is made. So many discrepancies of this kind are to be found, in fact, as to exclude the possibility

1. Sketchley's Birmingham, Wolverhampton and Walsall Directory, (1767), pp. 30-31.

of a 'natural' explanation such as the presumption of death or migration from the district in the interval between the appearance of the Directories. Some light can be thrown on the quantitative accuracy of these sources by a knowledge of the methods employed in the original collection of information. Thomas Juxon, compiler of the first 'Catalogue' maintained an 'Office of Intelligence' at which persons were invited to register their names and occupations.¹ By 1752 he had obtained 'about two thousand' registrations.² Similar methods seem to have been employed by James Sketchley, proprietor of the Universal Register Office in High Street and compiler of the earliest Directory now available for study.³ The accuracy of Pearson and Rollason's production of 1777 was not allowed to pass unchallenged even in its own day. Three weeks after its date of publication Aris's Gazette was carrying an advertisement requesting that "those persons whose names are omitted, or are erroneously inserted ... are requested to send a line to the Publisher's and all possible Attention shall be given to make every Correction required". The Directory was then re-issued with a further list of twenty three firms added as an Appendix.⁴

Charles Pye, on the other hand, claimed, in the preface

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1. Benjamin Walker, op.cit., p. 2.
 2. Aris's Gazette, October 9th, 1752.
 3. Sketchley removed to Bristol in 1775, later producing the first published Directory of that city.
 4. Benjamin Walker, op.cit., p. 16.

to his Directory of 1785, that it had resulted from a personal canvass of the town. The same method was employed by Thomas Chapman, printer and compiler of a Directory issued in 1800. He claimed, in an advertisement, that he had arranged that every housekeeper in the town would be personally waited upon and that on no account would he "spurn at, or leave out, the poorest Artist or Mechanic".¹ Care in compilation did not, however, follow automatically with experience of publication, for Pye, in 1800, announcing the ending of his personal canvass method, declared that all who wished their names to appear must register at his office in Colmore Row and pay sixpence^c for the insertion.² It is not surprising to find that the results were disappointing, for the resulting publication contained only 12 pages of names compared with the 81 pages of the same compiler's 1797 issue.

It is clear, therefore, that the Directories cannot be treated as completely reliable sources for a study of the geography of late eighteenth century Birmingham. At the same time the information they contain is of positive value and although quantitative accuracy was often wanting, it is reasonable, from the point of view of plotting distributions, to suppose that the inaccuracies were relatively evenly distributed over the town as a whole.

The address of each manufacturer is given by

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1. Aris's Birmingham Gazette, November 3rd, 1800, cit. *ibid*, p. 29.
 2. *Ibid*, p. 20.

street and house number. In order to produce reasonably accurate distribution maps it was necessary, first, to obtain a rough guide to the position of each house (by house number) in the street. The numbering of houses was authorised by the First Streets Act, 1769¹ and appears to have become common usage within a few years.

It was found possible to prepare a rough guide for this purpose by an examination of the Assessments for the Poor Rate carried out in 1782. These were published for each of the six quarters of the town "that each person may have an opportunity of seeing and knowing how they themselves, and their neighbours, are circumstanced by the late assessment".² The assessments give the names of all the inhabitants assessed.

A perusal of these levies revealed that the levy had been made and the results published in the form of a traverse of the town and from the names of the streets given it was possible to follow through the direction of the traverse.

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1. Bunce and Vince, History of the Corporation of Birmingham, 1, pp. 75-80.
 2. Names of the Inhabitants with the rents of all the houses contained in the New Street Quarter as they stand rated by the new Assessment - printed by M. Swinney, 1782.
Names of the Inhabitants, etc., in the Edgbaston Street Quarter printed by Pearson and Kollason, 1782.
Names of the Inhabitants, etc., in the Digbeth Quarter printed by Piercy and Jones, 1782.
Names of the Inhabitants, etc., in the Dale End Quarter printed by M. Swinney, 1782.
Names of the Inhabitants, etc., in the Middle Town Quarter printed by Pearson and Kollason, 1782.
A List of the Rents of the Houses in Bull Street Quarter printed by Piercy and Jones, 1782.

The levies provide no detail regarding occupation and none concerning the house number of persons mentioned.

The next stage consisted of the identification of persons named in the Levies by reference to contemporary Directories. The Birmingham and District Directory printed by Pearson and Rollason in 1781 was used for this purpose as being the nearest available in date. It was found possible by comparison of Directory and Levy Book to identify an adequate number of persons mentioned in the traverse, by house number. By correlating the direction of traverse with the known house numbers it was then possible to build up a provisional map of the position of all the key house numbers. In particular an attempt was made to identify the numbers of all corner sites, and the first and last numbers in each street. Once these were known intermediate numbers could be filled in with reasonable accuracy.

Investigation of the present system of house numbering in central Birmingham revealed that many streets, particularly those in the older quarters of the town still retain their eighteenth century method of numbering largely unaltered. It should be noted that all original numbering was carried out on the 'consecutive' system, i.e., houses were numbered consecutively from 1 to say 100 on one side of the street and from 101 to say 200 on the other but in the reverse direction.

Thus both even and odd numbers appear on the same side of the street and the highest number is approximately opposite to the lowest. By means of a survey of streets still numbered in this method it was possible to confirm the results obtained from Stages 1 and 2. In the majority of cases the results obtained from the earlier stages were found to be reasonably accurate.

For a limited area of the New Street Quarter only, confirmation was possible by reference to Jas. Sherrif's detailed plan of part of New Street and High Street, 1789, which shows the location and ownership of those parcels of land adjoining the principal streets. By a process of cross reference between plan, directory and levy book a 'fix' of the position of house numbers was obtained.

The next stage was concerned with the checking of the provisional map for those streets in which the original system had been, either, seriously modified by new building, demolition, etc., or had been completely changed to the more modern alternate method of numbering (in which even numbers appear on one side of the street

and odd numbers on the opposite side). Through the kindness of Mr. H.J. Manzoni the City Engineer and Surveyor, access was given to the writer to the records of changes in numbering maintained by the Public Lighting Department of the Corporation. These date from August 12th, 1878.¹ A survey was therefore made of the present house numbers in these streets and the results were later converted by reference to the changes shown in the record books of the Public Lighting Department to show the system in use prior to 1878. In a number of streets it was found that this was in fact the original 'consecutive' system of numbering. Again check against the original map prepared from Stage 1 revealed the fair accuracy of the information obtained from the Poor Rate Levies.

The map of key house numbers for Birmingham in 1780 was compounded from these Stages and formed the basis for the distribution maps of trades and industries.

It is not pretended that the distribution maps give complete accuracy for any particular workshop or factory. In many cases the directory information is inadequate for this purpose, while for some streets reliable information concerning house numbers is impossible to obtain. Equally, another person working through the same process of inquiry in Directories and Rate Books might conceivably come to a different conclusion regarding the

1. My thanks are due to Mr. Manzoni for his assistance in this and in other ways, and also to Mr. A.K. Brown of the Public Lighting Department who gave valuable assistance with the detailed work in the Record Books.

position of house numbers in the streets.

While, therefore, individual accuracy is not guaranteed for each and every symbol, it is thought that by working on a systematic plan the general pattern of industry revealed is reasonably close to the truth. This is important, particularly, in studying those trades in which a high degree of localisation was, or was to become, characteristic.

SUMMARY

BIRMINGHAM AND THE CHANGING REGIONAL PATTERN
DURING THE EIGHTEENTH CENTURY

THE CHANGING REGIONAL PATTERN DURING THE EIGHTEENTH CENTURY

by

M. J. WISE, M.C., B.A. ~~and B. L. C. JOHNSON, B.A.~~

Department of Geography, University of Birmingham.



*Reprinted from "Birmingham and its Regional Setting."
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IN medieval times the principal centres of importance in the district had lain around the edge of the Birmingham Plateau. Between them, Warwick, Worcester and Stafford shared the administration of the intervening upland. Worcester, Coventry and Lichfield had been the principal ecclesiastical centres, Coventry a major seat of the woollen industry. Within the Plateau, settlement had been relatively sparse ; in many parts waste and woodland were still widespread ; towns were of only local importance.

But by 1700 the seeds of industrial change, sown during the preceding hundred years, were sprouting fast. In South Staffordshire, the growth of a population of miners and metal workers gave impetus to the development of new villages and small towns. Colonies of nailers and miners, such as Lye and Gornal, gathered on the waste. Older market towns with leather and textile industries began to emerge as nerve centres of the growing iron trades. Outstripping all in the growth of its manufacturing industries, its commerce and its regional associations was Birmingham.

At the opening of the century regional differentiation of industry was still influenced principally by the local availability of coal, iron and waterpower. Coal workings clung closely to the outcrop of the principal seams. Primary producers of raw and refined iron, on the other hand, were to be found on waterpower sites in and around the edge of the Plateau. Particular concentrations were found on the western edge where proximity to the Severn waterway proved an added advantage. Around the margins of the coalfield were the cottages and workshops of the nailers.

The story of the eighteenth century is the story of the transformation of this regional pattern. In the first place, the town of Birmingham arose as the home, not only of industry, but of commerce and trade ; it became a centre providing services and facilities for a widening region, gradually outshining in importance the earlier centres around the Plateau edge. Secondly, within the increasingly populous manufacturing district the substitution of coal for charcoal and the development of steam power also wrought striking changes in the local regional pattern.

By the end of the century the changes were by no means complete. But the new pattern was well established. The coalfield was flourishing and on it primary industry had gathered. The scatter of settlement was concentrating into a cluster of quickly

growing industrial townships ; fields and commons disappeared as pit banks and furnace heaps spread and as the atmosphere grew smokier and more foul. The Black Country was emergent.

THE SOUTH STAFFORDSHIRE COALFIELD¹

At the beginning of the eighteenth century South Staffordshire remained predominantly rural. Industrialisation was only just beginning to leave its mark on the face of the landscape. It is true that mining had been carried on in the area for some hundreds of years. The Stour and Tame streams provided power for furnaces and forges, slitting and blade mills. South Staffordshire nails and pattens were finding a ready market in East Anglia and the south of England. Yet the land was not yet a Black Country, nor did it become so for another hundred years. As the eighteenth century advanced the transformation of the scene proceeded ; in turn the features now characteristic of the Black Country were imposed on the countryside—mines, furnaces, manufactories, canals.

Coal mining and its distribution

Mining operations in 1700 were still confined largely to those areas worked since medieval times. Difficulties of drainage and of raising minerals from any great depth effectively restricted mining operations to the districts where the seams outcropped or were shallow enough to permit of working by bellpit or openwork methods. Coal-mining was by far the most important of the extractive industries, and ironstone and fireclay could, indeed, often be won from the same workings.

While upwards of nine coal seams are recognised in the South Staffordshire coalfield it was the Thick Coal (or the Ten Yard or Thirty Foot seam as it was often called) on which the early prosperity of the district was based. This was the richest and thickest coal seam in the whole country : it outcropped regularly over wide areas both in the northern and southern sections of the coalfield. In the north of the coalfield the Thick Coal stretched in a wide arc from Dudley, through Tipton and Coseley to Bilston and then east and south to Wednesbury. In the southern sector the Thick Coal outcropped in a loop around the Netherton anticline and in more limited areas near Gornal and Stourbridge (Fig. 45).

The presence of the Thick Coal has been the most important single feature influencing the growth to prosperity of this industrial district. In the early eighteenth century the relatively large quantity of coal which could be got from the wide outcrop of so thick a measure kept mining costs at a minimum and contributed in no small way to the concentration of coal-using smithies in the area by 1700.

Dr. Plot's account of Staffordshire published in 1686² describes in detail the methods of coal mining in his day and can be corroborated by reference to contemporary sources. Near Wednesbury the coal lay almost horizontal at or close to the surface.

¹ By B. L. C. Johnson.

² PLOT, R. *Natural History of Staffordshire*. (1686). 129 *et seq.*

Here, said Plot, "workmen rid off the earth and dig the coal under their feet and carry it out in wheelbarrows there being no need of windlass, roap or corf, whence these sorts of coale works are commonly called 'foot-ridds' or 'foot-rills'." In the Netherton district, on the other hand, mining could be undertaken with ease at points where the steeply dipping coal seams outcropped on the hillsides. Difficulties began when shafts had to be sunk to any depth, a process which involved, in addition to the initial capital outlay, the expense of hauling coal to the surface and freeing the mines from water. On the other hand, the better quality coal was almost invariably obtained from deep mines and the evidence of Dud Dudley's *Mettallum Martis* suggests that already some pits were 'eight unto twenty yards' and others up to forty yards in depth. But whereas the nature of the Thick Coal had been a boon to the opencast miner, it was a mixed blessing to the deep miner, for the very thickness of it created a new set of problems. To meet these was introduced the pillar and stall method, in which large pillars of coal were left standing to support the roof, while the coal was removed from the intervening spaces. On account of the brittleness of much of the Thick Coal a great quantity of slack resulted and was left below ground. The Thick Coal was usually worked from the base upwards, the upper layers being undercut and finally levered down: the saleable coal was raised up the shaft on a crude platform, the slack left below ground. The heaps of underground slack, though often useful in providing platforms from which the upper layers of coal could be reached, were prone to spontaneous combustion and formed the starting point of many of the 'wild-fires' which consumed acres of coal below ground. Plot described how, near Wednesbury, "the coalworks now on fire take up eleven acres of ground."

The size and underground extent of these early mines does not appear to have been great. In a mining plan of a portion of Darlaston, of about 1750, shafts are closely spaced, not more than about 50 yards apart (Fig. 35). An area of about six acres contained 23 pits of which seven were shown as 'in work.' The risk of fire below ground was one reason for the small size of pits. Ventilation was often kept to a minimum to reduce the chances of spontaneous combustion. A century later authorities were prescribing more ventilation in order to prevent it. Each pit was worked as a unit from the one shaft, and 'fire ribs' of unworked coal were left between individual workings. Much coal was thus left underground though attempts were often made to extract the 'ribs' before finally abandoning the pit.

Firedamp did not interfere with mining operations to the extent that it did elsewhere in Britain. The Thick Coal has always been considered a 'safe' coal and possibly the height of the worked-out stalls relative to the area worked by one shaft prevented serious concentrations. It was a not unusual practice to lower a lighted brazier down the shaft or to push a lighted candle on a long pole into the workings to explode any concentrated gas before the day's work began. Gas at the Earl of Dudley's pits at Netherton was fired three times daily.¹ The development of deep mining, made possible

¹ GALLOWAY, R. *History of Coal Mining*. (1882). 139.

by the introduction of improved engines towards the end of the century, necessitated improved methods of ventilation. This was achieved by the creation of a through draught between two shafts, often augmented by the installation of a furnace at the foot of the upcast shaft.

Perhaps the principal obstacle to mining in South Staffordshire has always been the liability of the pits to flooding, and the efficiency of drainage methods was at this period a major factor limiting the depth of mines. In Plot's time, two methods of keeping the workings dry were in use and both were maintained throughout the century, often side by side with later invention. The first, the 'sough', was suited to openworks or shallow mines wherever the slope of the ground permitted. A ditch "as deep as the coal" was cut from the lowest part of the working down hill to carry the water off at the surface at a lower level. Where the overburden was too great an 'adit' was driven in a similar manner. The 'sough' method was more economical than the 'gin' by which water was hauled to the surface by man or horse power.

Drainage problems became more acute as mining spread away from the outcrop. No legal protection seems to have existed against the practice of draining water off from higher into lower lying pits. In fact, an advertisement in *Aris's Birmingham Gazette* of 1759 stated frankly, in reference to the offer for sale of coalbearing land at Netherton, that "as the coal work of the present Lord Ward on the other side is now coming near it [the land in question], it is presumed that will drain off the water without any expense to the purchaser." In 1755, the same paper recorded the "drowning out" of coal works at Wednesbury, a place which had been the scene of early experiments in pumping. In 1706 an attempt was made, using a Savery engine, to drain Broadwaters, which was seeping into the Wednesbury pits, but the engine proved inadequate. Another trial was made in 1739 at Wednesbury Old Field. Savery's engine suffered from its inability to draw from depths greater than 26 feet. Newcomen's atmospheric engine, in use from 1712, proved more efficient and engines of this type remained in use in the coalfield into the following century. Even with the application of the Watt engine after 1776 the battle against water was not won and the struggle continued throughout the nineteenth century, until water difficulties became a major factor influencing the abandonment of large stretches of the coalfield.

Increases in depth of mining brought problems of raising coal to the surface. In open workings the coal was removed by barrows or directly by packhorses. Though horse gins remained in use into the nineteenth century, both Newcomen and Watt engines were applied to the problem of raising coal from deep mines. Improved pumping methods played their part also, for barrels of water were often used as a counterweight to assist in drawing coal to the surface, the water then being pumped out.

By 1750 mining had extended into almost all the districts where the Thick Coal was present at or near to the surface, and other seams were utilised. Of all South Staffordshire towns, one name outshines all others in connection with the coal trade—Wednesbury, famed for the quality of its coals. Among the more important centres in

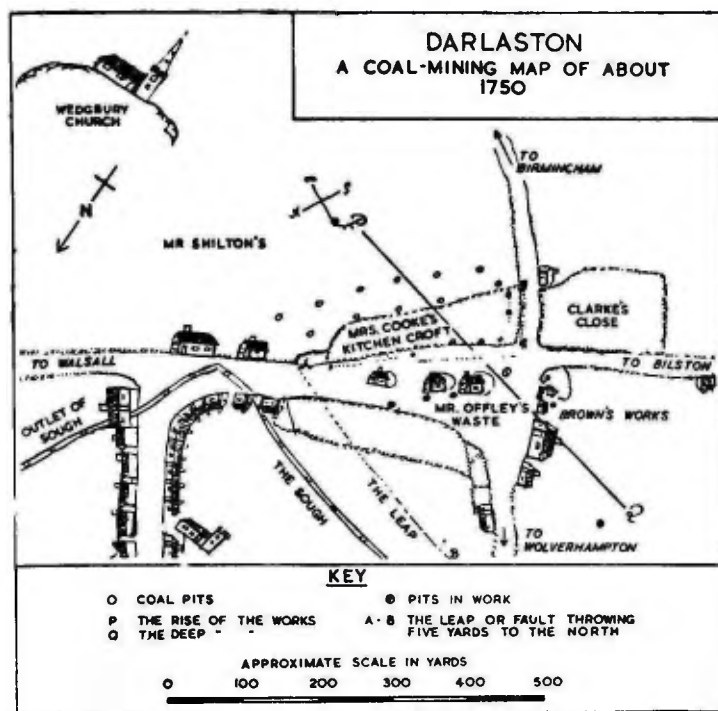


Fig. 35

Fig. 35 and the letter which accompanies the original map, give an insight into mining problems of the 1750's. The writer is attempting to persuade his master against starting mining in Clarke's Close while leaving ungot coal in Offley's Waste, between the coal works of Mrs. Cooke and Brown. His reasons are firstly that "notwithstanding their own coal is all got," Mrs. Cooke and Brown would be likely to take coal undetected from either side of the rib left under the waste, and secondly that if mining begins up the dip in Clarke's Close, the existing works on the Waste will be in danger of being flooded.

He recommends that a rib be left 15 yards broad under the lane between Kitchen Croft and Clarke's Close to protect the latter from water seeping down the dip from Kitchen Croft, and that "a pit be sunk in the lane leading to Birmingham, and that they drive a head by the lane side along Mrs. Cooke's hedge, to prevent . . . her getting coal under the lane . . . for I understand she's one that will lose nothing she can get by any means fare or fowl."

The sough was probably of the adit type, draining the coal on the downthrow side of the fault.

the north-eastern sector of the coalfield were Tipton, Ettingshall, Coseley, Bradley and the districts near Walsall, while in the south-western sector, Netherton, Stourbridge, Pensnett, Brierley Hill, Lye and Shut End were also engaged in mining.

The end of the seventeenth century saw coal being used in an increasing number of industries and finding an expanding market among domestic consumers. Plot praised the 'common coal' of Wednesbury, Dudley and Sedgley as being the best for kitchens, and fit even for the parlour and the bedchamber. Industrially, coal was in demand for glass-houses, salt works and brickmaking. Though unsuited to refining pig iron, coal was used for drawing refined blooms of cold-short iron into bars. Better quality iron was still drawn, however, in a charcoal forge. The slitting mills producing rod iron for the nailmakers relied upon coal, and they, together with the nail smithies, comprised an important market. The only estimate of the quantity of coal produced is based upon that of Dud Dudley which can be interpreted as anything between 24,000 and 70,000 tons per annum. The Stour slitting mills and forges alone consumed probably 1,000 tons.

How far the market for South Staffordshire coal extended beyond the confines of the coalfield has not yet been firmly established. The Birmingham smiths and cutlers certainly used it. Iron works in Cannock are known to have bought high quality coal from Wednesbury at 13/- the stack, inclusive of transport, in preference to local coal at 5/6 which was bought for domestic use only. The price of coal varied considerably from place to place, transport costs soon exceeding the price of the coal at the mine.

Thus, in 1699, Cradley Forge, very near to the outcrop of the Thick Coal, had its coal at 5½d. per horse-load, Cookley Slitting Mill (five miles from the nearest outcrop) at 12d., Wildon' Forge and Mill at 14d. In this south-western corner of the region, coal from Shropshire and the Wyre Forest field, transported via the river Severn, came into competition with the nearer but land-carried coal. Wildon, for instance, had coal from both sources. On land, wagons and packhorses carried the coal (a wagon carrying a little over ten horse-loads). Plot speaks of the condition of the roads "about Wednesbury, Sedgley and Dudley where they are incessantly worn by the carriage of coale," presumably by wagon. To the east and south, Wednesbury coal found a market as far afield as Coventry and the rural areas of the south Midlands and the Home Counties.

The mining of ironstone

Several seams of ironstone are found in South Staffordshire, all of which have been worked in various parts of the field. The most consistent and widely worked is the Gubbins Ironstone, which occurs just beneath the Thick Coal. Normally ironstone was worked in conjunction with the coal seams near it. There is evidence to show that while ironstone was worked in many localities in this earlier period (Halesowen, Dudley, Ettingshall, Pensnett, Gornal, Walsall and Rushall, etc.), the main source was Wednesbury. For example, Halesowen Furnace between 1730-40 drew over 8,000 'blooms' (? about 1,070 tons) of ironstone from Wednesbury, nearly two-thirds of the total bought, the rest being obtained mainly from the Bufferies (south of Dudley), Coseley and Darlaston (Fig. 36).² Comparable figures for Aston Furnace in the 1750's show an even greater dominance of Wednesbury and Darlaston.

For the most part the ores were not of high grade (25%-40% iron) and were suited only for making 'coldshort' and 'blend' iron for the nail trade. Plot claimed the Rushall ores as the best and capable of smelting into 'tough' iron. Output during the first two or three decades of the eighteenth century would only have been on the scale necessary to supply, at most, half-a-dozen furnaces of an annual output totalling, perhaps, 2,250 tons of pig iron, requiring at a modest estimate 7-8,000 tons of ironstone. During the latter half of the century production increased sharply with the introduction of coke-smelting and the expansion of the iron industry. Writing in 1798, James Keir stated, "the quantity of ironstone now got is sufficient to keep in work about fourteen smelting furnaces in the coal country, which produce annually about 18,000 tons of pig iron."

Fireclay /

Although today half-a-dozen seams of fireclay are worked at different places, mainly in the south-western portion of the coalfield, up to about 1830 only the uppermost, or Old Mine Clay was of commercial importance. Scott described the area in which the clay was found as an oval, one mile wide by a mile and a half long, with Lye nearly

¹ Now spelt Wilden.

² Information based on MSS Account books in Kidderminster Public Library.

at its centre.' (Fig. 46). This area enclosed the localities known to have been yielding clay during the late seventeenth and the eighteenth centuries. Here the Old Mine Clay lies, on an average, some 45 feet below the Thick Coal. In the vicinity of Lye, the clay is brought to the surface on the flanks of the Netherton anticline, to the west of which it is preserved in a small syncline running from Hungary Hill, on the outskirts of Stourbridge, north-eastwards across the Stour towards Brierley Hill. This small basin, and the northern flank of the Peter's Hill anticline running through Amblecote, comprised Scott's area. Early manuscript references to workings in the seventeenth century show that clay was being got from Lye and the Worcestershire banks of the Stour immediately to the north, while Plot picked out the clay of Amblecote for special praise. There is evidence to suggest that this small area in the south-west corner of the coalfield did not enjoy a complete monopoly of clay production, and that clay mining spread north-eastward in the last quarter of the eighteenth century—a movement probably linked with the spread of coal mining away from the outcrop, resulting in the discovery of other fireclay seams, and with an increasing demand for fireclay. Coal and clay are commonly 'got' together from the same shaft even today.

Throughout the eighteenth century there was a steady demand for Stourbridge fireclay, both locally in the glass industry (for which the best quality clay is ideally suited for making glasshouse pots), and further afield in the glass and metal smelting industries generally. Bristol, London and Newcastle glasshouses obtained clay from Stourbridge via Bewdley and the Severn waterway. Plot stated that some went by wagon to London. The iron and copper industries were other important consumers. Elmbridge iron furnace in Gloucestershire had ten cwt. of clay with which to effect repairs in 1710, while Rugeley Slitting Mill had "clay from Stourbridge for a new furnace" in 1696; Abraham Darby at Coalbrookdale² and Huntsman at Sheffield³ used Stourbridge clay.

For the most part the clay was despatched in the raw state in hogsheads, since for some purposes, particularly for glasshouse pots, it was much simpler to build the finished article where it had to be used, than to transport such fragile merchandise by road and river. 'White bricks,' presumably firebricks, do, however, figure in the manuscripts dealing with the fireclay trade.⁴ Production by 1798 was about 4,000 tons annually.

The reputation gained for Stourbridge clay and bricks persists to the present day, when manufacturers, several miles distant from the original home of the industry borrow the name to denote a definite quality of refractory.

Other extractive industries

Though lacking Carboniferous Limestone, South Staffordshire has been fortunate in possessing limestone of Silurian age. In Dud Dudley's time the local limestone was

¹ SCOTT, W. *Stourbridge and its Vicinity*. (1832). 473 *et seq.*

² MSS. *Accounts of the Coalbrookdale Company*. (Shrewsbury Public Library).

³ ASHTON, T. S. *Iron and Steel in the Industrial Revolution*. (1924). 54.

⁴ *Milward Family Collections* (in the possession of Alderman H. E. Palfrey of Stourbridge).

being burned for lime for agricultural and building purposes, but its use in the iron industry was relatively unimportant until the middle of the eighteenth century. By 1686, Dudley Castle Hill, Sedgley Beacon and the Silurian outcrop near Walsall had noteworthy quarries.

Other minor industries included the quarrying of sandstones. Gornal and Sedgley produced coarse quality grindstones from the Middle Coal Measures for use by the Birmingham edgetool industry. Finer quality grindstones were produced at Bilston. Other Coal Measure sandstones, as at Himley and Halesowen, were in demand for furnace hearths. The Triassic sandstones as well as the celebrated orange sands of Bilston were extensively quarried for use in metal casting.

The Manufacturing Industries

Iron. The most characteristic and the most constant manufacturing industries of South Staffordshire over the past 400 years have been those engaged in working iron into a miscellany of finished articles. Primary production of pig iron has undergone much greater changes in fortune and in location than have the finishing trades, taken as a group. An attempt will be made to sketch the background of the iron industry at the opening and at the close of the eighteenth century—at the height of the charcoal iron period, and after its decline, when coke-smelting had become firmly established. From 1758 charcoal and coke smelting persisted side by side in the region for some thirty years until one by one the charcoal furnaces gave up the uneven struggle, the last to go being Aston Furnace in 1788. At no time during the eighteenth century was the region self-sufficient in pig iron production. On the contrary, the available manuscript evidence strongly supports the view that normally more pig iron was brought into the district than was smelted on the spot. This was certainly the case during the charcoal period, and it is doubtful if the coke furnace output was adequate to the demand until the second or third decade of the nineteenth century.

The Charcoal Iron Industry

In 1717 five furnaces were recorded¹ as existing within or on the flanks of the Birmingham Plateau. These were Trescot Grange (near Wolverhampton), Hales (now Halesowen), Cradley, Aston and Pool Bank (near Coleshill). In addition, a sixth was operating during this period at Rushall near Walsall. Of the six only two, Cradley and Hales, lay within the coalfield. In general, close proximity to iron ore was not a primary location factor, though the presence of unusually good ironstone at Rushall may have been significant in that case. Nor was the local availability of charcoal as important a factor as has been suggested by some writers. Furnace accounts for Hales reveal that charcoal was obtained over a wide area, from places as far apart as Kingsbury, on the Tame, Lapworth in the Arden region and Glazeley, west of the Severn (Fig. 36). Grange Furnace drew its supplies from areas well to the north and west of the coalfield. Perhaps the most significant location factor was the availability of water power.

¹ HULME, E. W. *Statistical History of the Iron Trade of England and Wales, 1717-1750. Trans. Newcomen Soc.* 9. (1928-9). 12-35.

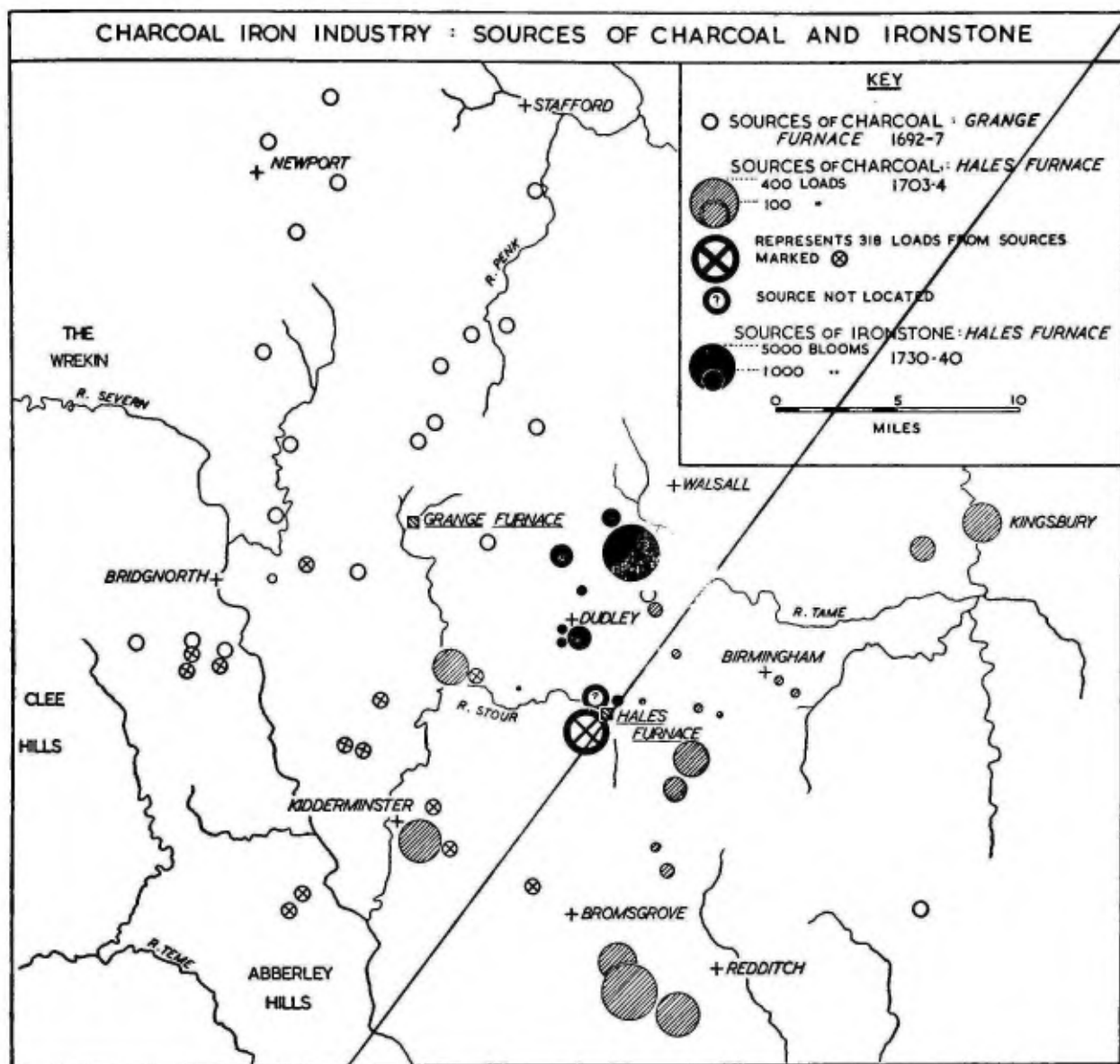


Fig. 36

A steady flow of water for as long a period as possible was necessary to ensure uninterrupted production.

The estimated output of the 1717 furnaces was 1,850 tons of pig iron. Hales was the largest with 500 tons per annum, Cradley the smallest with 200 (Fig. 37). The estimated production of the forges of the district at the same date was 2,740 tons of bar iron, which represented a pig-iron consuming capacity of some 3,800 tons. On balance, therefore, the district was an importer of pig iron. Probably the largest partnership in the trade, controlling Hales and Grange furnaces in addition to furnaces, forges and slitting mills on the Stour, imported each year more than 1,000 tons of pig iron from its own furnaces in the Forest of Dean, as well as small quantities from Shropshire to supplement local supplies. Cannock forge and others on the northern fringe of the

district obtained pig iron mainly from North Staffordshire and despatched the refined iron either as bar iron, or to a greater extent as rod iron after slitting at Rugeley mill, to the growing market in Birmingham and South Staffordshire (Fig. 38).

It should be remembered that the need to import pig iron was due not so much to the inadequate output of local furnaces but to their inability, due to the low grade of the local ore, to produce the higher qualities demanded. The majority of local ores produced only second or third grade iron, the 'blend metal' and 'cold shear' (or 'cold short') of Plot. Most of the imported iron was 'tough' metal indispensable to those industries such as the edge tool trade requiring a more malleable and versatile material.

We have, then, a picture of a few furnaces and many more forges and slitting mills, situated along the streams on the edge of the Birmingham Plateau to west, north and south, and in the Tame valley. These works drew their raw materials both from inside and outside the district and supplied the varied needs of the rising manufacturing industries of Birmingham and its vicinity.

Like the furnaces, forges and slitting mills depended on water power, though they were less restricted in their choice of fuel. The slitting mill, employed in conversion of bar iron into rods, could use coal for reheating the bars to the required plasticity. For a slitting mill, a water power site adjacent to the coalfield and to the forge, with good communication to its market (principally the nailers), was ideal. Some slitting mills shared the same site as a forge, or were very close to one. Charcoal was used exclusively in the finery process in the forge, but for the 'chafery' in which the refined bloom iron was hammered and drawn out into bars, coal could be used at any rate for the 'cold short' iron, the type chiefly required by the nailmakers.

Most of the bar iron found its way to the slitting mills, usually only the better grades being retailed as 'merchant bar.' Localities sending merchant bar and bloom iron to the region were widely scattered. Supplies came from North Staffordshire and south Derbyshire, and from the Welsh Border country to the west, from central Shropshire and the Forest of Dean and from as far away as Blackpool Forge, near Milford Haven, and Sussex.

The significance of the navigable Severn to Midland industry in general and to the iron trade in particular can hardly be over-emphasised. The accounts of Wildon forge bear out the comparative cheapness of water as opposed to land transport. Land carriage of pig iron from Halesowen to Wildon (12 miles) cost 7s. per ton in 1692 whereas, by water, the same charge covered the 80 mile journey from the Wye at Redbrook. Similarly the cost of sending rods from Wildon to Bristol by water (6s.) was only half that of land carriage to Birmingham. Proximity to the Severn no doubt accounted for the greater concentration of forges and slitting mills on the Stour and its tributary, the Smestow Brook, than on the Tame. The Stour valley was the most important primary manufacturing area of the whole Plateau.

The manuscript accounts, from which much of this information on the iron trade has been derived, give some indication of the relative importance in so far as the iron

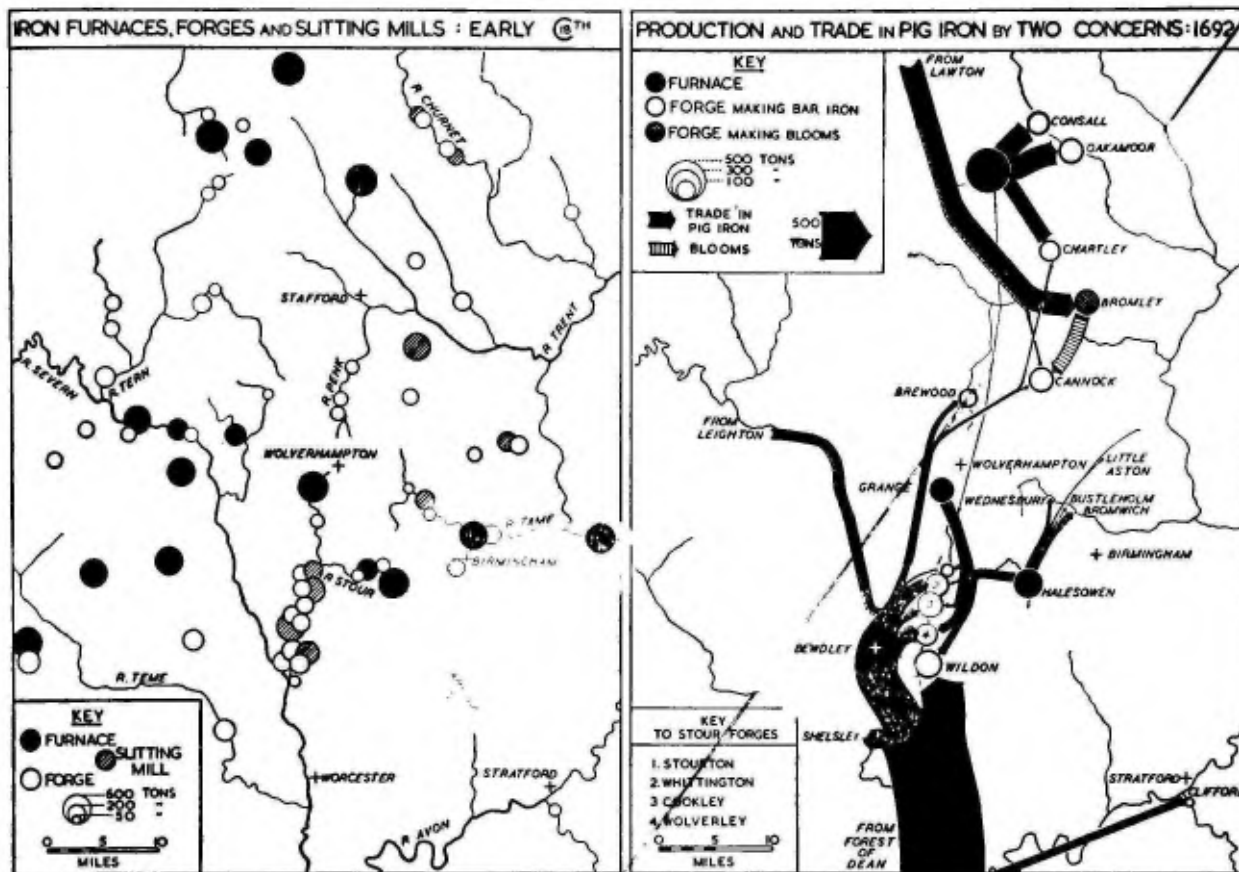


Fig. 37

Fig. 38¹

trade is concerned, of the towns of the district. Whether one considers the disposal of bar and rod iron by Cannock forge and Rugeley Mill, or by the several forges and mills on the Stour (Fig. 37), Birmingham stands out as the principal town to which iron was sent, with Stourbridge, Wednesbury, Wolverhampton and Dudley high on the list, and a lesser group including Walsall, Willenhall, West Bromwich, Kingswinford and Tipton. The pre-eminence of certain towns does not necessarily mean that they were equally important in iron manufacturing industries, but rather that they were the chief markets for the sale of raw materials to nail masters and others in the vicinity.

Of the trades based on the products of the forge and mill, that of nail making probably employed a greater number of people than any other. Dud Dudley reported the distress prevailing among the 20,000 smiths within ten miles of Dudley Castle, and Plot suggested that at least 2,000 were engaged in the trade in Sedgley parish. The making of edgetools in the region was important before the eighteenth century, and persists today. Blade-mills for grinding scythes, axes and the like, were set up, or converted from corn mills, on the Stour, Tame and smaller streams. While the nail

¹ Fig. 38 has been compiled from the accounts of two related partnerships in the iron trade, the 'Staffordshire works' operating Mearheath Furnace, forges and slitting mills in North Staffordshire and the Cannock area, and the larger concern already mentioned. The thanks of the author are due to Major H. T. H. Foley of Stoke Edith, for permission to examine MSS. material in his possession, in particular the account books of Paul and Philip Foley, who were prominent partners in the larger of the concerns mentioned.

trade was widely scattered, needing only a small hearth and a supply of coal for its existence, the edgetool industry was probably more localised. Gornal, Wordsley and Belbroughton had early connections with scythe making, the present trade of the latter with the United States, having its counterpart in 1697 in the shipping of scythes to New England. Specialisation by Wolverhampton in lock making, and by Walsall in saddlers' ironmongery was sufficiently noteworthy to attract comment from Plot.

The eighteenth century saw the rapid expansion of all iron-using trades, and their further localisation will be considered later.

The Coke-Iron Industry

The changeover from charcoal to coke smelting in the Black Country was a gradual one. True, the capacity of the furnaces increased from c.1,850 tons in 1717 to at least 13,210 tons per annum in 1796, but even greater expansion was to come in the early nineteenth century. Meanwhile, the import of pig iron from other areas continued on an increasing scale, particularly from the Coalbrookdale region, the Forest of Dean, South Wales and Lancashire. Other suppliers included Scotland and the American colonies.

Canal development, from 1766 onwards, facilitated the assembly of raw materials and the despatch of finished iron on the greatly increased scale of the coke-smelting period. Almost every one of the fourteen furnaces in existence in 1796 was situated on a canal basin.

Coal did not enter into the refining processes except on the restricted scale already referred to, until some time after Cort's discovery of the 'puddling' process in 1784. Refining of coke-smelted pig in charcoal forges continued well into the next century, receiving its greatest blow in John Hall's revolutionary invention of 'pig-boiling.' Thus the life of the water powered forges of the district was prolonged, though from 1784 the steam forge began to influence location. Similarly, the slitting mills persisted on their water-power sites, and nine of such mills on the Stour alone are mentioned by Scott in 1830,¹ an increase of three on the number reported in 1785.²

Among the customers of forge and slitting-mill, the nailers, or rather their masters, the nail factors, remained important. Nash³ estimated there were 35-40,000 nailers in the region in 1799, consuming about 10,000 tons of iron per annum. The nailers were particularly characteristic of the Stour valley area, where he describes them as mainly concentrated in Kingswinford, Wordsley, Brockmore, Brettel Lane, Gornal, Sedgley and Rowley, and in the upper Tame valley around Coseley, (West) Bromwich, Oldbury and Darlaston. James Keir's contribution to Shaw's "Staffordshire" gives an interesting account of the nail trade. ". . . As this manufacture required a very simple apparatus of a small hearth, bellows, anvil and hammer, it is executed at the workman's own house, to each of which houses a small nailing shop is annexed, where he

¹ SCOTT, W. *op. cit.* 596.

² COURT, W. H. B. *The Rise of the Midland Industries.* (1938). 194.

³ NASH, T. *Collections for a History of Worcestershire.* (1799).

man and his wife and children can work without going home : and thus an existence is given to an uncommon multitude of small houses and cottages, scattered all over the country, and to a great degree of population, independently of towns.”

Other industries

Space precludes any but passing mention of several manufacturing industries independent of the iron trade. Leather working, and the woollen industry, widespread in the seventeenth century were still to be found on the fringes of the Black Country, in the saddlery trade of Walsall, the spinning of carpet yarn at Wolverhampton, in the sheep-skinners and woollen cloth trade of Stourbridge, and further down the Stour in the woollen industries of Kinver and Kidderminster. Certain of these long-established trades still exist.

Another industry, still flourishing to-day, was that of fine glassware. Brought to the Stourbridge district, it is said, by Lorraine refugees possibly before 1600, the industry was probably attracted by coal, then coming into use for melting the ingredients. It is not known whether the existence near Stourbridge of fireclay suited to the making of glasshouse pots was realised, but the eventual utilisation of this material no doubt contributed to the firm establishment of the glass industry in the district.

THE EMERGENCE OF BIRMINGHAM¹

By 1700 South Staffordshire was, then, “a countryside in course of being industrialised; more and more a strung out web of ironworking villages, market towns next door to collieries, heaths and wastes gradually and slowly being covered by the cottages of nailers and other persons carrying on industrial occupations in rural surroundings.”² Linked closely with the steady expansion taking place on the coalfield was the rise of Birmingham.

Situated some few miles from the south-eastern margin of the coalfield, Birmingham possessed marked advantages of position. Not only did it benefit from the influence of local physical factors, including particularly the presence of an adequate water supply, but it stood at a meeting place of routes from the coalfield. In the narrow streets of Digbeth and Deritend, on either side of the bridge over the Rea, converged the wagons of coal and iron passing to the south and east as well as the coaching, farming and local commercial traffic consequent on the growing importance of the town.

The growth of population and the increase in the extent of the town were a direct response to the widening of its activities. During the eighteenth century Birmingham developed a three-fold personality. The town became a major industrial centre, the hub of the commercial life of the mining and manufacturing district of South Staffordshire and thirdly an increasingly important centre providing services and trading facilities for a widening region.

¹ By M. J. Wise. Acknowledgements are due to Mr. R. J. Hetherington for a number of suggestions.

² COURT, W. H. B. *op. cit.* 22.

Birmingham in 1700

Birmingham in 1700 was a prosperous manufacturing and market town. Her population had risen, from 1,500 in the mid-sixteenth century, to some 15,000 at the end of the seventeenth. During the latter half of the seventeenth century the number of inhabitants had more than doubled.

How far this increase may be ascribed, as is often supposed, to the freedom from religious restrictions enjoyed in Birmingham after the Restoration, is a matter for some doubt.¹ It is more probable that the increase in population was the direct result of the industrial and commercial prosperity of the town. Certainly, as a result of the rather loose nature of the local government, coupled with a complete absence of craft and trade guilds, no restrictive influences existed either to hamper the introduction of new trades or to prevent freedom of entry into any particular branch of manufactures or commerce.

In form, the Birmingham of 1660 had been aligned along the main routes from South Staffordshire to the crossing of the river Rea at Deritend. Building extended from the bridge itself in a long line ascending the hill past St. Martin's parish church to the Welsh End of the town. Fingers of building stretched out along Bull Street, in the direction of Wednesbury, along New Street, the road to Halesowen, and along Edgbaston Street.

By 1700, however, this pattern had begun to change (Fig. 39). The long tongue of development down Digbeth remained comparatively unaltered, it is true, but on the higher ground, in particular between New Street and Edgbaston Street, and on the eastern side of High Street new building was taking place. The 'Golden Age' of building in Birmingham had already begun. In response to the demands for housing and workshop accommodation, plain three-storeyed houses were built of red bricks, made from the local Keuper Marl, by a newly grown class of speculative builders. New streets were laid out along the hillside immediately above the church, and old ones extended. Despite this, houses were difficult to obtain and many were converted or rebuilt to house extra families.

The demand for houses continued, and by 1731, the date of Westley's plan, Birmingham had developed new quarters to the north and north-west. An estate had been laid out on the Priory Close, the site of the medieval Priory of St. Thomas. Designed around a central square (the celebrated 'Old' Square), this estate became the home of prosperous merchants and manufacturers of the day. On the other side of Bull Street arose the new church of St. Philip (now the pro-Cathedral). "The Town of Birmingham," declared the Act of Parliament, "being a Market Town of great trade and commerce, was become so very populous, that, having but one Church in it, it could not contain the greater part of the inhabitants . . . whereupon there should be a new Church erected and a new Churchyard set forth, and a new Parish made." The new church was consecrated in 1715 and around the edge of its churchyard grew the

¹ *Vide supra* 157.

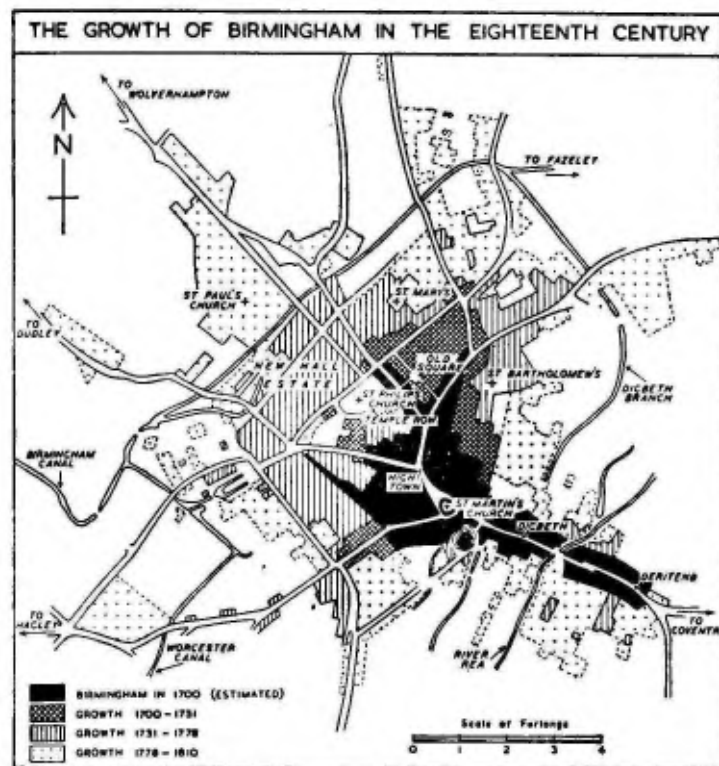


Fig. 39

teenth century reveals the co-existence of two stages of development. The most prosperous and active trades were those based on iron. The manufacture of cutlery, swords, nails and edge tools surpassed in relative importance the tanning and textile trades which had themselves been staple industries in the medieval town. Symbolic of the dominant trades at this period was Mr. Porter's blade mill on the river Rea, which, it was said, produced no less than 15,000 swords for the Parliamentary forces before its destruction by the Royalists in 1643.

By the end of the century, industry exhibited a threefold structure. The textile and leather trades were of a much reduced relative significance. Now the smiths and cutlers represented only a middle stage. The 1683 Hearth Tax returns, it is true, numbered no less than 178 smiths' hearths in the town, distributed mainly in the Digbeth district, while the grinders and cutlers still flourished. A third industrial group was also evident. This included the so-called 'new' trades, the manufacture of guns, buttons, toys and brass articles and was the element destined to become dominant during the eighteenth century. The change in emphasis, from industries depending primarily on good supplies of raw material and water power to those relying rather on the application of a comparatively high degree of skill to a limited amount of raw material, reflected in part the changing conditions on the South Staffordshire coalfield. Birmingham, in common with other towns on the edge of the coalfield turned its attention to new manufactures.

fashionable suburb of Temple Row, a line of gracefully proportioned three-storeyed houses, some of which remain to this day. By 1731 the building line had advanced north-westwards to the church and beyond Steelhouse Lane. By 1731, too, if Westley's estimate can be relied upon, the population had risen to some 23,000.

The wealth of the town had grown rapidly. In no way was this reflected better than in the growth of the fashionable 'suburbs' of the Old Square and Temple Row and in the contrast between these new quarters and the old industrial districts in Digbeth.

A cross section of Birmingham manufactures in the mid-seventeenth century reveals the co-existence of two stages of development.

The gun trade was already in existence in the early 1690's, at which time the gunsmiths of the town were under contract to supply two hundred musquets a month for the Government service. With the development of the colonial trade during the eighteenth century the manufacture of guns developed and became a staple trade. At a time when the fashion of wearing buckles reached its height the local buckle trade was producing all types, "for the hat, breeches or shoes, of silver, steel or of inferior metals." Birmingham was said to be one of the largest centres of this manufacture in the country with an export trade to the continent almost as large as its home trade. Toys and trinkets of all descriptions left the town in increasing quantity. The button trade was newly established and like the other 'new' trades was carried on in small workshops built at the back of dwelling houses or in the converted living rooms of a Birmingham small master. The new trades prospered and workmen moved in increasing numbers to this rising industrial centre. With the growing variety of manufactures, the older trades declined in relative importance. Significantly, the Leather Hall, the ancient Toll-booth, situated at the junction of High Street and New Street was demolished in 1728, and though the cutlery trade continued in the town for some years, it was of declining note.

By 1700, too, Birmingham was of growing importance as a commercial centre with wide interests.¹ Anciently, of course, the town had been a local marketing community, situated strategically between the pastoral farming districts of Warwickshire and the mineral producing and manufacturing districts on the coalfield. Then it had housed a middle class of mercers and spicers. Now, its middle class included the ironmongers, controlling, to an increasing extent, the organisation of the South Staffordshire iron trade and the marketing of its products. Birmingham was well placed between the coalfield and the rich markets of the south and east of England. Many of its more important families, including the Pembertons, responsible for the building of the Priory Estate, and the Lloyds, were engaged in business as ironmongers. Some engaged actively in the production of iron, owning furnaces, forges and mills, distributing rod to the nailers and then disposing of the product ; others were in business only as wholesale and retail merchants, marketing nails, locks, bars, bolts and pattens over a wide area. Many ironmongers acted as moneylenders and from this practice emerged later in the century the importance of Birmingham as an early centre of banking.

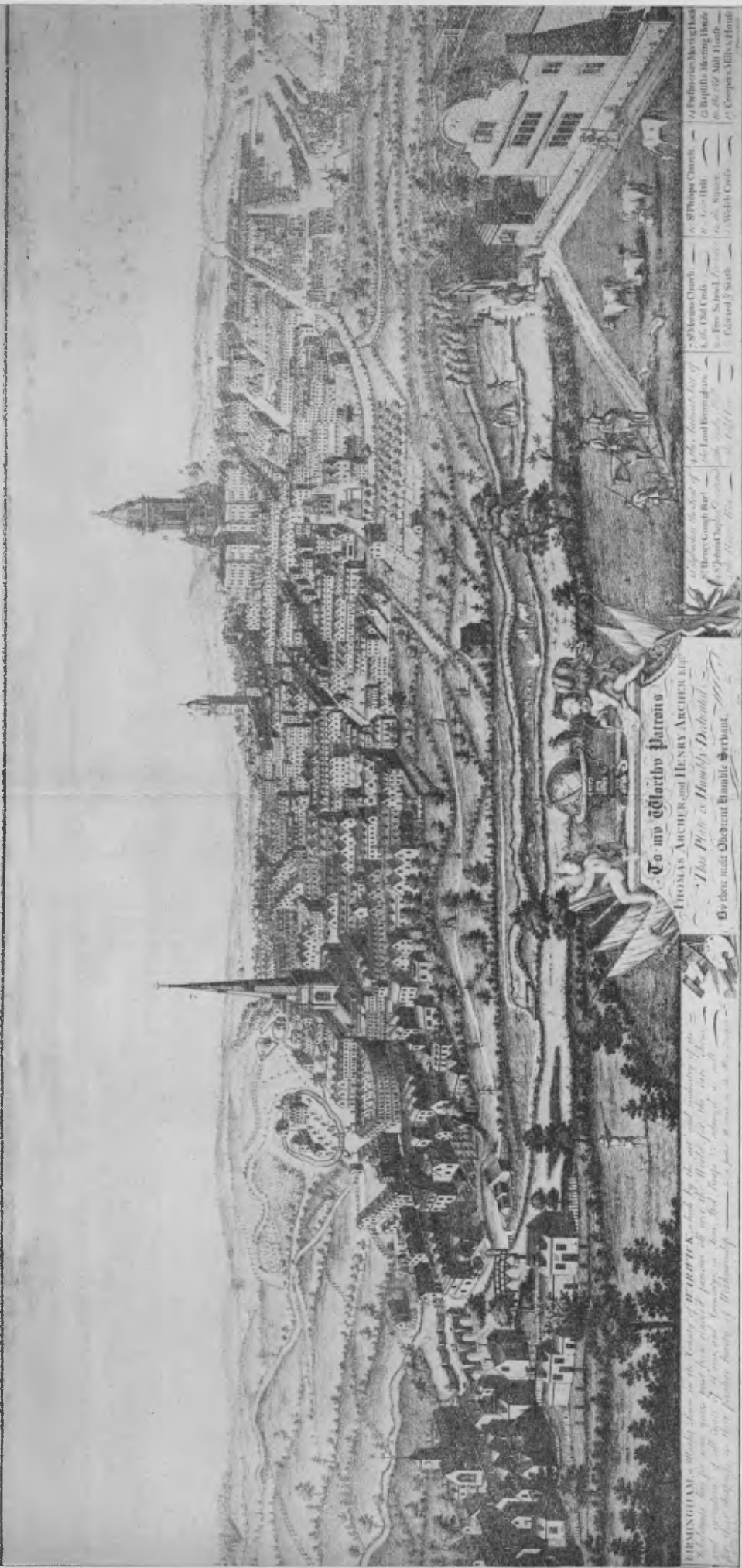
Birmingham, then, was crowded, alive and active. The markets continued their former activity in the Bull Ring, High Street and New Street. These streets, too, developed as the home of the retail trade. Printers and booksellers gathered in High Street just above St. Martin's Church. "God has blessed your Town," declared the Rev. Thomas Bladon,² "Witness the wonderful increase of buildings, multitudes of

¹ *Vide* also WISE, M. J. Birmingham and its Trade Relations in the early Eighteenth Century. *University of Birmingham Historical Journal*. 2. (1949). 53-79.

² BLADON, T. *Presbyterian Meetings, where there is a Parish Church are no Schisms*. (London, 1702). 6.

Westley's East Prospect of Birmingham
c. 1731

The EAST PROSPECT of BIRMINGHAM.



To my **Beloved Patrons**
THOMAS ARCHER and HENRY ARCHER Esqrs
This Plate is Humbly Dedicated
 By their most Obedient Humble Servant

BIRMINGHAM is weekly shown in the Society of **WARRICK** which by the art and industry of the
 Artists has been made to appear as if it were a new city, and the most
 complete and accurate representation of the town and country in any
 one view, and is the most perfect and complete of any
 ever published in any part of the Kingdom.

- 1. St. Martin's Church
- 2. St. Philip's Church
- 3. St. Paul's Church
- 4. St. Andrew's Church
- 5. St. James's Church
- 6. St. George's Church
- 7. St. Nicholas Church
- 8. St. John's Church
- 9. St. Peter's Church
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people and advancement of Trade, so that you do not only exceed your former selves, but you exceed the Corporations and Cities round you.”

Mid-Eighteenth Century Birmingham

It is possible to obtain a very clear picture of the appearance of Birmingham at this time from contemporary prospects and maps of the town. “The East Prospect of Birmingham” by Wm. Westley in 1731 is here reproduced. There was a clear distinction between the long line of houses extending down Digbeth, below St. Martin’s Church, and the newer districts rising on the sandstone hill above and surmounted by the tower of St. Philip’s Church. “The Town,” it was said, “stands upon the side of a hill forming nearly a Half-Moon, the lower part is filled with the Workshops and Warehouses of the Manufacturers, and consist chiefly of old Buildings, the upper part of the Town . . . contains a number of new, regular streets and a handsome Square’ all well built and well inhabited.”²

Throughout the century, building in the immediate vicinity of the river Rea itself was restricted, and the general line of development of the town lay across the comparatively well drained land to the north and north-west.³

By 1750, the contrast between the older and the recently built portions was now even more complete. In the lower town, Digbeth remained as a long line of settlement with inns, retail premises and the slitting mill of Charles Lloyd interspersed among the tenements and workshops of the small manufacturers. Building had continued to the north along the sloping ground of the Birmingham ridge, and Park Street and Moor Street were now almost entirely built up. Here a new Chapel, dedicated to St. Bartholomew had been built and around it the land was staked out in plots ready for building. To the north-west, development had proceeded along Snow Hill, the main road to Wednesbury and Wolverhampton. Perhaps the most important of all the extensions actually in progress in 1750 was that on the New Hall estate. On this land immediately west of Snow Hill, had been laid out, at an earlier date, the mansion and park of the Colmore family, a family with a long merchanting tradition in the town. By 1746, Birmingham had become “a place of great Trade and Resort, where the buildings have of late years continued to increase and there are frequent opportunities by granting building leases to improve the said estate.” The park was laid out in a rectangular pattern of streets, attractive terms offered to builders and a fresh wave of expansion was begun.

It is significant that in the years around 1750 many of the men building houses in and removing to this estate were Birmingham manufacturers engaged in the new

¹ The Old Square lay a few hundred yards north of St. Philip’s Church and can be seen on the crest of the ridge, just to the right of the Church Tower. Temple Row, described in 1762 as “lofty, elegant and uniform” and characteristic of the newly developed residential district can be seen immediately in front of St. Philip’s.

² R. P. *Four Topographical Letters written in July 1755.*

³ Space precludes a discussion of all the factors influencing the direction of growth of Birmingham at this time. Some of these have been suggested in WISE, M. J. *Some Factors influencing the Growth of Birmingham. Geography.* 33. (1948). 185.

trades. Toy, button and buckle makers were among those setting up workshops in the new houses. The expansion of trades resulted in an actual migration of prosperous small masters from the older quarters to the new estates of the north-west. After 1750, for example, the gun trade moved in piecemeal fashion from the Digbeth and Edgbaston Street districts to the newly built Weaman Street and the adjacent area, where it remains to this day. To the New Hall estate began the migration of the toy and buckle trades, a migration that ultimately affected the nineteenth century and present location of the jewellery quarter.

From the industrial standpoint, this mid-century period witnessed two major developments which have exercised a lasting influence on the development of Birmingham.

First in importance of these was a gradual development of workshops of increased size. The earlier manufacturer had been almost exclusively a small master, employing in his workshop only members of his family and perhaps a handful of workmen and apprentices. Dwelling houses had been modified to include such features as "a warehouse, shops and other outbuildings with an entire yard all commodiously laid out for carrying on most other as well as the Jewellery manufactory." By the middle of the century, shopping to employ twenty or up to forty pairs of hands in the toy and allied trades was to be found both in the older and newer industrial quarters. Most celebrated of all the 'factories' that arose at this period were those of John Taylor and Matthew Boulton. John Taylor was himself a local small master who "in the space of about forty years acquired from almost nothing, nearly the sum of £200,000." The secret of his success lay in his development of new branches of the button, toy and enamel trades and in his 'wonderful genius' for invention and organisation. "In his shop" wrote Hutton, the earliest historian of the town, "were weekly manufactured buttons to the value of £800 exclusive of other valuable productions."¹

Of even greater fame was the Soho Manufactory, established by Boulton in 1761. Founded on the waste of Handsworth Heath, with water power available from the Hockley Brook, the Factory embodied advanced principles of industrial organisation. Steam engines were set to work to augment the water supply, workmen were gathered together for training and for the production of a vast range of articles. From Soho were exported toys and trinkets of all types, silver plate and plated goods of the highest quality. The factory bred ideas and invention. Near to it grew houses for the workers and by 1770 over 700 employees were engaged. Men of skill, Francis Eginton, William Murdock, James Watt, came to Soho and found there an environment in which their inventive genius flourished. Soho achieved a national, even a European fame. The novel organisation, the 'ingenious mechanical contrivances' employed, the novelty and beauty of the products were admired "not only by the Nobility and Gentry of this Kingdom, but of all Europe." These enterprises were not alone. John Baskerville and his printing works achieved an almost equally widespread though less lasting

¹ HUTTON, W. *An History of Birmingham*. (1781). 74.



The Soho Manufactory as it appeared at the end of the eighteenth century.

fame. Among other branches of manufacture was that of papier-maché pioneered by Henry Clay.

But the second outstanding feature was the improvement in quality of certain products. Hitherto, “Brummagem pretences” had achieved notoriety for the cheap toy and allied trades. Now, under the leadership of Matthew Boulton and other leading manufacturers, Birmingham entered the market for jewellery and plated goods of high quality. By 1773 sanction had been obtained for the establishment of an Assay Office and the jewellery and precious metal trades were firmly founded.

Birmingham was, then, a thriving manufacturing centre with a broadly based industrial structure. The older trades, cutlery, edge tools and general smithery remained, though now of less importance than formerly. A new phase in the growth of the brass trade was indicated with the establishment of Turner’s Brasshouse in 1740 in response to the growing demand for brass from local manufacturers. Industry was thriving and *Aris’s Gazette* could sing appropriately.

“Here implements and toys for distant parts
Of various metals, by mechanic Arts
Are finely wrought, and by the Artists sold
Whose touch turns every Metal into Gold.”

The commercial life of the town continued to grow in influence and extent. Birmingham ironmongers were the most influential in the South Staffordshire coalfield. Birmingham was a centre of capital, financing coalmines and ironworks in the adjacent industrial districts. But a short step from this practice was the establishment of banking houses and Taylor's and Lloyd's bank was, in fact, opened in 1765. Birmingham grew in importance as the home of professional men. Lawyers and surgeons gathered and schools opened their doors. Theatres and pleasure gardens catered for the amusement of the growing population. Inns and hostelries grew in number and size. Coach and wagon services increased in frequency. High Street and Digbeth were even more congested with the press of the through road traffic and the confusion of the open air markets.

Now the regional revolution was in full swing. For the first time a town within the Plateau was in competition with those without as a centre providing professional, cultural, transport, wholesale and retail services. A regional capital was in course of emergence. The change is pointed by the increasingly wide circulation of the Birmingham newspaper, *Aris's Gazette*, which was read as far from the town as the Welsh border, Leicestershire, North Staffordshire and the edge of the Cotswolds.¹ The rise of Birmingham to regional status was not viewed with equanimity by its rivals around the Plateau. Let Dr. Johnson speak for one of them, his birthplace, Lichfield. "We are", said the great man, "a city of philosophers : we work with our heads and make the boobies of Birmingham work for us with their hands."

Internally the town was developing a more advanced regional structure. The older districts in the 'watery' part of the town remained industrial in character : the town centre from the parish church along High Street and New Street emerged as the active focus of commercial life. Temple Row and Bennett's Hill housed the professional class, the New Hall estate became the chief centre of the toy and buckle trades. Birmingham was a town of wealth, a centre of attraction. "The concourse of nobility, gentry, merchants and traders, (as well foreigners as natives) who are continually flocking here is amazing, the former out of curiosity, the others in the way of business, who seldom return without expressing their astonishment and satisfaction at the number and ingenuity of the artificers, who may be said to be really in possession of the philosopher's stone and literally to have the power of converting iron into gold without any considerable diminution of its weight."²

Birmingham at the end of the Eighteenth Century

By the end of the century, Birmingham was firmly established as an industrial and commercial centre of national importance. It was already the capital of the district and the links with South Staffordshire grew ever closer.

¹ *Vide University of Birmingham Historical Journal*. 2. (1949). 74.

² PEARSON AND ROLLASON'S *Birmingham Directory or Merchant and Tradesmen's Useful Companion*. (1777). xxi.

Industrially, despite the temporary depression at the very end of the century, Birmingham had prospered. The toy trade continued to flourish. Directories of the period enumerated over fifty principal branches of the fancy steel toy business, ranging from fine steel chains to dress ornaments, from hooks and eyes to steel pens, pencil cases and steel-mounted eye glasses. Decline in the buckle trade, now nearing the end of its century old existence, was compensated by advance in the button trade, which was to remain a staple trade throughout the nineteenth century. The gilt and plated button branches, introduced in the 1790's, attracted workmen from many other trades. Within a few years between 4,000 and 5,000 persons were employed in these branches alone. Advances in quality of production, made earlier, began to bear fruit in the establishment of Birmingham as a national centre of the jewellery and precious metal trades. More and more, the manufacturing jewellers tended to congregate in the growing suburb around St. Paul's Church at the extreme end of the New Hall Estate. With the development of this trade grew a class of process workers, die sinkers, engravers, platers and others. The gun trade, flourishing during the wartime depression, gathered increasingly in Weaman Street and Whittall Street, near St. Mary's Church, the gun quarter.¹

The older iron trades still continued but their importance was small. Pearson and Rollason's Directory of 1781 gives the names of 104 button makers but only 8 iron-founders and 6 awl blade makers. There were recorded 40 toymakers, 46 platers and 26 jewellers but only 14 locksmiths, 9 hinge makers and 8 cutlers. Among the newly grown industries may be numbered the manufacture of glass. A flint glass manufactory was in existence in 1785 and other enterprises were commenced before the end of the century.

But as at the end of the sixteenth and seventeenth centuries, so at the end of the eighteenth century Birmingham industries were in a transitional state. Now the pattern of the early nineteenth century industrial structure was evolving. The new developments included, particularly, advances in the brass and engineering trades.

For its original existence in the town, the brass trade had depended largely on the demand for its products from other trades, notably the gun, toy, buckle, coining and later the engineering industries. During the third quarter of the century, in particular, the brass trade had passed through a series of vicissitudes due in part to the high price of the brass ingots imported into Birmingham from the works at Bristol and Cheadle. Despite the local availability of fuel the cost of transporting the raw materials of calamine and copper for manufacture in Birmingham had been almost prohibitive and the local trade was restricted to the production of a limited quantity of foundry productions. The advent of the canal into the town, coupled with the maintenance of high price levels for imported brass, was enough to persuade local brassfounders and other consumers to commence manufacture in Birmingham. A Birmingham Brass and Spelter Co. was formed in 1781 and brasshouses were established alongside the canal in Broad Street.

¹ The further development of the gun and jewellery quarters is considered *infra*. 214-5.

Meanwhile at Soho the steam engine business had been added to the other manifold activities of the Factory. Engines were not made at the Soho Factory ; the general practice had been for Watt's engineers to assemble *in situ* parts cast and manufactured to his design by other hands. By the end of the century the steam engine side of the business had become so great that activity was transferred to a separate site—the Soho Foundry opened in 1796. Here parts could be manufactured to the requisite specification and degree of accuracy. The development of rotary motion in 1781 had increased the demand for engines, which could now be used to turn shafting. This in its turn exerted a profound effect on the general location of industry.

In Birmingham, 'Fire' engines were established and steam gradually replaced water as the principal source of power for the heavier industrial operations of the district. An advertisement for Charles Twigg's steam mill in Snow Hill, issued in 1783, proclaimed it as supplying power for the rolling of metals, and grinding and boring of gun barrels. "This mill," it continued, "is erected also for polishing of steel goods, finishing Buckles, Buckle Chapes and a variety of other articles usually done by foot lathes. The whole is worked by a Steam Engine and saves Manufacturers the trouble of sending several miles into the country to water mills."¹ By 1800, at least seven such engines were at work in the town and a rapid expansion of the use of steam power occurred during the early nineteenth century.

Birmingham continued to expand its function as a centre of commerce and finance. New banking houses were opened. New firms of merchants and factors entered business, and no less than 66 of them were recorded in Pearson and Rollason's Directory of 1781. Export merchants specialising in the marketing of Birmingham and South Staffordshire products were numerous. Mr. Thomas Maullin of Summer Row, an export merchant of repute, maintained contacts throughout Europe. For the better organisation of local commerce a General Commercial Committee was formed in 1783. The regional functions of the town grew too, though not so quickly as the industrial and commercial. In Birmingham amenities and culture have almost always been sacrificed to the active prosecution of business. But the Birmingham Library was commenced in 1780, a Musical Festival had been held in 1768 with the immediate object of raising funds for the erection of a General Hospital and a series of triennial festivals began in 1784.

At the same time observers declared that "Birmingham is not a place a gentleman would chuse to make a residence. Its continual noise and smoke prevent it from being desirable in that respect."² Its disadvantages included its "close population, the noxious effusion of various metallic trades and above all the continual smoke arising from the immense quantity of coals consumed."³ And indeed the more wealthy local manufacturers and merchants had by now acquired residences a mile or more away from the industrial town.

¹ BAILLY'S *Directory of Birmingham*. (1783). ³ Ward's *Directory of Birmingham*. (1798). 4.

² GRAFTON AND REDDELL. *A Brief History of Birmingham*. (1797). 4. This History is largely a re-edition of Hutton's earlier work.

THE EVOLUTION OF THE CANAL NETWORK

During the first half of the eighteenth century, a succession of improvements to the roads of the district were carried out, with the object of facilitating the transport of raw materials and manufactured articles. The Turnpike Acts provide evidence of the necessity for removing the hampering influence on local industry and trade caused by bad roads and lack of maintenance. It is possible that the difficulties of road transport at this period have been somewhat overstressed, for there is ample evidence of the heavy traffic, for example, on the roads from the South Staffordshire coalfield, through Birmingham to the southern Midlands. It has been suggested that the state of roads was linked not only with the amount of traffic carried but also with the type of geological formation traversed. While maintenance of roads crossing the well drained sandstone and Pebble Bed country seems to have been comparatively easy, the 'bottomless clays' of the Keuper Marl and Middle Coal Measure series offered very difficult conditions.

Difficulties of this sort find reflection in agitation, early in the century, for the development of canals. It was not, however, until the second half of the century that the development of the canal system began.

The construction of canals presented sharp problems to surveyors and engineers. Chief difficulties sprang from the nature of the terrain. In general, the steep edges of the Birmingham Plateau were negotiable by canals only by the construction of long flights of locks. Only at specially favoured points as, for example, near Tamworth, where the Tame valley opens gently into the wide vale of Trent, was easy ingress to the heart of the Plateau naturally available. Within the Plateau itself, the uplands of East Warwickshire and South Staffordshire proved real obstacles to the construction of waterways. The Sedgley-Rowley ridge, in particular, formed a not easily surmountable barrier, while the steep slopes of the deeply incised valley of the upper Stour made that section of the coalfield particularly difficult ground for canal surveyors. Some canals adopted circuitous routes along the contours ; in other cases the construction of long flights of locks proved unavoidable. The Stourbridge canal, for example, needed 20 locks to rise from Stourton to Pensnett Chase, it then wound round Brierley Hill to Black Delph and climbed through a further 9 locks to the 442 foot level on the Dudley canal.

In the Tame Valley sector of the coalfield conditions were somewhat less difficult. Even so, the terrain was far from ideal for canal development. For 70 years the Birmingham canal wound sinuously around Coseley Hill, until the construction of a tunnel in 1837. The crossing of the high ground at Smethwick was another problem. Originally 12 locks, 6 up and 6 down were needed to cross it and not until 1825 was the now well-known 70-foot deep cutting constructed by Telford. Within the completed canal network, the presence of three principal canal levels at 473, 453 and 408 feet, connected by flights of locks demonstrated that relief conditions were by no means ideal (Fig. 49).

The central Sedgley-Rowley ridge provided the most difficult obstacle of all. To the north of Wolverhampton the Tettenhall gap provided a comparatively easy route from the basin of the Penk to the headwaters of the Smestow Brook. Within the coalfield no such easy routes were to be found and though, by 1800, canal communication had been established between the two sectors of the coalfield, this had been effected only by the construction of long tunnels beneath the ridge. Add to these difficulties of relief that of obtaining adequate water supplies in the vicinity of the watershed and the wonder is, as Telford reported, that the canals of the district “constructed and carried on under such peculiar disadvantages should nevertheless have proved the most lucrative concern of the kind in the Kingdom.”¹

The canals of the Birmingham district were designed and constructed with two objects. They provided, firstly, a cheap means of transport for coal, iron, limestone, clay, bricks and heavy manufactures within the growing industrial district. They were planned, secondly, to connect the manufacturing district with the chief national water routes.

The isolation of the Plateau and the nature of the obstacle it provided to water transport may be inferred from the fact that none of the early national canals ventured to cross it. Plans for a canal to connect the Trent and Severn by way of the Penk and Smestow Brook valleys, fringing the north and north-western sides of the Plateau, had been propounded as early as 1717. It was not until 1766 that the necessary Act of Parliament was obtained and the Staffordshire-Worcestershire canal, as it was termed, was completed in 1772. It joined the Severn at Stourport and the growth of that town from a small hamlet into the present prosperous trading and industrial centre may be traced back to the cutting of this canal. The Trent-Mersey canal was completed in 1777 and by 1790 its connection with the Thames had been fully established through Fazeley and the Coventry canal, which fringed the east side of the Birmingham Plateau.

Birmingham men were not slow to realise the advantages of direct canal communication. The Birmingham canal, from the town itself to the Staffordshire-Worcestershire canal, which it joined at Atherley, near Wolverhampton, was the first (Fig. 49). It has remained the main canal of the district, linking Birmingham with the coalfield. Designed with the express object of connecting “the numerous hearths and furnaces of industrial Birmingham with the prolific coalworks of the contiguous mining district of South Staffordshire”, the canal was begun in 1766 and by 6th November, 1769, the first boat-load of coals arrived at the Birmingham wharves. The price of coal in Birmingham fell immediately by half.

By May 1770 the canal had been built as far as Tipton. Six months later, coal from Bilston was reaching Birmingham and by 1772 the junction with the Staffordshire-Worcestershire canal had been effected at Atherley. Not only was Birmingham now connected with the coal districts but also with the Severn ports. In order to avoid

¹ TELFORD, W. Article on Canals in *Rees' Cyclopaedia*. (1812). *cit.* EDWARDS, B.J. *The Development of Canals in the Birmingham—Black Country Conurbation 1760-1900*. (1948). Unpublished thesis in the Library of the Department of Geography, University of Birmingham. The section of this account dealing with the canals of South Staffordshire is based in part on the work of Mr. Edwards.

costly engineering works the canal followed a circuitous course. Subsequent modifications shortened the route and branches, arms and basins were constructed to serve the needs of mines, furnaces and manufactories. Collieries without direct access to the canal constructed mineral lines to the canal wharves.

In the south-western section of the coalfield, construction of the Stourbridge canal was authorised in 1776. Though only some $7\frac{1}{2}$ miles long the canal served a useful function in connecting Stourbridge and also the mines around Brierley Hill with the Staffordshire-Worcestershire canal. Coal and ironstone were the principal commodities carried. Traffic increased after 1785 when the Dudley canal was joined to the Stourbridge canal and another large district of the coalfield, between Netherton and Dudley, opened to water transport. The need was now obvious for a connecting link between the Birmingham canal system on the one hand and the Dudley and Stourbridge canals, on the west side of the central ridge, on the other. The junction which included the $1\frac{3}{4}$ mile long Dudley tunnel was constructed in 1790 and Birmingham was brought into water communication with the south-western sector of the coalfield. The route via the tunnel also provided an alternative route from Wednesbury and Birmingham to the Staffordshire-Worcestershire canal and the river Severn. The tunnel itself was only 8 feet 6 inches wide, there was no towpath and boats had to be 'legged' through.

Between 1793 and 1801 work proceeded on a canal connecting the hitherto untapped districts of the south-western sector of the coalfield, around Halesowen, Cradley Heath and Old Hill, with the proposed Worcester-Birmingham canal at Selly Oak. This canal also involved a tunnel through the central ridge at Lapal. The canal provided an alternative route for coals from Netherton to Birmingham while coal could also be sent direct via the Worcester and Stratford canals without passing through Birmingham. During the last decade, too, the canal network spread out to the north of the Black Country to tap the mining areas around Willenhall, Bloxwich and Great Wyrley. In particular, the Wyrley-Essington canal, opened in 1792, played an important part in the early development of the Cannock Chase region.¹

Perhaps the most important aspect of canal development at the end of the century was the construction of canals linking Birmingham directly with the lowland areas fringing the Plateau. The earliest of these linking canals, the Birmingham-Fazeley canal which connected the South Staffordshire network with Fazeley in the lower Tame valley was completed in 1790. At Fazeley it joined the Coventry canal, which passed from Coventry along the eastern fringe of the East Warwickshire plateau through Nuneaton and Atherstone, and a junction was constructed with the Grand Trunk (Trent-Mersey) canal.

Attention now turned to the construction of canals between Birmingham and the river valleys to the south and south-west. The Act of Parliament authorising the Worcester-Birmingham canal was carried through, despite considerable opposition, in 1791, while canals to Warwick and Stratford were authorised two years later. The

¹ *Vide infra*, 276.

Warwick canal was completed in 1799 but the Worcester canal, in particular, met considerable difficulties and was not completed until 1815. In addition to financial difficulties and the opposition encountered from rival canal companies, mill and land-owners, the Worcester canal met great physical obstacles. Water supply was a continual source of worry. Even more serious was the engineering problem presented by the steep descent from the edge of the Plateau to the Worcestershire plain. From Tardebigge the canal descended to the Severn plain below by the longest single flight of locks in the British Isles. The canal was planned originally as a ship canal to allow the Severn sailing barges of about one hundred tons burthen to pass to Birmingham, but this plan was abandoned in 1809.¹ The project of a Birmingham-Severn ship canal has been mooted on a number of occasions since but no scheme has yet reached the stage of practical possibility.

Considerable intensification of the canal pattern occurred during the first half of the nineteenth century, particularly in South Staffordshire. The courses of many of the older canals, including the Birmingham canal itself, were improved and shortened. New cuts were made to serve growing colliery districts. Of the new canals, the Tame valley canal provided an alternative route from the Black Country to Birmingham and the south-east via the Fazeley and Coventry canals. The Netherton tunnel, the third and finest of the tunnels piercing the central ridge of the South Staffordshire coalfield was completed in 1855 and offered a much improved line of communication between Birmingham and the Stour valley. The mid-century period saw, too, the combination of many South Staffordshire canals and the unification of the canal system across the coalfield from Cannock Chase to Birmingham. The Birmingham Canal Navigations had become the hub of the national canal system.

But the main form of the canal pattern of the Birmingham district had been defined by the end of the eighteenth century. By 1800, factories had already begun to cluster on the canal banks, attracted by the ease of transport of raw materials, the low tolls often allowed on coal destined for canal side works and by the advantage of free water supply for steam engine use. By 1811, no less than 124 works and wharves crowded the two miles of canal between Bordesley and Aston, in Birmingham. "The Birmingham, Stourbridge and Dudley canals lay across the Black Country and threw open its reserves of coal, iron and limestone to the works at Birmingham, Wolverhampton, Walsall and Stourbridge, as well as maintaining trade with Bristol, Liverpool and Hull. They enabled it to supply all the neighbouring counties with fuel. The concentration of industry in the Black Country was striking; forges and foundries, guns, locks, screws and nails grew out of the two great roots of wellbeing, coal and iron."²

The regional pattern of the Birmingham district had indeed been transformed. At its very heart was Birmingham, the "toy-shop of Europe" and the new metropolis of midland England; and the South Staffordshire coalfield, the growing "Hardware District," the Black Country of the nineteenth century.

¹ HODGKINSON, H. R. Notes on the History of Midland Waterways. *Trans' B'ham. Arch. Soc.* 39. (1913). 87.

² COURT, W. H. B. *op. cit.* 164.

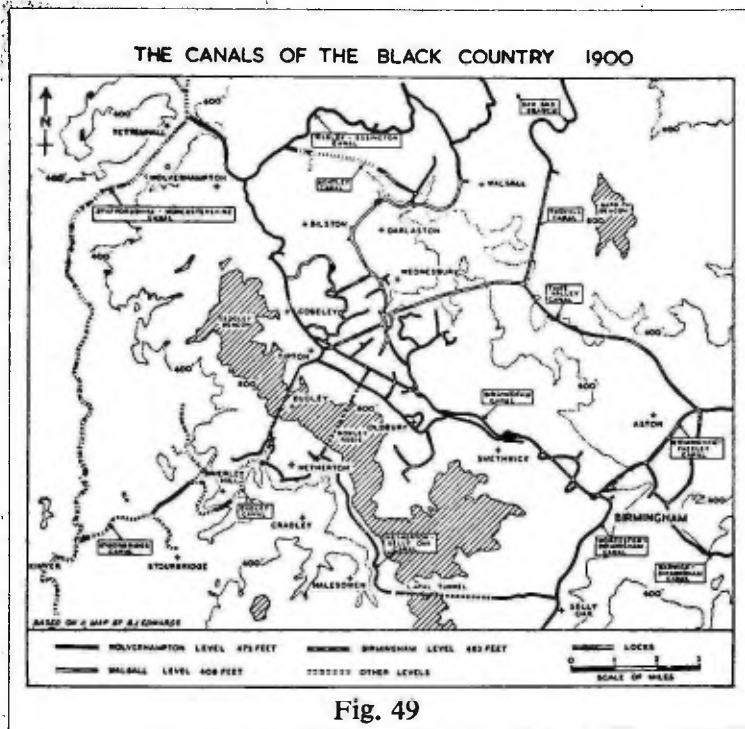


Fig. 49

PART TWO

Changes in the Urban Pattern of Birmingham since 1800

6. The Regional Pattern of Birmingham in the Nineteenth Century
7. On the Evolution of the Gun and Jewellery Quarters in Birmingham
8. Summary:- The development of Birmingham and its Industries since c.1750

THE GROWTH OF BIRMINGHAM 1800-1950

by

M. J. WISE, M.C., B.A. and ~~P. O'N. THORPE, B.A.~~



*Reprinted from "Birmingham and its Regional Setting."
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NINETEENTH century Birmingham exhibited all the characteristics of the typical contemporary industrial town. "In no town in the world," it was said, "are the mechanical arts more noisy : hammerings incessantly upon the anvil ; there is an unending clang of engines ; flame rustles, water hisses, steam roars, and from time to time, hoarse and hollow, rises the thunder of the proofing house. The people live in an atmosphere vibrating with clamour . . ."

Three main periods may be discerned in the growth of Birmingham as an industrial and commercial centre since the close of the eighteenth century. During the earliest of these, which occupied the first sixty years of the nineteenth century, occurred far-reaching changes in the regional pattern of the town and the development of those areas which remain today as the central industrial districts.¹ The second period was characterised by the migration of industry to the outskirts of what was then the built-up area and the growth of a number of new industrial districts at a distance of from two to three miles from the town centre. The most recent phase of development, during the last forty years, has seen the evolution of a new series of industrial areas at a radius of, generally, four or five miles from the city centre and the development, between and around them, of extensive housing estates.

THE EVOLUTION OF THE CENTRAL DISTRICTS 1800-1860

By the early years of the nineteenth century Birmingham had fully emerged as the leading industrial and commercial centre on the Birmingham Plateau. A network of canals connected Birmingham with the Black Country and with the valleys fringing the plateau at Fazeley, Warwick, Stratford and Worcester. The population of the town which had been some 70,000 in 1801 continued to increase remarkably and was well over 130,000 by 1831 and over 300,000² by 1861. Birmingham grew rapidly outwards and the early nineteenth century saw the further extension of building estates over the wide belt of fields and gardens which surrounded the town.

¹ Conclusions regarding the distribution of industry in Birmingham are based upon an Industrial Survey of Birmingham carried out by the authors in 1937-9, and since then, in part, revised. The Survey maps, on a scale of 25 inches to the mile, are now housed in the Department of Geography, University of Birmingham.

² Including Edgbaston and Aston.

To the east grew the new suburb of Ashted, planned on formal lines about St. James's Church. Northwards, streets were extended beyond the Fazeley canal and a new church, St. George's-in-the-Fields, erected. The New Hall estate was now almost fully built up with formally laid out streets of plain, Georgian, three-storeyed houses. To the west, at a distance of about a mile from the centre of the town grew the fashionable suburb of Islington, planned, as it was named, after the London model. The superior character of this neighbourhood was further emphasised by the development of the purely residential suburb of Edgbaston upon the Calthorpe estate. Restraints imposed upon the introduction of industry and commerce on this estate have succeeded in maintaining the residential character of Edgbaston to the present day.

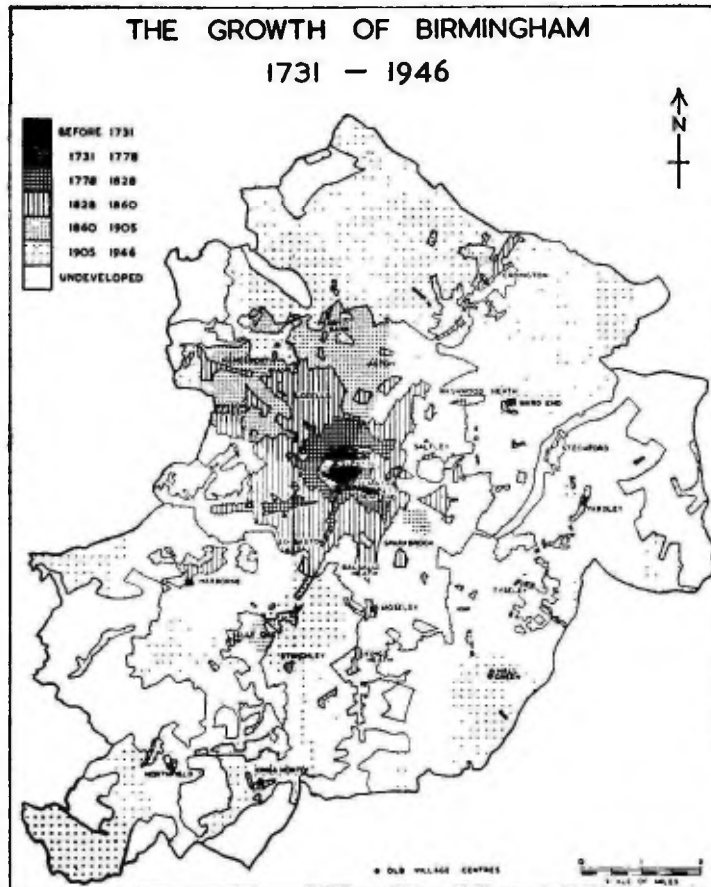


Fig. 40

Hitherto, the directions of growth had lain almost entirely over the high, well-drained country west of the Rea valley. By the early 1820's, however, many streets had been laid out in Deritend, in the valley of the Rea, and the eastward growth of Birmingham which has since been such a well marked feature of the town's development, was firmly established. (Fig. 40). Around the fringes of the town lay a wide and well marked belt of gardens, soon to disappear beneath the estates of the nineteenth century speculative builder.

The growth of industry

The period 1800-1860 was one of general industrial progress in an increasing variety of metal trades. Especially important were the four staple manufactures of guns, jewellery buttons and brass products.

By the commencement of the century, the gun trade was already highly developed and the increased demand for fire-arms resulting from the Napoleonic Wars was reflected in the expansion of the trade. Throughout the first half of the century, the trade remained sub-divided into many branches carried on by 'small masters' in workshops in or behind their own houses. The majority of masters resided in the district around St. Mary's Church, immediately to the north of the town, and, by 1800, a high degree of localisation in this quarter had become a marked characteristic of the trade.

Whereas the gun trade had been fully developed in Birmingham by 1800, the jewellery trade was, as yet, in its infancy. The first sixty years of the century were years of rapid progress. By 1845 the jewellery trade alone employed 3,700 persons, while there were 5,300 toymakers, many of whom were engaged in making the cheaper forms of jewellery. As the trade grew in size and in the range of its products, sub-division of process became a general rule. In this respect the gun and jewellery trades were comparable, and in both the typical manufacturer was the "small master, often working in his own house, with his wife and children to help him."¹ As the trade progressed, the small houses in districts near the centre of the town proved inadequate in size and manufacturers removed to larger and better class buildings in new estates on the fringe of Birmingham. Due, partly, to the intensive sub-division of the trade, a high degree of localisation was characteristic, and, at periods of expansion, the centre of localisation tended to shift in conformity with movements of manufacturers to larger premises on newly built estates. A number of 'migrations' of the jewellery trade can be recognised. By 1825, manufacturers had gathered in newly built streets on the Newhall estate around St. Paul's Church. By 1845, the centre of the trade had shifted northwards to an estate north-east of Great Hampton Street, the main road from Birmingham to West Bromwich. A further migration brought the trade, by 1865, to a district centred on Vyse Street and Warstone Lane, which has remained the main centre of jewellery manufacture in Birmingham to the present day.²

The manufacture of metal buttons declined in relative importance during the first half of the century in competition with newer branches of the trade, which included the production of covered buttons and pearl, ivory, bone and glass buttons. The button trade, as a whole, however, maintained its position of importance in Birmingham and in 1865 employed no less than 6,000 persons (some two-thirds of whom were women and children). Though a number of large factories existed in 1865, the typical Birmingham system of manufacture by small masters still persisted, and the practice of employing outworkers, as in the gun and jewellery trades, was still general.³

The brass trade, which had grown rapidly in Birmingham during the last quarter of the eighteenth century, had reached, by the early nineteenth century, the status of a staple trade. Rapid expansion took place in the early nineteenth century consequent on the demand for brass products for engineering and for domestic purposes. In 1831, the brass trade employed 1,785 persons in Birmingham ; by 1841 this had risen to 3,408 and the total was 8,334 in 1861. Mr. W. C. Aitken writing in 1866 estimated the total at 9,500 and remarked on the continued demand for labour.⁴ The brass trade quickly became subdivided into a number of branches whose products ranged from cabinet and plumbers' brassfoundry to brass wire, lamps, gas fittings and naval brassfoundry.

¹ TIMMINS, S. *Birmingham and the Midland Hardware District*. (1866). 223.

² *Vide* WISE, M. J. On the evolution of the Gun and Jewellery Quarters in Birmingham. *Transactions of the Institute of British Geographers*. 15. (1950).

³ TURNER, J. P. The Birmingham Button Trade in TIMMINS, S. *op. cit.* 443-4.

⁴ AITKEN, W. C. Brass and Brass Manufactures. *Ibid.* 361-2.

An increase in the demand for rolled brass was met by the establishment of numerous rolling mills, with power provided by steam engines.¹ Railway developments led to large increases in the demand for brass tubes, while the brass bedstead trade emerged as a particularly important branch.

Contemporary observers attributed the success of the brass trades in Birmingham to the existence of a large labour force, skilled in metal working. Before 1825 the trade was carried on entirely in "small workshops, low roofed and imperfectly lighted . . . for the most part situated in back courts." In the second quarter of the century, the average size of firm increased and the building of new, larger factories became general. By 1850 the Birmingham brass trades were distributed throughout the town but were especially characteristic of the industrial areas north and north-west of the town and of the north-eastern and eastern industrial districts (Fig. 43).

Though the four trades of guns, jewellery, buttons and brass were the chief, they were by no means the only, manufactures of Birmingham during this period. As the century grew older, the industries of the town became more diverse. They included the manufacture of edge tools, fire irons, hinges, fenders, grates and light iron castings. Engineering developed rapidly, while the leather trades, which had been, three hundred years earlier, a principal manufacture of Birmingham, continued as a trade of some local importance. In the wood screw manufacture small masters became progressively of lesser and large factories of greater importance. Birmingham became the chief seat of the newly developed steel pen trade in which by 1865 over 2,400 persons were employed in the trade in twelve factories.²

Birmingham grew also as a centre providing services for a widening region. Commercial links with the Black Country were close, and with the development of that great industrial district, Birmingham's prosperity as a financial and trading centre grew also. Associations of manufacturers from the whole of the 'hardware district' centred their activities in Birmingham. The town maintained its earlier function of marketing the products of the Black Country and the numbers of factors and merchants increased year by year. In 1849, out of eight leading banking houses represented in the town, six were Birmingham owned and managed. The markets served an increasingly wide district. Wholesale and retail merchants multiplied. Birmingham became a centre of amenities, providing theatres, gardens and other entertainments for town and countryside.

Changes in the urban pattern

The local government of Birmingham in 1800 remained anachronistic. Administration still lay partly in the hands of manorial and parochial officials, though an increasing number of aspects of administration were becoming the responsibility of newly constituted bodies of townsmen. Of special importance were the Commissioners of the

¹ By 1836 169 steam engines had been erected in Birmingham. About one-third of the horse power utilised in working metals was employed by copper and brass rolling mills.

² TIMMINS, S. *op. cit.* 635.

Fig. 41. During the past 150 years the administrative area of Birmingham for local government purposes has grown from a civil parish of some 2,660 acres, into a County Borough of 51,147 acres. The population of the present area has, in the same period, increased from about 84,000 to an estimated 1,096,000 in 1948, and 1,107,000 at the end of 1949.

Even in 1801 the town had already established a population of about 70,000 which was only exceeded in the Metropolis (865,000), Manchester (90,000) and Liverpool (79,000). By 1821, Birmingham had a population of 106,000—comparable with the size of modern Oxford.

Fig. 41 illustrates in graph form the trends of population change during the period, both in the administrative area and in the area of the present city. A generalised picture of trends in the neighbouring districts of Sutton Coldfield and Solihull, whose development is closely related to Birmingham, is shown also.

The graphs for Greater Birmingham (the present City) and for England and Wales show similar general trends, a steady increase being maintained up to the 1870's. Thereafter the rate of increase declined progressively. Comparison of actual rates averaged over decennial periods shows, however, that the rate of increase in Greater Birmingham exceeded that of England and Wales by between twice and two and three-quarter times in the period before 1871, and continued to exceed it by between 2.5 and 1.6 times until 1931. Only in the period since 1931 does it appear from estimates that the rate of increase in Greater Birmingham fell below that for England and Wales. This fall has been accompanied, however, by a marked comparative increase in rate in Sutton Coldfield and Solihull.

The graph for the administrative area is broken at intervals by steps which indicate additions of population due to periodic boundary extensions. The feature of these curves is the manner in which they fall away as each period progresses. The variation from the curve for Greater Birmingham becomes greater towards the end of each period, indicating a progressive building up of the older units and a constant overflowing of development into adjacent areas.

The building up of the central core of the town, followed by the transfer of building land from residential to non-residential uses is illustrated by the graph for Birmingham Civil Parish. Here the build-up continued until the 1860's, and by the 1880's a decline was occurring. In fact, the decline had commenced much earlier in the older parts of the town, a fact which is masked in the graph due to contemporaneous extensions in the large areas in the west of the parish which were undeveloped at the beginning of the period.

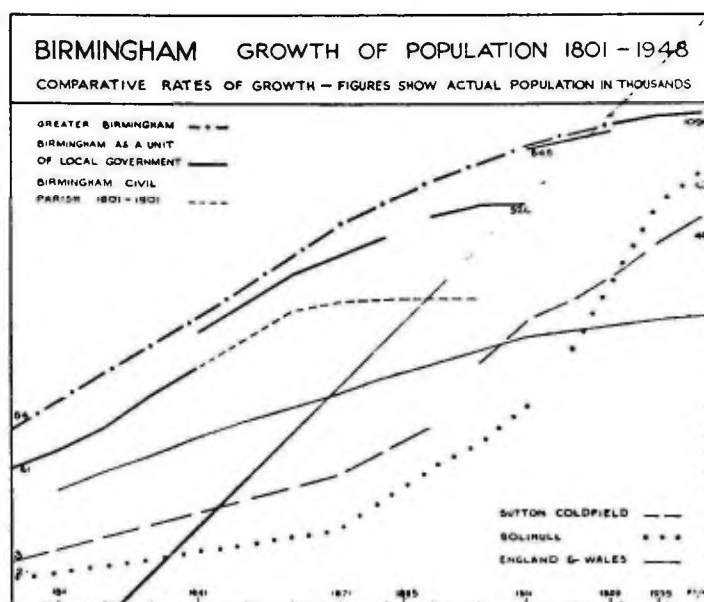


Fig. 41

Streets' whose duties had lain at first in cleansing and lighting the streets and freeing them from obstructions. The powers of the Commissioners were widened gradually to include other aspects of administration, including the maintenance of a force of watchmen and the improvement of market facilities. The effect of their work on the later evolution of local government was considerable. No less important was the imprint of their policy upon the present pattern of central Birmingham.

Prior to 1800, the chief centres of administration had lain around and above the Parish Church of St. Martin's and in the High Street. For almost half their existence, the Commissioners possessed no official place of meeting. In 1807, however, the Public

¹ Established under the Act of 1769 9 Geo. III c.83. Vide GILL, C. Birmingham under the Street Commissioners. 1769-1851. *University of Birmingham Historical Journal*. 1. (1948). 255-87.

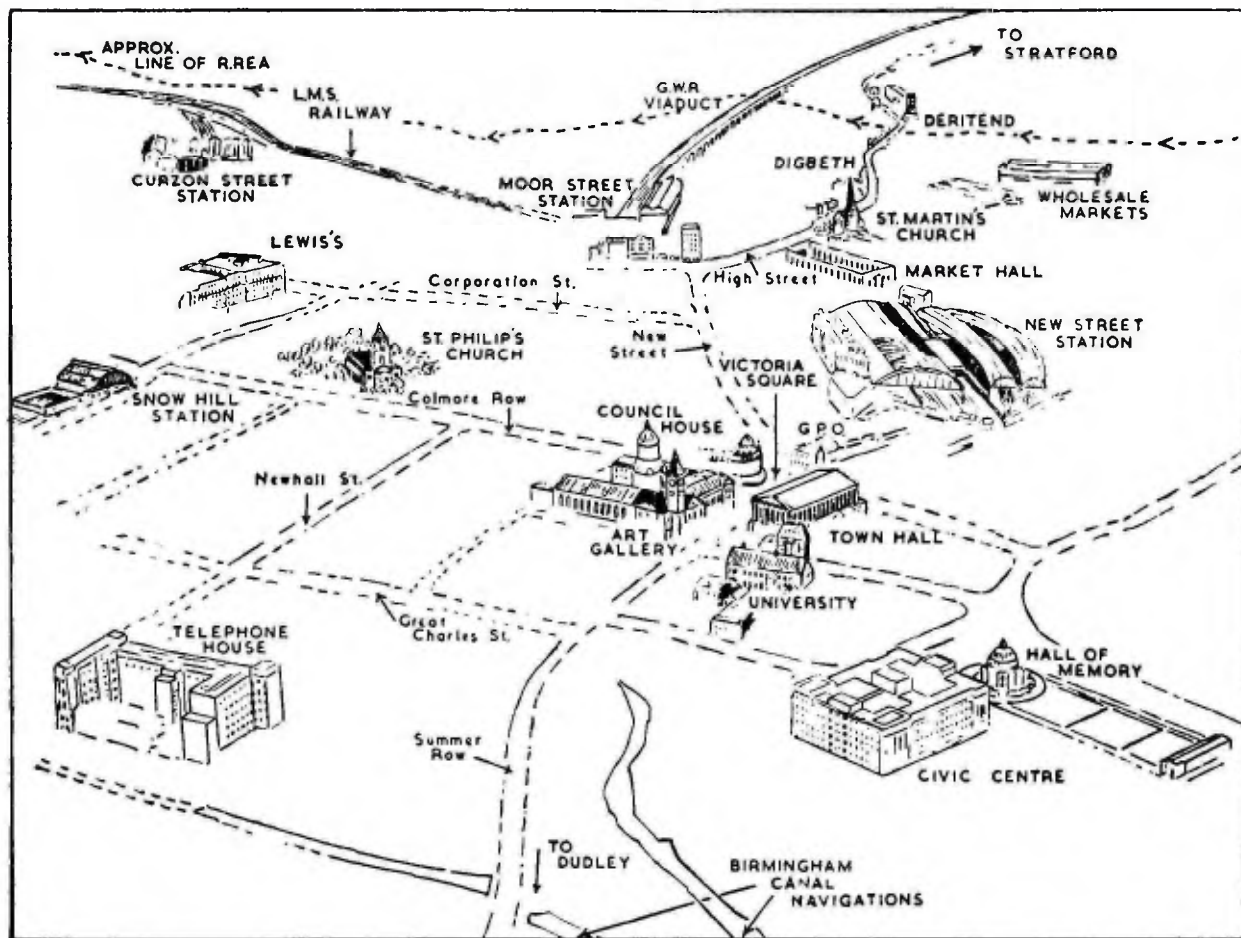


Fig. 42

Office in Moor Street, designed and built specifically for their use, was opened. Situated within a short distance of St. Martin's this, again, tended to confirm the traditional location of the administrative heart of Birmingham. Of greater importance was the decision to erect a Town Hall, for this proved to be the first step in the gradual translation of the administrative centre from the neighbourhood of St. Martin's to its present location near the western end of Colmore Row (Fig. 42). The Town Hall, designed and built solely as an Assembly Hall, was opened as such in 1834. Land in the vicinity of the Town Hall had been bought by the Commissioners and by leading townsmen, and this location was eventually chosen for the erection of the Council House, opened officially in 1879, and for subsequent municipal building.

Further important changes in the appearance of Birmingham, begun by the Commissioners, included the concentration of markets, formerly held in the open air in various streets of the town. The final result of their policy is seen today in the concentration of retail and wholesale markets in a comparatively confined 'quarter' extending from the Bull Ring to Moat Row and Bradford Street (Fig. 43). Projects for the siting of the cattle market in Moat Row were under consideration in the early years of the century. In 1806, the Commissioners leased the market rights from the Lord of the



A recent air photograph of the centre of Birmingham. See key diagram on opposite page.

Manor, for a period of twenty-one years, and they were later acquired outright. By 1815 the Manor Place beside Moat Row had been cleared and buildings and stalls for a cattle market erected. Some years earlier, the general market had been moved from the High Cross down into the Bull Ring, and eventually a scheme for a covered Market Hall was mooted. Pamphlets of the period reflect the local controversy regarding the site for the proposed Hall, which was not finally opened on its present site between Worcester Street and the Bull Ring until 1834 (Fig. 42).

Of great importance was the entry into the town of the railways. Early railways, including the Grand Junction Railway (opened in 1837) and the London-Birmingham Railway (1838) terminated on the eastern outskirts of Birmingham in the Rea Valley at Duddeston. This was the nearest point to the town centre to which the railway could be brought without involving tunnelling or the demolition of property. For the London-Birmingham railway, a terminus was erected at Curzon Street, Duddeston with an "imposing stone edifice" flanked by four Doric columns, "in humble imitation," it was said, "of the massive arched entrance to the Euston Square terminus in the metropolis." The wanderer in the squalid streets of Duddeston will still find standing this monument to the early railway pioneers. Curzon Street was, however,

too remote from the real centre of Birmingham to remain for long as the main centre for passenger traffic. Proposals for extending the main streets of Birmingham to this station were considered but after a few years Curzon Street was left to become only a centre of the heavy goods traffic for the growing town.

No opposition was offered by the Commissioners to the final entry of the railways. By the early 1850's Birmingham had become the centre of a network of railways and two main stations, at New Street and Snow Hill, had been constructed within the town centre. New Street station was approached at both ends by tunnels, and its construction necessitated the clearance of a part of one of the worst slum areas of Birmingham, including King Street, Peck Lane, the Froggery and many other courts and alleys.

In the centre of the town, the increase in wealth and prosperity was reflected in the growth of public buildings and the extension of the retail shopping area. Building density increased steadily and vacant plots were seized upon for the erection of shops and warehouses.

Social conditions

The rapid growth of Birmingham in size and population was far from matched by improvements in sanitation and public health services. Despite this, Birmingham enjoyed, in comparison with other large industrial centres, the reputation of a comparatively healthy town. This was stressed, somewhat naturally, by local directories at the opening of the century. "The air is naturally exceeding pure, and notwithstanding the disadvantages which must result from its close population, the noxious effluvia of various metallic trades, and, above all, the continual smoke arising from the immense quantity of coals consumed, it is remarked . . . to be one of the healthiest towns in England."¹ Observers and investigators during the nineteenth century compared Birmingham favourably with the Metropolis, the Black Country and the industrial centres of the north of England. This was due, in part, to the comparative prosperity enjoyed by the craftsmen and small masters of Birmingham, in, particularly, the gun and jewellery trades. "At Birmingham, trade depends so much more upon individual skill rather than on great combinations of capital ; for that skill there is a high price paid at Birmingham, while at Manchester, skill, except among the machinists, is not wanted at all."² It followed that, in Birmingham, "the general custom of each family living in a separate dwelling is conducive to comfort and cleanliness."³ The high and naturally well drained site of Birmingham was a further important factor influencing sanitary conditions ; the town was, in the words of contemporary observers "built for the most part on the sides of hills and the valleys which divide these hills constitute a natural drainage ; the soil also being sandy and gravelly is very porous."⁴

However, obstructions to the free drainage of the streams gave rise to nuisances. On the river Rea, which was still liable to flood the houses and streets in the 'watery' parts

¹ Ward's *Directory of Birmingham*. (1798). 4.

² *Report from the Select Committee on the Health of Towns*. (1840). 75. ³ *Ibid.* xii. ⁴ *Ibid.* 176.

THE REGIONAL PATTERN OF BIRMINGHAM IN 1859

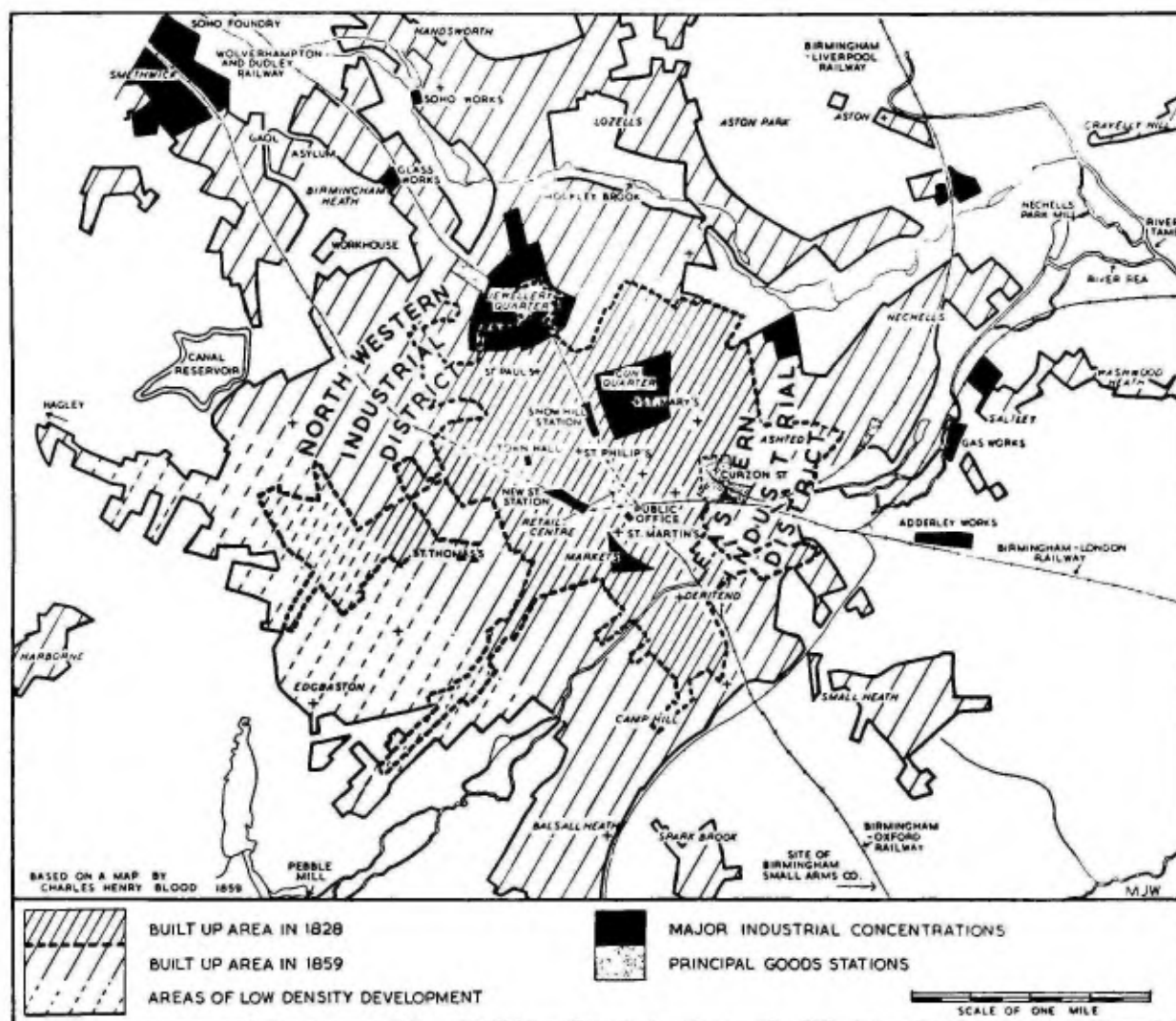


Fig. 43

of the town in Digbeth and Deritend, the chief obstruction was Duddeston Mill. Here the water, which was impounded for a distance of up to one mile, received the main drainage of the town.¹

Within the town itself, conditions were far from ideal. Though there were no cellar dwellings, many streets were narrow and the state of the poorer class houses was reported as 'much neglected.' Though the leading streets possessed underground drainage, open sewers lay in front of the houses in the Bordesley and Deritend districts. Bordesley and Summer Lane were built, chiefly, of back to back houses; there were many 'close courts.' The habit of "keeping pigs in the courts and houses of the poor" was said to be productive of great evil. This was not surprising for the pig population of the borough in 1845 numbered no less than 3,210.²

¹ *Parliamentary Papers*. (1845). 18. Appendix 1. 4.

² *Ibid.* 3-4.

THE EXPANSION OF BIRMINGHAM 1860-1914

Changes in the industrial pattern

The principal features of the industrial pattern of Birmingham in 1860 have been summarised on Fig. 43. By this time the gun and jewellery quarters were almost fully evolved, and the general pattern of the present central industrial districts had been determined. The factors influencing industrial location now began to change, and one notes the gradual growth of 'pockets' of industry on the fringes of Birmingham at a distance of up to two or three miles from the centre of the town. The causes of this change in the industrial pattern may be seen to lie partly in developments in industrial organisation. Prior to about 1860, a principal characteristic of industrial Birmingham had been the "large number of small masters employing a few workmen" in the various trades. Normal dwelling houses provided adequate accommodation for this type of enterprise. Though workshops of this type continue to thrive to the present day, the activities of many of them began, by 1860, to be absorbed in large factories. The factory system was associated with developments in the gun trade, and the large-scale production of military arms was begun by a number of companies at points on the eastern fringe of Birmingham. New industries, introduced during this period, included the manufacture of cycles, electrical apparatus and motor cars¹ and these, too, were accommodated in large factories built on the fringe of Birmingham.

The principal changes in the industrial pattern may be seen clearly on Fig. 44. Four main directions of growth appeared. To the north-west an industrial district developed along the banks of the Birmingham canal, beyond Ladywood. Here, in addition to the good rail and canal facilities, the barren waste of Birmingham Heath offered cheap sites for industrial concerns. Proximity to the Black Country was an added attraction and the district grew as a predominantly metal working centre.

New industrial districts grew alongside the canal and railway at Selly Oak, Bournville and Stirchley to the south-west and south of the town centre. Selly Oak and Stirchley were primarily interested in metal working. On the other hand, Bournville became the home of the famous cocoa and chocolate factory of Cadbury Brothers who removed from the town centre in 1879. Around the factory was developed the celebrated 'village' of Bournville, one of the first practical experiments in planning 'garden cities.'

A long tongue of industrial development stretched south-eastwards along the Warwick Canal and the Birmingham-Oxford railway. The largest single factory was that of the Birmingham Small Arms Company, established at Small Heath in 1861. In this group may be included, also, subsidiary centres at Hay Mills and Greet. At Hay Mills the water power of the river Cole had long been in use for industrial purposes; the adoption of the steam engine as a source of power made great expansion possible and a new industrial district grew about the old centre by the river Cole.

¹ For details *vide* ALLEN, G. C. *The Industrial Development of Birmingham and the Black Country*. (1929). 291 *et seq.*

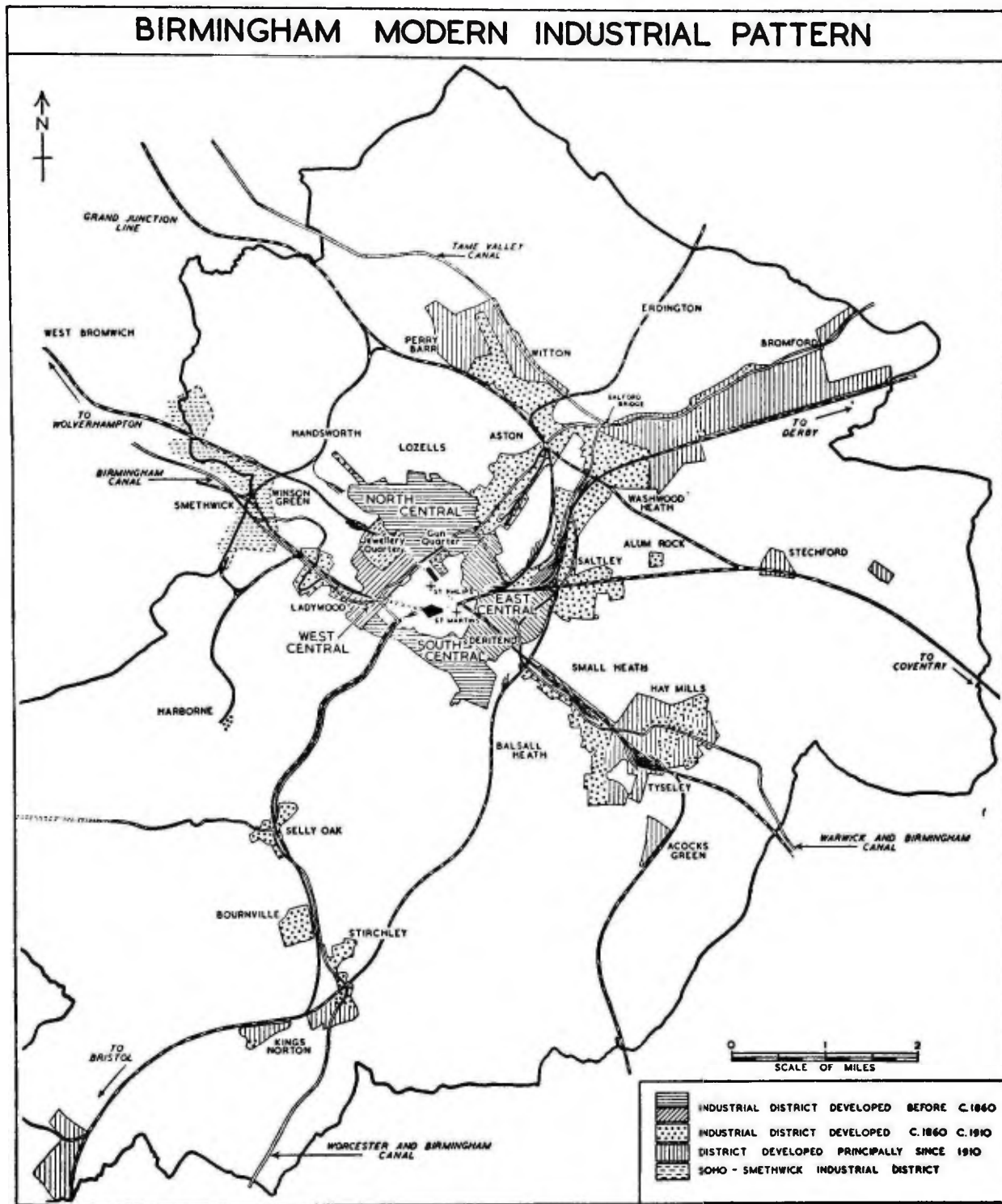


Fig. 44

The most important of all the industrial changes of this period took place to the north-east. Two tongues of industry spread outwards in this direction. The northernmost followed the line of the Fazeley canal to Aston ; the southern tongue utilised available cheap land in the Rea valley, hitherto undeveloped on account of its liability to flood. This tongue was also well served by transport facilities, particularly by the main Birmingham-Derby line which followed the valleys of the Rea and Tame to the north-east. Factories in this tongue included large railway wagon and motor works in addition to the gas works which were grouped at Saltley and Nechells. The Saltley district forms, to the present day, the most unsightly of all the industrial areas of the city.

At Salford Bridge, near Aston, the two tongues met, and thence industry spread out to the east and north-west along the Tame valley. Like much of the Rea valley, the lowlying land here remained unsuitable for housing development and was available cheaply for industrial use. The valley was used already by the Tame Valley and Fazeley Canals as well as by main railway lines. The Grand Junction line passed to the north-west through Perry Barr to Bescot and Walsall, the main Derby line followed the valley to the east. The establishment of a large works at Witton "for the manufacture of cartridges and fog signals" was noted in the Census Report of 1871. Perhaps the most important single development was the erection at Witton of the works of the General Electric Company in 1901. Witton became the chief centre of the local electrical trades at this period.

Suburban development

Around and between these industrial areas grew new suburbs. As early as 1859 (Fig. 40), Small Heath, Saltley, Aston, Lozells and other districts had begun to grow. Suburbs, erected during this period, remain easily recognisable by reason of the well defined, regular, rectangular street pattern and the long monotonous rows of uniform terrace houses. A wide belt of districts of this type arose, ranging from Perry Barr and Aston in the north, through Saltley and Small Heath in the east of Birmingham, to Sparkbrook and Selly Oak in the south. Terrace houses represented, also, the first major additions to such outlying village centres as Erdington, Stechford, Yardley and Harborne.

Prior to 1860 the rural character of many of these villages had been preserved almost intact. By 1880 Acocks Green had become a village of considerable size, due in part to the ease of railway communication with Birmingham itself. Yardley parish, which lay to the east of Birmingham and included large areas of terrace housing at Sparkhill, Greet and Hay Mills, together with the outlying centres of Stechford, Yardley and Acocks Green, showed increases of population from about 3,000 in 1861 to 17,000 in 1891 and 58,000 in 1909. By this time the tramway systems had spread outwards following the increasingly long 'ribbons' of settlement along many of the main roads.

Changes in the central districts

The period was marked also by great changes in the regional structure of the central districts. The new centre of civic administration was now firmly established in its present location at the western end of Colmore Row, near the Town Hall, and the clearance of many acres of squalid slum and industrial property was begun. The most spectacular of all the improvements to the town centre was the completion of the celebrated Corporation Street scheme, with which the name of Joseph Chamberlain is justly associated. In 1875 a Committee of Inquiry had reported upon the state of property in the district through which the street was to be cut. They found "narrow streets, houses without back doors or windows, situated both in and out of courts ; confined yards, courts opening at one end only, and this small and narrow ; the impossibility in many cases of providing sufficient privy accommodation ; houses and shopping so dilapidated as to be in imminent danger of falling, and incapable of proper repair." The new street was begun in 1878 and completed in 1882. Leases of property were granted, to revert to the Corporation after 75 years. "This," declared Mr. Chamberlain, "will make Birmingham the richest borough in the country sixty or seventy years hence."

The results of this and other schemes were to be seen in a gradual reduction in gross population densities in some of the central districts. In Market Hall Ward and St. Paul's Ward a decline in density had set in during the 1850's and was attributed to the acquisition of land for railway and warehousing purposes. A similar decline started in St. Mary's Ward during the same period. Despite this, Market Hall was, in 1871, among the most densely peopled wards with a density of 136 persons per acre. Other areas within about a mile radius of the Bull Ring still showed high densities, ranging from 86 in St. Bartholomew's Ward to 196 in St. George's. By 1891, however, the decline in density was established in all the central wards,

The Extension of Local Government

Changes in the regional pattern were accompanied by developments in the status and size of Birmingham as a local government authority. A Charter of Incorporation as a Borough had been granted in 1838. In 1888 Birmingham became a County Borough, in 1889 a City and in 1896 the title of Lord Mayor was conferred upon the chief citizen. In 1891 began a period of boundary extension that was to culminate, in 1911, with the realisation of the Greater Birmingham scheme under which Aston Manor, Handsworth, King's Norton, Northfield, Yardley and Erdington became parts of the city. Successive increases in area can be considered as a response to the need to bring the physical area of the town's development under a unified administration. The pace of development of local government functions and the rivalries existing between adjacent authorities were such, however, that administrative expansion never quite kept pace with physical expansion until the final realisation of the Greater Birmingham scheme. Even this scheme, which was criticised at the time as excessively ambitious, has now been far outgrown by the physical development of the city.

Amongst the heaviest responsibilities which faced the local administration was the provision of water for a rapidly growing population. By the end of the century local supplies from deep wells and streams were rapidly proving inadequate and the situation of Birmingham, so near to the main watershed of England, made the task of finding plentiful supplies of good water more difficult than in the case of many other large towns. A scheme for the construction of reservoirs in the Elan valley was adopted by the City Council in 1891, and an aqueduct some $73\frac{1}{2}$ miles in length carries the water to Birmingham.¹ The original scheme has undergone a number of modifications to meet the growing demand for water and at the present time three large storage reservoirs are in existence with a fourth under construction.

The general state of Birmingham at the close of this period was examined carefully in a report to the City Council in 1914.² Despite the rapid suburban development many of the evils resulting from an earlier lack of planning remained. The division of the town into central and suburban districts was recognised. Around the public buildings and the retail and commercial centres lay a "jumble of mean streets, huddled terraces, dark, insanitary and badly lit courts" which housed the unskilled labourers of the city. Most of the dwellings were unfit for habitation. 200,000 people were still housed in 43,366 dwellings of back to back type, already long condemned as injurious to health. In the six worst wards from 51%-76% of the houses were of this type. Over 42,000 houses had no separate water supply, no sinks and no drains and over 58,000 no separate sanitary facilities. Despite the great increase in extent of the town, the rate of building had failed to keep pace with the increase of population. Factories and houses were inextricably mixed in the widespread slum districts.

Though many of the evil features of the central districts were repeated in the suburbs erected after 1860, the terrace houses in general, represented a limited advance in convenience and sanitation. The planning of the drab streets and houses, however, still left very much to be desired. Few open spaces were provided. Perhaps the greatest advance was a social one—in the new suburbs, factory and home were separate. The factories and suburbs were built, however, with little regard to the general layout of the city. Birmingham sprawled across the countryside. Life was concentrated on the main roads. Along the roads radiating from the city were built the shops and offices serving the new suburbs. These remain to form a major planning problem today.

RECENT CHANGES IN THE REGIONAL PATTERN

The latest stage in the growth of Birmingham has been a time of industrial progress and prosperity in, particularly, the motor car and allied trades. The results of this prosperity are to be seen in the development of a further series of industrial districts, located, generally, at a radius of three to five miles from the city centre. (Fig. 44).

¹ Vide BARCLAY, T. *The Future Water Supply of Birmingham*. (1892).

² Vide summary in *When We Build Again*. Bournville Village Trust. (1941). 14 *et seq.*

Location of these districts has been influenced by many factors. Control has been exerted under Town Planning schemes, one result of which has been the virtual exclusion of industry from growing residential areas, as, for instance, the Harborne and Quinton suburbs to the west of Birmingham. The demand for increased floor space for modern factories has prompted location on the fringes of Birmingham at points where cheap land and good communications were available. A good example of the development of such a district is that of the Austin Motor Company at Longbridge. The Longbridge factory, developed from the derelict premises of a former printing works, covered some $2\frac{1}{2}$ acres by 1906. As a result largely of post-1914 extensions the factory site now extends over more than 100 acres and around it has grown the modern suburb of Northfield. Other smaller but important centres of this type are situated at King's Norton, Acocks Green and Stechford. At Tyseley and Hay Mills, the modern industrial area has grown up on available undeveloped land and represents an extension of the earlier industrial district. Rail and road communications to the south and south-east are here particularly good.

Perhaps the most striking feature of the modern industrial pattern is the almost complete industrialisation of the valley of the Tame through the city from Perry Barr in the north-west to Bromford and Castle Bromwich in the east. Modern development in these directions represents a continuation of the trends already noted as in existence before 1900, by which time extensive developments had taken place at Saltley in the Rea Valley, and at Aston and Witton. On the wide floodplain of the Tame many large factories have been erected. A particularly important example is the motor tyre and rubber factory at Fort Dunlop, which lies between the main Birmingham-Derby railway and the Fazeley canal. The main roads of the district are lined with small modern factories, producing, in many cases, parts and accessories for the motor and allied trades.

The second principal feature of Birmingham's growth since the 1914-18 war has been a spectacular growth of the built-up area to north, east and south. The outward flood of building has submerged many of the older village centres, including Yardley, King's Norton and Northfield, which, prior to 1914 remained separated from Birmingham. These districts have been transformed from semi-rural centres into almost uniformly built-up areas, with building patterns which, resulting from lower density standards and open layouts, are far less rigid, but no less distinctive, than those of an earlier age.

The results of the activities of modern speculative builders and of the Corporation of Birmingham are now to be seen in a wide belt of predominantly semi-detached modern housing, some two to three miles wide, which extends from Kingstanding in the north, through Erdington, Ward End, Stechford, Yardley, Acocks Green and Hall Green to Harborne and Quinton in west Birmingham, and in which the extensive intricate geometrical designs of the Corporation estates contrast with the simpler linear layouts of the speculative builder.

The speed of the outward growth has left many problems for the Town Planner. Among them, difficulties of providing transport services loom large.

Events of the period have caused great changes in the pattern of development of the central districts. Much sub-standard housing remains, but public works and clearance programmes, coupled with wartime damage, have done much to reduce slum property. Many of the cleared sites have been used for the siting of new industrial premises or the extension of older ones. Other sites have been used for long needed extensions to the city centre both to west and east. Despite these improvements the centre of Birmingham furnishes inadequately the services and amenities necessary to a regional capital. Of the older industrial districts the gun quarter has suffered most and is gradually dwindling in size and importance. Intensive schemes for the replanning of the central districts are envisaged.

Since 1921, changes of population distribution have shown fairly constant trends. By 1911 decline in the population of the central core had been a feature for some decades. The 1914-18 wartime period resulted in a temporary halt but after 1921 the process of evacuation of the central wards was again accelerated. While population on the whole has increased, a steady decentralisation of distribution has taken place. Whereas during the period 1921-38 the population of the city increased by 13·65%, that of the central wards and the 'middle' suburbs decreased by 22·5% and 24·1% respectively.¹ Suburbs in the 'outer' ring showed an increase of 90·8%. More recent work has elucidated further details of the effect of this process on gross population densities. As an example of the central districts, Market Hall Ward, which in 1871 had possessed a density of 136 per acre, experienced a steady decline in density from 57 persons per acre in 1912 to 33 in 1948, while St. Mary's Ward, much of which was built up during the early nineteenth century declined from 90 to 45 per acre. In contrast, over the same period, Northfield increased in density from 1·1 to 8·4 while in the period 1931-48 Perry Barr rose from 6·6 to 26 per acre. Of great importance, also, has been the effect of removal of population into districts outside the city boundary and particularly into the adjacent districts of Solihull and Sutton Coldfield.

Birmingham continues to prosper and to grow. As each year passes the industrial basis of the city becomes more diverse. Birmingham manufacturers have for centuries possessed the secret of modifying their products to suit the changing demands of the market. At a comparatively early stage of development Birmingham possessed marked local geographical advantages of site and position relative to the South Staffordshire coalfield. With a long history of industrial prosperity the city has become the heart of a great industrial district and the hub of a network of communications. From an unimportant village in the centre of uninviting plateau country has grown a city of a million inhabitants. Birmingham today exercises three functions. The city is, firstly, a major industrial centre ; secondly, the commercial capital of the Birmingham-Black Country Conurbation. Birmingham provides, thirdly, a growing range of services for a large and widening region.

¹ *When We Build Again*. 43.

ON THE EVOLUTION OF THE
JEWELLERY AND GUN QUARTERS
IN BIRMINGHAM

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ON THE EVOLUTION OF THE JEWELLERY AND GUN

QUARTERS IN BIRMINGHAM¹

I

The problem of the growth of Birmingham is one which has proved something of an enigma to both historians and geographers. No single all-embracing factor exists to which responsibility can be attributed. Physical, social and economic causes have all played their part in transforming the industrial village of 1700 into modern Birmingham, a city with a population of over a million, the heart of a major conurbation and the regional capital of the West Midlands. Recent studies of this city have been concerned with the historical detail of its growth and with the changing factors influencing that growth at what seem to be key periods.² Accounts of the development and general distribution of industry have been prepared.³ Investigations into the growth of the city in its regional setting and the complex inter-relationships of town and countryside are in progress. Little attention has been

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1. The text of a paper read before the Institute of British Geographers at the Christmas meeting 1948 and to be published in Volume XV of the Institute's Transactions.
 2. In this connection numerous studies by Dr. R.A. Pelham, the late Benjamin Walker, Esq., and others in the Transactions of the Birmingham Archaeological Society are of great importance. A general account of Some Factors influencing the Growth of Birmingham by the present author is contained in Geography, Vol. XXXIII, (1948).
 3. By Professor G.C. Allen, The Industrial Development of Birmingham and the Black Country, (1929); by the West Midland Group, Conurbation: A Planning Survey of Birmingham and the Black Country, (1948) and others.

given, however, to the study of the city's morphology and structure or to any consideration of the origin and present strength of its 'natural regions'. The study of the regions of a city is a particularly important aspect of the geographical study of towns. It involves the study not only of its 'quarters, their raison d'etre, their aspect and their population, and the study of the streets that characterise the quarter',¹ but also of the origin and causes behind the development of those 'quarters'. The present paper considers two functional areas, areas in which specialisation of function has been carried to an extreme point.

II

Arranged concentrically about the small and inadequate city centre and commercial heart of Birmingham are the three 'rings' or belts in which lie all the city's principal industries. The details of this pattern have been demonstrated elsewhere.² Broadly, the innermost 'ring' includes the districts that were developed prior to about 1860, and it now forms an almost continuous belt of factories and workshops broken only by blocks of small, semi-derelict, mid-nineteenth century houses. The so-called 'middle ring' of industry is in fact a series of industrial 'pockets' or factory groups located in response to the

1. Raoul Blanchard, cit., R.E. Dickinson, *City, Region and Regionalism*, (London, 1957), p. 144.

2. *Conurbation: A Planning Survey of Birmingham and the Black Country*, (1948), p. 112. See also *Birmingham and its Regional Setting*, (1950), p. 213 et seq.

changing conditions and needs of industry in the period between c.1860 and 1914, at a radius of some 2-3 miles from the city centre. The manufactures of these factory groups are typical of the trades introduced into Birmingham during the transitional period in the last quarter of the nineteenth and the first decade of the twentieth centuries, and include the manufacture and assembly of bicycles, electrical apparatus, motor cars and machine tools. Long, straight, monotonous and dismal lines of terrace houses, so typical of the quickly grown nineteenth century industrial town, separate the industrial districts of the middle ring, while, in contrast, the more widely dispersed factory groups of the 'outer ring' lie among the comparatively well planned suburbs of post-1918 Birmingham. The manufactures concerned are largely those of recent origin and among them the motor car and aeroplane industries are of especial prominence.

Since the beginning of the eighteenth century a complete transformation in the scale and scope of Birmingham's industrial development has taken place. Trades have expanded in number until in 1948 the industrial structure of Birmingham is probably more broadly based than that of any city of equivalent size in the world. Again, since 1700, a further secret of Birmingham's industrial success has lain in the adaptability of its trades to meet the changing demands of both local and

world markets. The results of such changes in the type and emphasis of its manufactures can be traced in the city's modern industrial pattern: and, despite the magnitude of the changes involved over a period of two and a half centuries, practically all the trades concerned find representation on a modern distribution map. Most emphatically is this the case with two of the city's oldest trades - the manufactures of guns and jewellery - for within the inner or central 'ring' of industry lie two districts devoted entirely to these manufactures. In each the concentration on its particular industry is so great as to earn for it the title of 'quarter'. Not only, however, do the jewellery and gun quarters represent industrial districts of especial interest; they form, in addition, two of the outstanding and best defined of the 'urban regions' or 'functional areas' of Birmingham. In few other regions of town or country in the West Midlands is such 'intrinsic wholeness' displayed as in these two Birmingham quarters.

III

Attention has been drawn by a number of writers to the high degree of localisation characteristic particularly of the jewellery quarter,¹ while a considerable literature bears testimony to the number of investigations carried out into the structure and economic history of the two

1. Especially by Professor P. Sargant Florence in his *Investment, Location and Size of Plant*, (Cambridge, 1948).

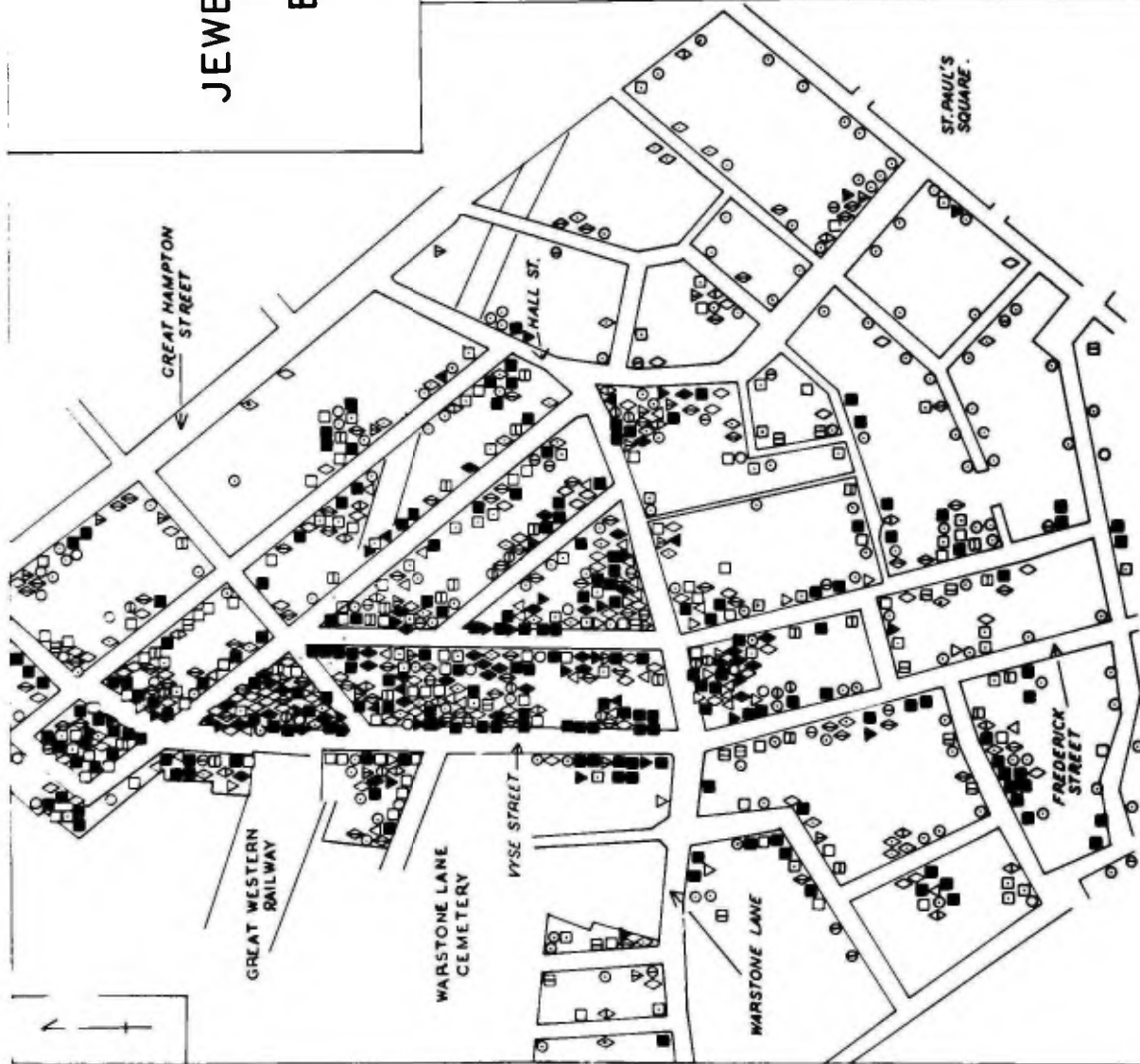
trades.¹ Previous investigations have been largely concerned, however, with statistical analysis of localisation² and with historical detail, with the result that many features of the distribution of trades and of the cultural landscape and regional character of these quarters have been overlooked.

Both quarters lie within a mile of the centre of Birmingham. The gun quarter is situated to the immediate north and the jewellery quarter to the north-west of the heart of the city. The jewellery quarter is today by far the larger, although it covers only a little more than a hundred acres. The high concentration of jewellery firms in this district is shown on the distribution map, which was produced as the result of a recent survey (Fig. 1). The quarter itself occupies a roughly triangular area lying between the north-south line of Vyse Street to the west, the vicinity of St. Paul's

Church to the south, and Great Hampton Street (the main

1. Of these accounts the most important are: J.S. Wright, *The Birmingham Jewellery and Gilt Toy Trades*; and J.D. Goodman, *The Birmingham Gun Trade*; in S. Timmins (Ed.) *The Birmingham and Midland Hardware District*, (London, 1866). Artifex and Opifex, *Causes of Decay in a British Industry*, (London, 1907). G.C. Allen, *Industrial Development of Birmingham and the Black Country*, (1929) has points of general interest concerning the history of the trades. The following unpublished theses in the Library of the University of Birmingham represent studies of considerable value, D.W. Young, *History of the Birmingham Gun Trade*; J.C. Roche, *History, Development and Organisation of the Birmingham Jewellery Trade*. The most recent account of the development of the Gun Trade is that in Clive Harris (Ed.) *The History of the Birmingham Gun Barrel Proof House*, (Birmingham, 1947).
2. Sargant Florence, *op.cit.*, p. 62.

THE JEWELLERY QUARTER IN BIRMINGHAM. 1948



LEGEND

- GOLDSMITHS AND MANUFACTURING JEWELLERS
- SILVERSMITHS
- ▣ ELECTRO-PLATERS
- MEDALLISTS
- GILT AND IMITATION JEWELLERY
- ◇ GEM SETTING
- ◇ STAMPING AND PIERCING
- ◇ ENGRAVING, POLISHING AND ENAMELLING.
- ◇ DIE SINKERS.
- △ JEWELLERY REPAIRERS
- ▲ REFINERS
- ◇ GENERAL OUTWORK
- ▼ FACTORS AND MERCHANTS
- ▼ DEALERS IN BULLION AND PRECIOUS STONES
- ▼ JEWELLERS' MATERIAL SUPPLIERS
- MANUFACTURERS OF OPTICAL GOODS
- MANUFACTURERS OF FANCY LEATHER GOODS
- WATCH MAKERS
- MISCELLANEOUS MANUFACTURES

MJM

FIG. 1

road between Birmingham, West Bromwich, Wednesbury and Wolverhampton) to the east. The area is a confined one, densely packed with long lines of mid-nineteenth century three-storeyed houses now converted into workshops and factories. Within the quarter the jewellery and allied trades¹ are very highly concentrated. 'Every house is a workshop and every workshop is engaged in some process connected with the jewellery trade'.

The map clearly reveals certain important features. The core of the present quarter appears as the area in which the master goldsmiths and jewellers are concentrated. This occupies relatively few streets, the principal of which is Vyse Street. Also apparent, even on a simplified map, is the high degree to which specialisation and subdivision of processes has been advanced. Although firms exist in which all processes are gathered under one roof, specialisation has been historically, and is still, a characteristic feature of the industry's organisation. Side by side with the factory, in which as many as possible of the processes of manufacture are gathered, co-exist hundreds of small firms, each carrying out a single stage of manufacture. Associated closely with this feature is the small size of the majority of the firms engaged. A recent estimate claims that no

less than 60 per cent. of the total output of the Birmingham

1. This group of trades includes in addition to the manufacture of high quality jewellery itself the production of gold rings and chains, silverware, high class electroplate, medals and trophies, and gilt and imitation jewellery.

jewellery trade springs from firms with less than 10 employees.¹ In distribution, this finds its reflection in the remarkable number of firms located in the district. A single house may itself often afford premises to three or four distinct firms, with others gathered in workshops built on the yard at the rear. (Fig. 2) One firm visited in the course of a survey of the area was found to consist only of two ageing ladies who, in a tiny tumbledown piece of shopping, performed outwork for larger firms. The existence of outworkers specialising in particular processes is still a feature of the industry, and the peripheral distribution of firms engaged in process work should be noted. The industry is, generally speaking, one in which skill is of greater importance than machinery. In the past little capital outlay was necessary to set up a small firm. 'All that is needed for a workman to start as a master is a peculiarly shaped bench and a leather apron, one or two pounds' worth of tools (including a blow-pipe), and for materials a few sovereigns and some ounces of copper and glue. His shop may be the top room of his house, or a small building over the washhouse at a rent of 2s. or 2s. 6d. per week, and the indispensable gas jet, which the Gas Company will supply on credit'.² A final element in the situation was, and to some extent is still, the existence of the factor system. Factors and merchants

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1. Working Party Report, The Jewellery Industry, H.M.S.O., (1947), p. 9.
 2. J.S. Wright, op.cit., p. 454.



WORKSHOPS IN THE HEART OF THE BIRMINGHAM JEWELLERY QUARTER 1948

FIG. 2

with similar functions are found throughout the area, though the true distribution is somewhat masked by the fact that many manufacturers act also as factors on behalf of small men. The existence of this class of factors has been, however, of considerable importance in the evolution of the quarter in that they provided a ready-made system of marketing for the small master who invariably sold his finished, and even in some cases a semi-finished, product through the agency of a factor.

A survey of the present quarter reveals the existence of three major sub-regions. Of these the first, which includes the heart of the quarter in the neighbourhood of Vyse Street, has already been discussed. The second is in the south and south-west of the district in Warstone Lane, Frederick Street and to the north of St. Paul's Square. Here the characteristic firm is larger than in the heart of the ^uquarter and may employ over 100 workpeople in a factory, as distinct from a converted dwelling house. Whereas these factories were built for the most part before 1914, the third sub-region, aligned along Great Hampton Street, consists of factories of similar size engaged mainly in the gilt and cheap jewellery trades and developed since 1918. With the expansion of these branches of the industry since the 1914-18 war and their concentration in factories employing machinery to a much larger extent than previously, has come some degree of breakdown ~~in the~~

in the influence of localising causes. The tendency has been for an expansion of the areal distribution of the jewellery trades. Whereas concentration remains exceedingly high in the heart of the quarter some dispersion has been characteristic on the fringes and particularly among those firms producing cheaper quality goods. In the main the quarter is alive and has recently been showing signs of expansion.

The gun quarter presents some immediate and startling contrasts. It will be seen at once from Fig. 3 that the quarter, which occupies a quadrilateral area between Snow Hill, Steelhouse Lane, Loveday Street and the Razeley Canal, is considerably smaller in extent than its near neighbour. In actual fact the extent of the quarter has for some years been declining for reasons both internal and external to the industry. Details of the factors at work within the industry itself will emerge later: external causes have included the inroads on the quarter made by public works schemes, including Joseph Chamberlain's celebrated Corporation Street project and the extensions to the General Hospital and other public buildings in the immediate vicinity. A direct effect of these schemes has been the north-westward extension of the commercial heart of the city and the hastening of the retraction of the quarter's boundaries. A second major contrast lies in the fact that the gun quarter does

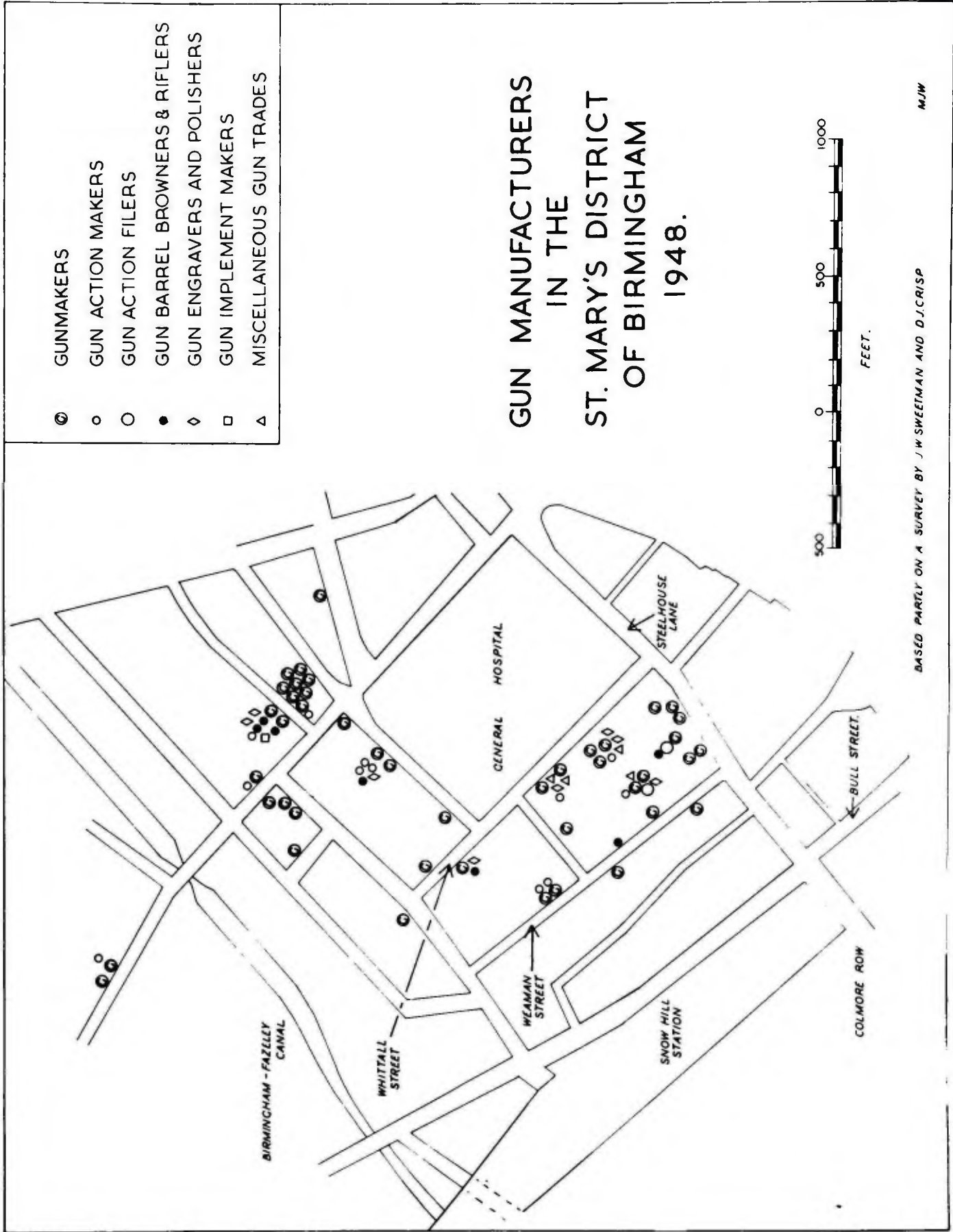


FIG. 3

not represent a concentration of the whole or even the greater part of the city's output of guns and other weapons. It is the home still of the larger part of the high class sporting gun trade, but the manufacture of military arms is represented elsewhere in the city in a number of large factories in the 'middle ring' of industry. Though much factory development has taken place within the quarter itself, a characteristic of this, as of the jewellery quarter, remains the comparatively large number of small firms engaged in specialised processes. Though the total number of firms engaged is not so large, the degree of specialisation of process is at least as great, and has been equally important as a factor influencing localisation. An account of the manufacture of guns and pistols in 1767 described for example 'the Number of Hands they go thro' before completed, viz. the Barrel Maker, who wields the Barrel, the Borer, the Filer, then 'tis proved, after this it goes to the Ruff Stocker; in the Lock Branch there is the Forger and Filer, and dependent on these are the Furniture Castor, the Engraver, Polisher and Finisher, who are the Gun or Pistol Makers'.¹ The small unit and subdivision of process remained universal in the trade until the middle of the nineteenth century, and are still a feature of the high quality sporting gun manufacture. In this branch workshops are still to be found in small converted houses, often dating from

1. Sketchley's Birmingham, Wolverhampton and Walsall Directory, (1767), pp. 30-31.

the mid-eighteenth century, crowded in congested streets and courtyards.

The character of the localisation of industry in each quarter is clear. Whereas the jewellery quarter still enjoys a considerable measure of prosperity, the general atmosphere in the gun quarter, although many individual firms still prosper, is of decline in the numbers of firms engaged and of reduction in the size of the quarter. It will be seen that the two quarters do, in fact, form distinct regions, and, as such, present certain questions to those interested in the geographical study of town growth. We have to explain firstly, the location of the quarters in their present positions, secondly, the high degree of localisation exhibited, and, thirdly, the difference between the large and prosperous jewellery quarter and the smaller size and shrinking boundaries of the gun quarter.

IV

A transformation of Birmingham's industrial structure had commenced by the beginning of the eighteenth century. During the latter half of the seventeenth century the leather and textile trades, which had contributed much to the town's early success as a trading centre, were declining in importance. So, too, was the manufacture of nails, edge tools and sword blades - in the last of which Birmingham men had figured prominently during the Civil

War. The causes of the relative decline of these trades were regional and have been discussed elsewhere.¹ In their places new manufactures were being developed, and a phase of intense industrial activity commenced. In the changing conditions - the rapid growth of the coal mining and iron manufacturing industries of South Staffordshire at this time exercised an undoubted influence - Birmingham's new trades were mainly of the type that needed little raw material and much skill. In particular, the manufacture and assembly of guns became of especial importance. In this trade semi-finished gun locks and parts were imported from manufacturing towns newly grown on the South Staffordshire coalfield, such as Wednesbury and Willenhall, to be processed, finished and finally assembled in Birmingham. The enterprising agents of the town were active in the home, and more particularly in the colonial market, and during the eighteenth century increasing numbers of weapons made in Birmingham found their way to the dominions of the East India Company and to West Africa. Even as early as 1700 gunsmiths had advanced to the status of men of property and esteem in the town. Among the other new trades the manufacture of buckles and of iron and steel toys were of increasing importance. Here again, the cost of transport of the raw material was small in proportion to the increase in value

1. See, for example, *Some Factors Influencing the Growth of Birmingham*, Geography, Vol. XXXIII, (1948), pp. 176-90.

resulting from the skilled manipulation of the Birmingham craftsmen. During the first half of the eighteenth century Birmingham buckles and toys, though often notable for their ingenious character, were not distinguished for their quality, and it was not until well after 1750 that improvement in the quality of the town's products became of any great significance. It was, however, out of these early eighteenth century manufactures of buckles and toys that, at the end of the century, the jewellery industry developed.

During this period of expansion the demand for industrial accommodation in the town rapidly became acute. Little change in its size had taken place since the middle of the sixteenth century. Building was confined to the long, narrow ribbon of settlement in the Digbeth-Deritend neighbourhood and to the eastward slopes of the Keuper Sandstone ridge where roads from Coleshill, Wolverhampton and Halesowen converged for the crossing of the Rea. By 1700, the population had reached 15,000 and, despite limited building extension, accommodation for industry had become very congested in the old streets around St. Martin's Parish Church.

The building of new suburbs on the north-western borders of the town began soon after 1700. These were planned estates, typical of the age, and designed only for select residential purposes. Manufacturing or trade

was excluded from them by the simple process of insertion into the leases of appropriate restrictive covenants. The way in which social as well as geographical factors conditioned the direction of growth of Birmingham at this period has been mentioned elsewhere.¹ The result was that growth was possible only on the north and north-western sides of the town, and it was not until the 1740's that any opportunities arose for a spread or migration of trades out of the crowded streets of old Birmingham. This decade saw the opening for building purposes of land on the edge of the town and on either side of the main road to Wolverhampton, land which was well suited to building purposes and which was, moreover, free from restrictive covenants. The result was an immediate overspill of trades from the congested older quarters, and gunsmiths, button, toy makers and others were quick to take advantage of the new possibilities. To the St. Mary's district, the first of those new estates to be opened, there occurred almost immediately a migration of gunsmiths. The gun industry was already a staple trade in the town, and the majority of gunsmiths were prosperous small masters. By 1777, only some 30 years after the new estates had been opened, no less than one half of the gun manufacturers of the town were in business in houses on the new estates.² Of even greater importance was the concentration of the

1. Geography, Vol. XXXIII, pp. 185-6.

2. Fearson and Hollason's Directory of Birmingham, 1777.

majority of these in a small area of four streets in the St. Mary's district (Fig. 9) on the actual site of the present gun quarter. Some degree of localisation was already apparent. The origin of the present quarter may then be traced accurately to this period immediately following the opening for building of the land in the angle formed by Snow Hill and Steelhouse Lane in the early 1740's. It was here and in Weaman Street in 1765 that Lady Selbourne 'went to a Quaker's to see the making of guns'.¹ The Quaker in question was a member of the Galton family, one of the most influential families in Birmingham. It may be due, possibly, to his influence in attracting to the neighbourhood of his works lesser manufacturers and processers that the first localisation of part of the trade appeared,² for the Galtons possessed also a mill at Duddeston on the Rea for barrel grinding and polishing and were large manufacturers who doubtless employed the services of many outworkers and processers. The clear fact emerges, however, that by 1777 the advantages of localisation in the gun industry were already becoming apparent.

Distribution maps drawn from the early

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1. Diary of Lady Selbourne, cit., Thos. T. Harman, Dictionary of Birmingham, (Showell, Birmingham, 1885).
 2. According to Mr. Clive Harris the Galtons also erected a Proof House in weamen Street where 'he proved his own barrels and those of any other gunmaker who chose to send them to him for that purpose'. This would again add to the attraction of a location in or near Weaman Street. (Harris, op.cit., p. 17).

directories¹ show that this was not the case in the buckle, toy and allied trades. Nor was it to be expected, for, as yet, all the processes on any one of these articles were performed in one workshop. Subdivision of process was not yet significant in any of these trades. Though no localisation had developed by 1777, the houses of the Newhall Estate (Fig. 9), which lay on the south-west side of the main road to Wolverhampton, had begun to fill with manufacturers of this class, to whom dwelling house and workshop were one and the same place. Migrations of buckle, toy and button makers occurred from the old town to the wide, open streets and more commodious premises on the new estates. In particular, one notes the distribution in 1777 of the so-called 'jewellers', manufacturers for the most part of the 'Birmingham pretences' which attained a world wide notoriety. During the last quarter of the

1. The first complete list of tradesmen in Birmingham was the 'Catalogue' compiled by Thomas Juxon in 1752. No trace of this now remains nor of the first published Directory which appeared in 1763. A copy of the third edition of this Directory, published in 1767, is available in the Birmingham Reference Library. Swinney's New Birmingham Directory appeared in 1773, and Pearson and Rollason's Birmingham Directory: or Merchants and Tradesman's Useful Companion in 1777. The latter is the Directory principally used in preparing distribution maps for the trades of the period. After 1777 Directories were produced by various publishers at frequent intervals. Reservations must of course be made regarding the complete accuracy of the information contained in the early Directories. As far as distribution is concerned, it is reasonable to suppose, however, that inaccuracies were relatively evenly distributed and there is little cause to doubt the reliability of conclusions drawn from accurately prepared and checked distribution maps.

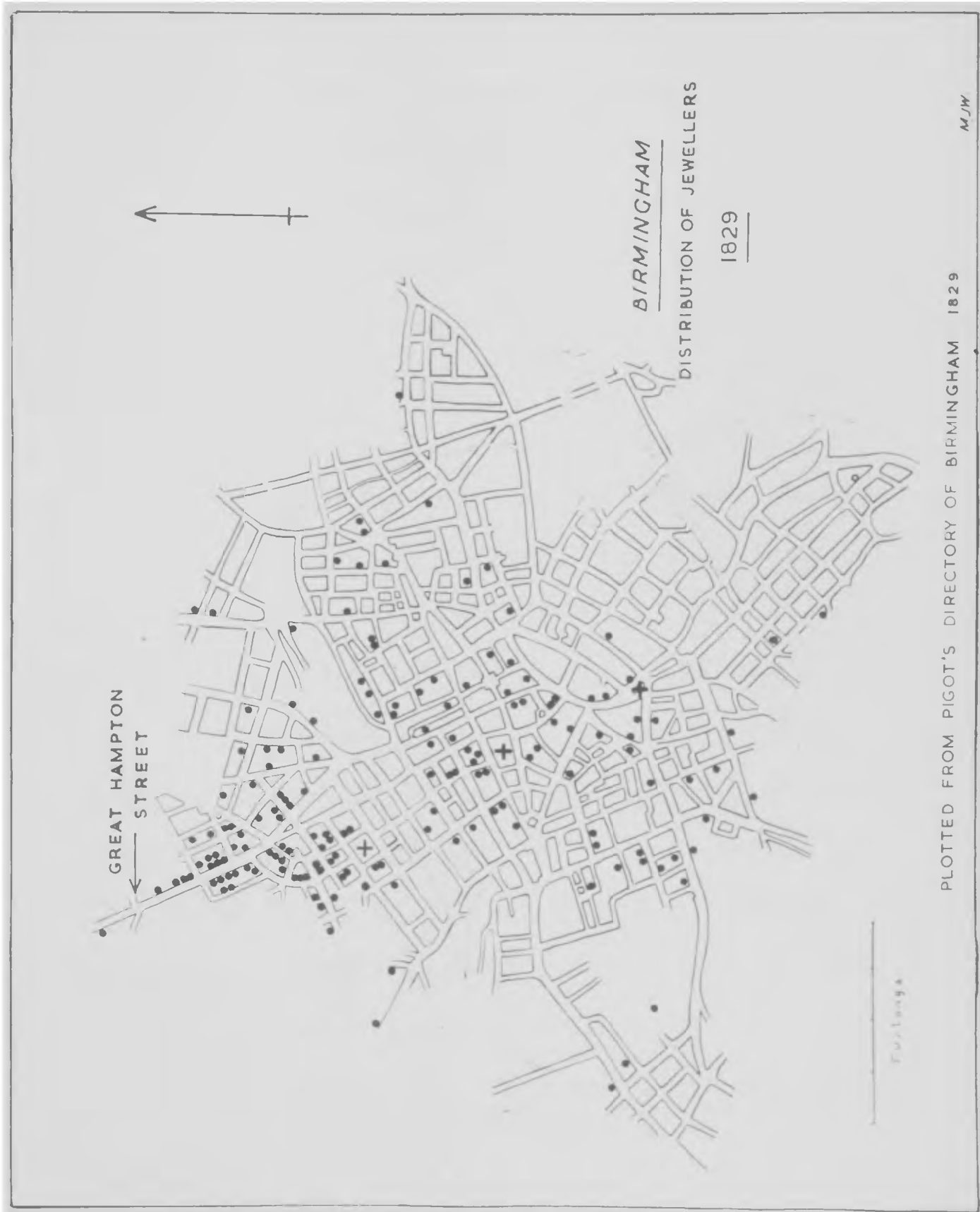
century there began, however, a real movement in the quality of the product of the Birmingham jeweller. This was, no doubt, an early example of that quick response to the changing demands of its markets which has been one of the secrets of Birmingham's industrial success. The movement for higher quality of output was initiated by some of the leading manufacturers of the town, among them John Taylor who had risen from a workman to become proprietor of a factory manufacturing gilt and japanned toys, button and snuff boxes.¹ Greater prominence has been given in this connection to the work of Matthew Boulton, whose Soho Factory became a centre of attraction for the gentlemen of all Europe. Boulton's self-declared aim was to train skilled workers 'to obtain a school of designers who should give to the productions of the Soho Factory an artistic style and finish not obtainable elsewhere'. Boulton, too, was instrumental in obtaining for Birmingham an Assay Office, the establishment of which was authorised in 1773. From the records of early registrations at the Assay Office we can obtain a picture of the distribution of those manufacturers who were dealing in precious metals and were thus distinct from the average buckle and toy maker. The distribution pattern is a general one. Localisation is as yet far away. There are, however, significant numbers of registrations of

1. Nash, Collections for the History of Worcestershire, Vol. II, (1799), p. 477.

manufacturing silversmiths from the new streets of the Newhall Estate, and in this district many new factories were established towards the end of the century. In 1796, for example, Thomason, who had been trained at Soho, founded a factory on this Estate in Church Street.¹ It is between this date and about 1830 that localisation in the jewellery industry first developed as an important feature of the trade. During these years, building on the Newhall Estate spread outwards to the immediate northwest of St. Paul's Church, and it was in these streets that new businesses were founded. There was, at this period, a marked concentration on the manufacture of silver plate goods, and manufacture was at first carried on in factories. These were often organised on the Soho model, though on a smaller scale, with their workpeople housed in the immediate neighbourhood. These factories formed a nucleus in the newly developing high-quality trade, and as, during the period of expansion of the trade which followed, 'their employees were continually setting up on their own account, there was soon a larger number of firms in existence'.² Many of the new firms were small, and some beginning was made in that great specialisation of process which is today an outstanding feature of the trade. The result of this process is seen in the first development of a localised jewellery quarter.

1. J.C. Roche, *op.cit.*, p. 18.

2. *Ibid.*, p. 17.



PLOTTED FROM PIGOT'S DIRECTORY OF BIRMINGHAM 1829

MJW

FIG.4

A distribution map for 1829¹ (Fig. 4), reveals a very marked concentration of jewellers in the streets immediately north of St. Paul's Church (Area A, Fig. 9). These were the streets in which the workmen in the trade resided, and here the industry first became concentrated.

In 1829 the industry was concentrated in a few streets north of St. Paul's Church and west of Great Hampton Street. By 1845, however, the industry had spread from its former home to the newly erected houses in streets on the east side of Great Hampton Street (this is area B on Fig. 9). See also Fig. 5. No one area emerges as the centre of the trade. The reasons behind this change are clear. A marked period of industrial depression had been particularly pronounced after 1825, but the introduction of fresh branches and a revival of fashion were responsible for a new period of prosperity and expansion during the middle 1830's. By 1845 the trade employed 3,700 persons, while there were no less than 5,300 toymakers in the town, many of whom were no doubt making jewellery.² During the same period rapid building developments were taking place east of Great Hampton Street³ to provide dwellings for the increasing labour force. The period of prosperity

1. Based on Pigot's Directory of Birmingham, 1829.

2. J.C. Roche, *op.cit.*, p. 16.

3. Lest there should be any doubt regarding the financial capacity of the average jewellery workmen to acquire house property it should be pointed out that they were the highest paid of all the Birmingham artisans. They occupied 'a higher social position than other artisans, They reside in comfortable dwellings ...' J.S. Wright, *op.cit.*, p. 453.

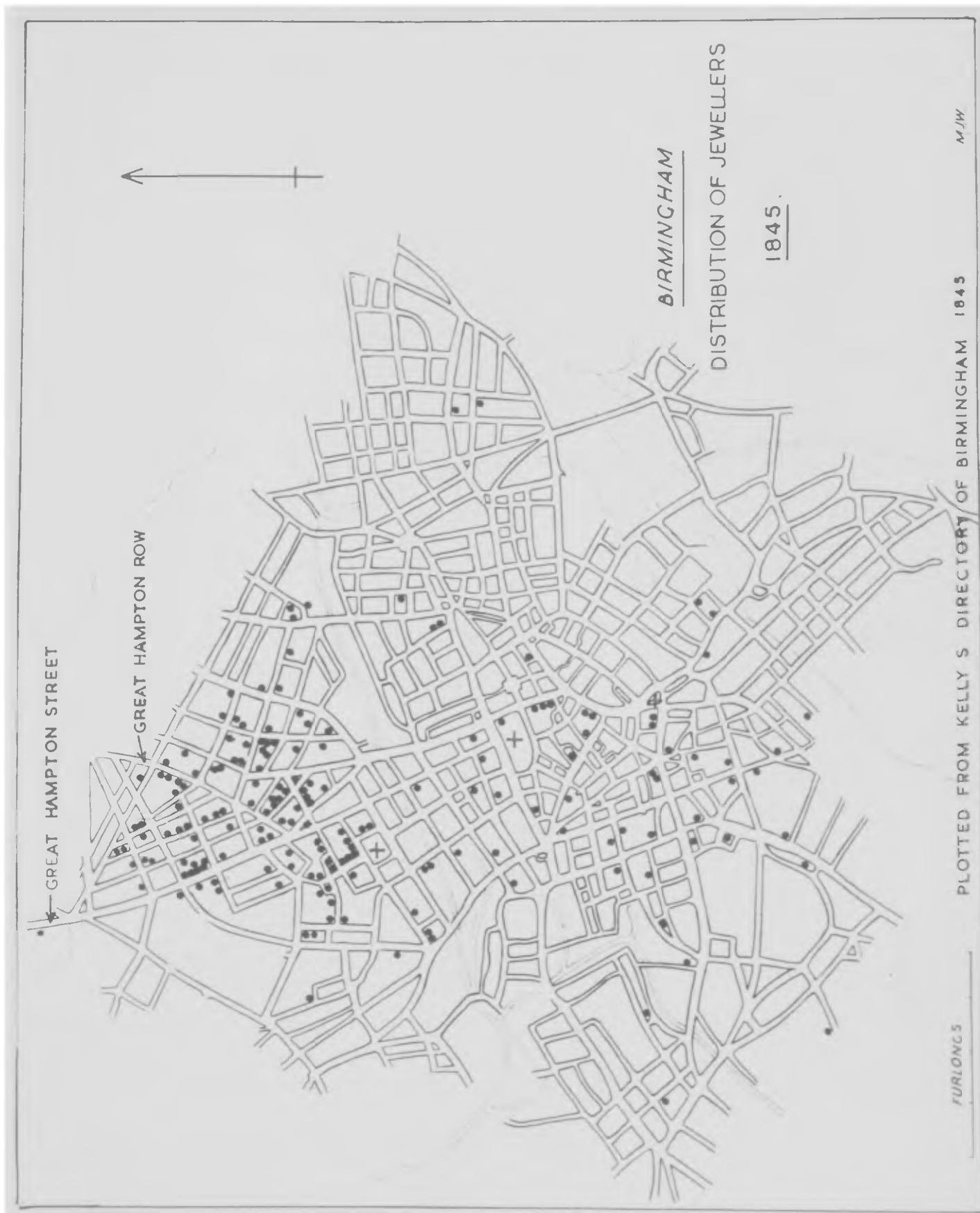


FIG. 5

around 1837 encouraged many workmen in the trade to set up in business on their own account. Subdivision of process was carried a stage further and the number of small workshops increased remarkably.

A similar set of circumstances was responsible for the final shift in distribution. By 1865 a further expansion of the trade, following particularly the gold discoveries in California and Australia, had resulted in a further increase in the number of firms and a consequent deepening of the subdivision of the trade. Meanwhile, on the Vyse Estate on the west side of Great Hampton Street a residential area had been opened, and the process of conversion of house into manufactory was carried through again. Many of the premises on the Vyse Estate were larger than the average north Birmingham house-workshop of the period, and an actual migration of firms can be traced from the streets of Areas A and B on to the new estate (Area C). Though a scattered distribution remained in the district east of Great Hampton Street (Area B), the centre of localisation was now firmly fixed in Vyse Street, Northampton Street and the adjacent district, (Fig. 6.). Subdivision of processes was now complete and the localisation of the trade had fully evolved to its present form in its present quarter. Since 1865 changes in location have been only minor in character. Towards the turn of the century the southernmost streets of the quarter suffered

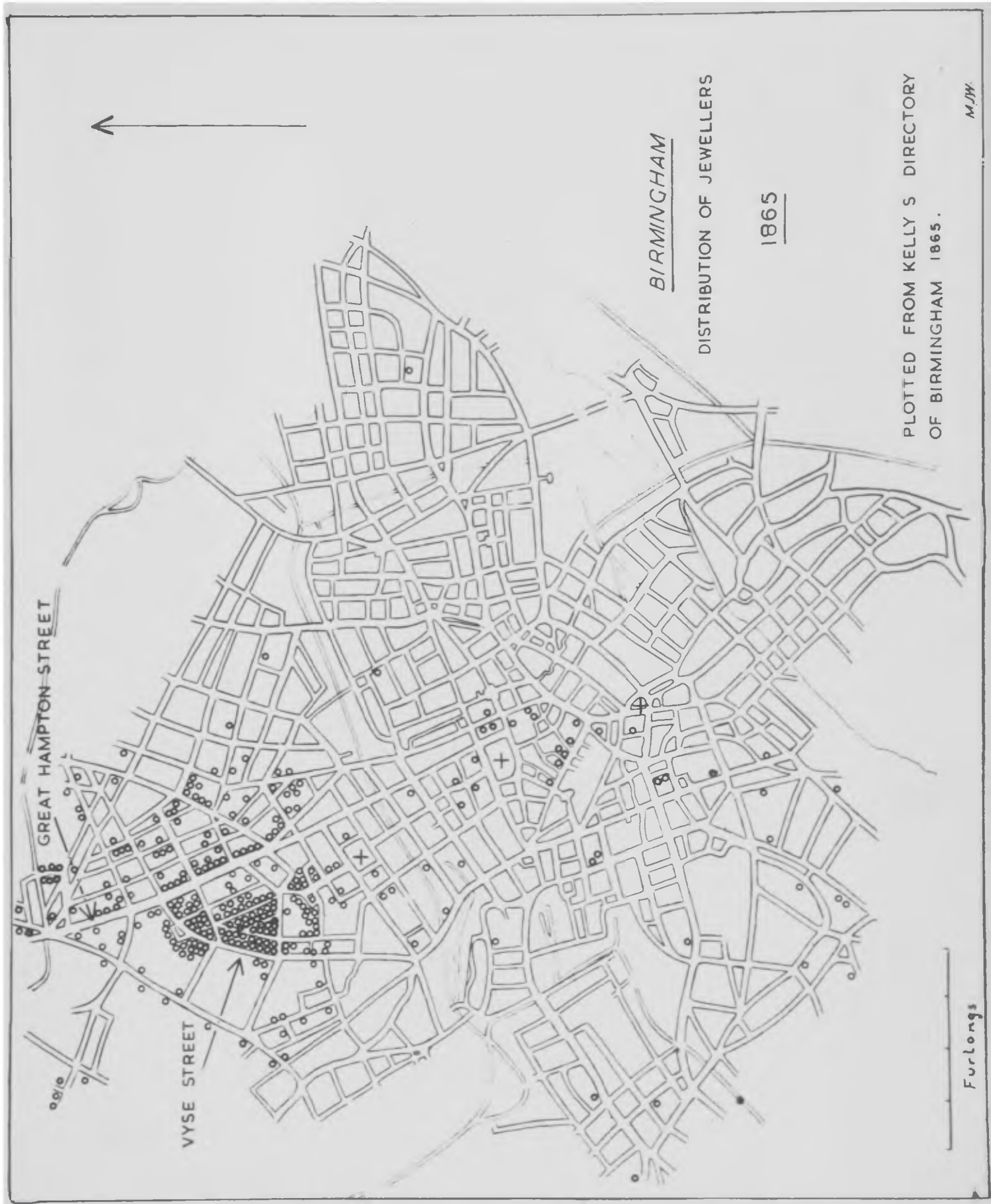


FIG. 6

a gradual transformation following the demolition of the old houses, and the erection of new factories, particularly by the gilt jewellery branches, along the main Wolverhampton road has extended the quarter. The heart of the quarter remains comparatively unaffected. Even here, however, change is in the air, for the majority of leases on the Vyse estate have fallen in or are about to fall in, and plans have been made to reorganise the quarter while retaining as much as possible of its present industrial character.

In contrast to the 'migrations' of the jewellery quarter, the gun trade remained comparatively static throughout the first 60 years of the century. By 1825 the localisation in the St. Mary's district, already noticeable in 1777, was firmly established, (Fig. 7.). Distribution maps for the 1845¹ period and for 1865² Fig. 8, reveal that though the area increased in size in conformity with an increase in the number of firms, there was no change whatever in the location of the heart of the quarter about St. Mary's Square. Varying degrees of localisation did emerge, however, within the industry itself. Distribution of the masters in the trade plotted from the Directories is, for example, much wider than that of such processes as gun engraving or gun barrel browning

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1. Based on Francis White's History and General Directory of the Borough of Birmingham, (Sheffield, 1849).
 2. Jones's Mercantile Directory of Birmingham, (London, 1865). This directory gives the names of 161 Gun, Pistol and Rifle makers.

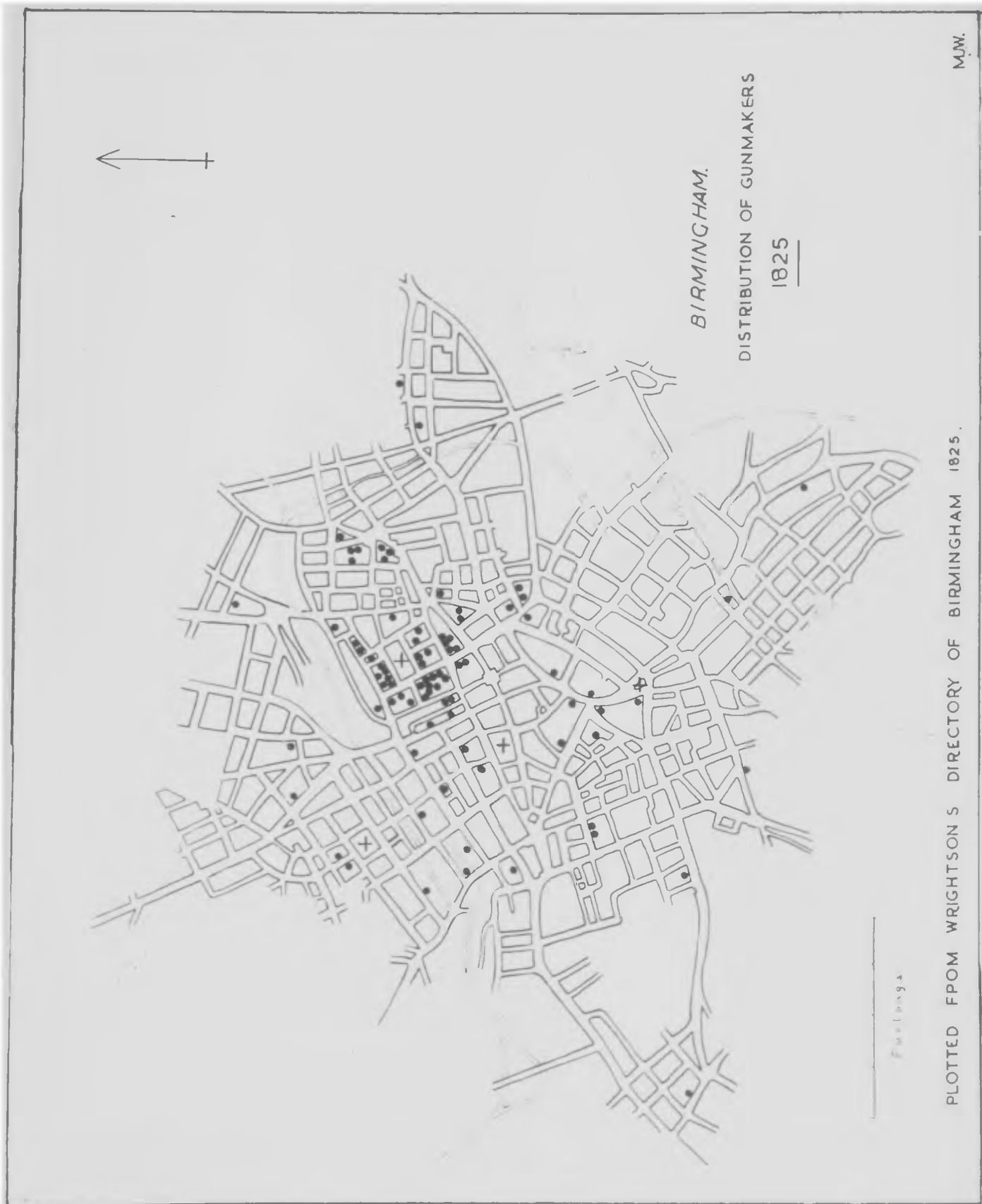


FIG. 7

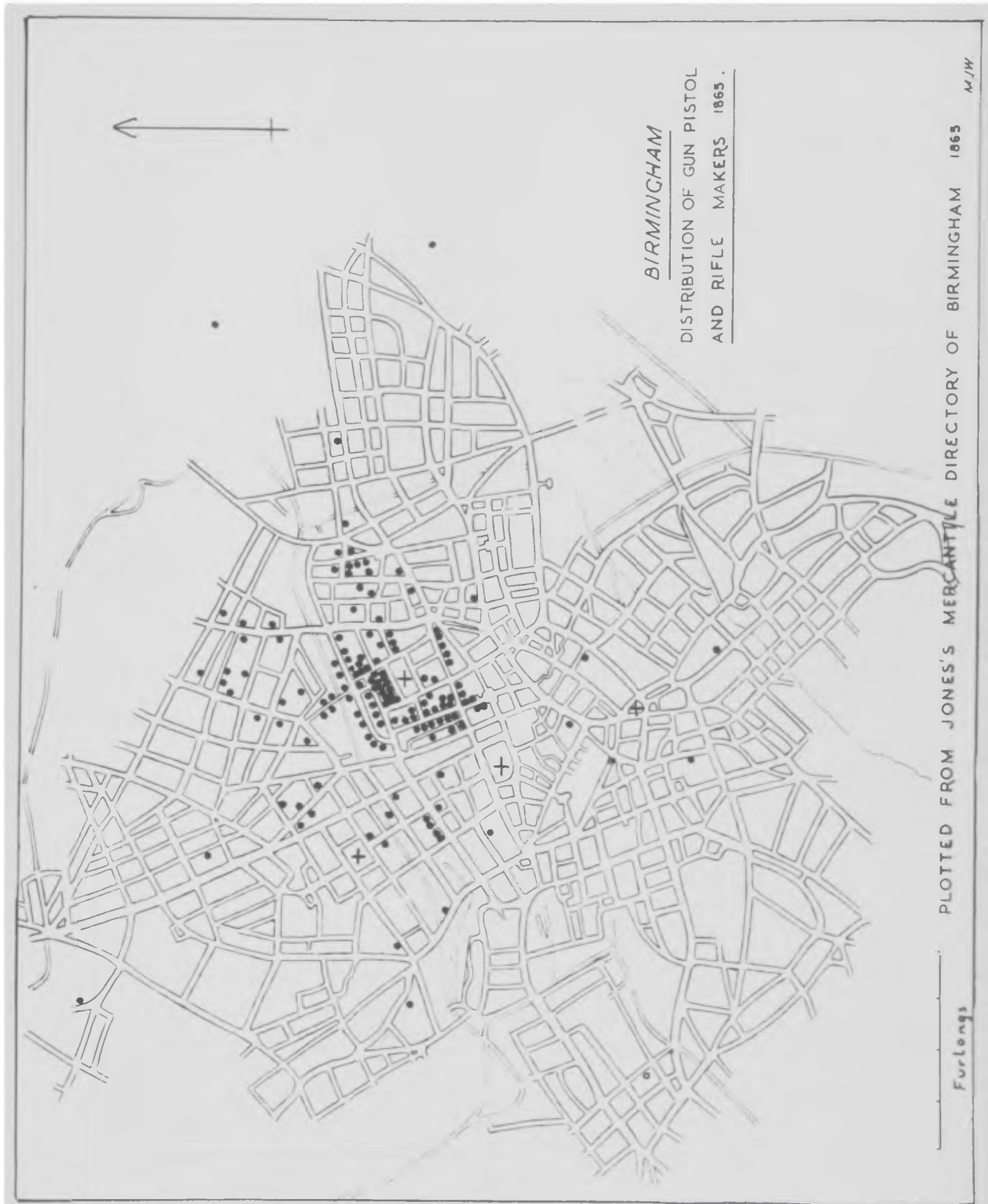


FIG. 8

and filing. It must be remembered, though, that the interest of many gunmasters was limited to little more than a financial one. Many of them possessed the 'alternative' trade of publican, or shopkeeper, or gentleman, and distribution maps of 'gun makers' may give a slightly distorted picture of the distribution of manufacture. The processes of gun manufacture, with the exception of barrel making and grinding, were closely congregated about St. Mary's. For barrel making 'a somewhat large plant of rolling, boring and grinding machinery' was required,¹ and these processes were located where steam power was available in and near the quarter itself or where the water power of the Rea and other Birmingham streams could still be utilised. Up to the middle of the century, as in the jewellery quarter, the small unit was universal and the trade highly subdivided.

V

In a comparison of these quarters (Fig. 9) two important questions immediately obtrude: firstly, the absence in the gun trade of any shifts of distribution, for which during the same period the jewellery industry was remarkable; and, secondly, the steady decay of the gun quarter after about 1865, in complete contrast to the jewellery industry.

It must be remembered, to begin with, that the

1. J.D. Goodman, op.cit., p. 388.

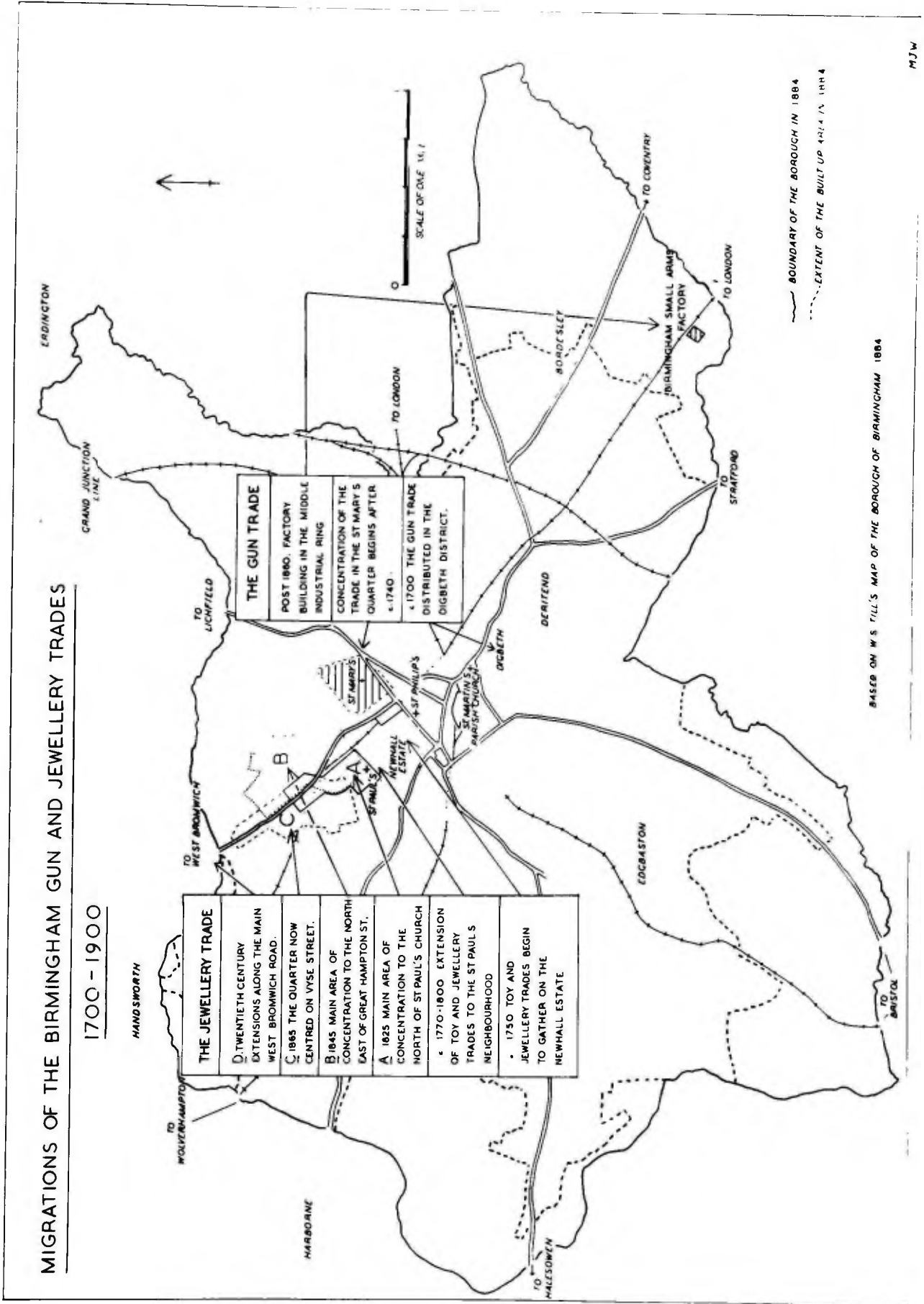


FIG. 9

gun industry was considerably the older. Its concentration in the St. Mary's district had begun as early as 1777. During the Napoleonic wars it had undergone rapid expansion, comparable with the later expansion of the 'gold rush' period in the jewellery industry, and in this period its location and localisation were confirmed and fixed. Once the expansion resulting from the French wars had spent itself, a period of depression overtook, in particular, the sporting-gun branch. While the jewellery trade was passing through successive phases of development, expansion and migration, the gun trade had reached its zenith. Temporary prosperity came to the military branch with the Burmese War in 1824 and at a number of periods prior to the Crimean War, the time of peak prosperity.¹ To offset this, however, the Birmingham trade began to meet increasing competition from Belgium and other sources in its principal markets for cheaper weapons.²

The origin of the present reduced state of the gun quarter can be traced back to the 1860's. The increased demand for standardised military arms for the British Government had already resulted in the establishment in 1854 of the Government factory at Enfield. The manufacture of military small arms by machinery was rapidly becoming standard practice. The Birmingham Gun Trade was alive to the dangers of this new situation and was responsible

1. D.W. Young, *op.cit.*, p. 56.

2. J.D. Goodman, *op.cit.*, p. 396; *Artifex and Opifex*, *op.cit.*, pp. 14-31.

for the formation of a Joint Stock Company and the erection in 1862 of a factory alongside canal and railway at Small Heath.¹ This lies in what is now one of the industrial zones of the 'middle ring' (Fig. 10). From this time onwards the manufacture of arms by machinery has become of increasing importance and the result is to be seen in the erection of factories in the gun quarter itself as well as in the new industrial rings of modern Birmingham. The manufacture of military arms has now almost entirely deserted the quarter. The small workshops of the quarter have increasingly concentrated their attention on the high class and expensive sporting gun. Foreign competition, the recent extensions of municipal property, air raid damage, decline in the market for sporting guns, and requisitioning of land and buildings for new planning purposes have all left their mark. There has been a progressive reduction in the number of individual gunmakers, in the total of outworkers and in the total of proof returns. Whereas in 1889 there were 139 gunmakers and 529,082 proofs, the corresponding totals for 1914, 96 gunmakers and 244,494 proofs, and for 1939, 74 gunmakers and 128,989 proofs, indicate the decline of the trade.² St. Mary's Row, which 'once echoed to the roar of guns

1. J.D. Goodman, op.cit., p. 403.

2. Figures given by Clive Harris, Birmingham Proof Master in Harper's Sports and Games - the official organ of the Gunsmith's Association, 28th April, 1948. 1947 figures given by Mr. Harris: 58 gunmakers and 22,304 proofs, indicate the all but complete extinction of the trade as a result of the recent way.

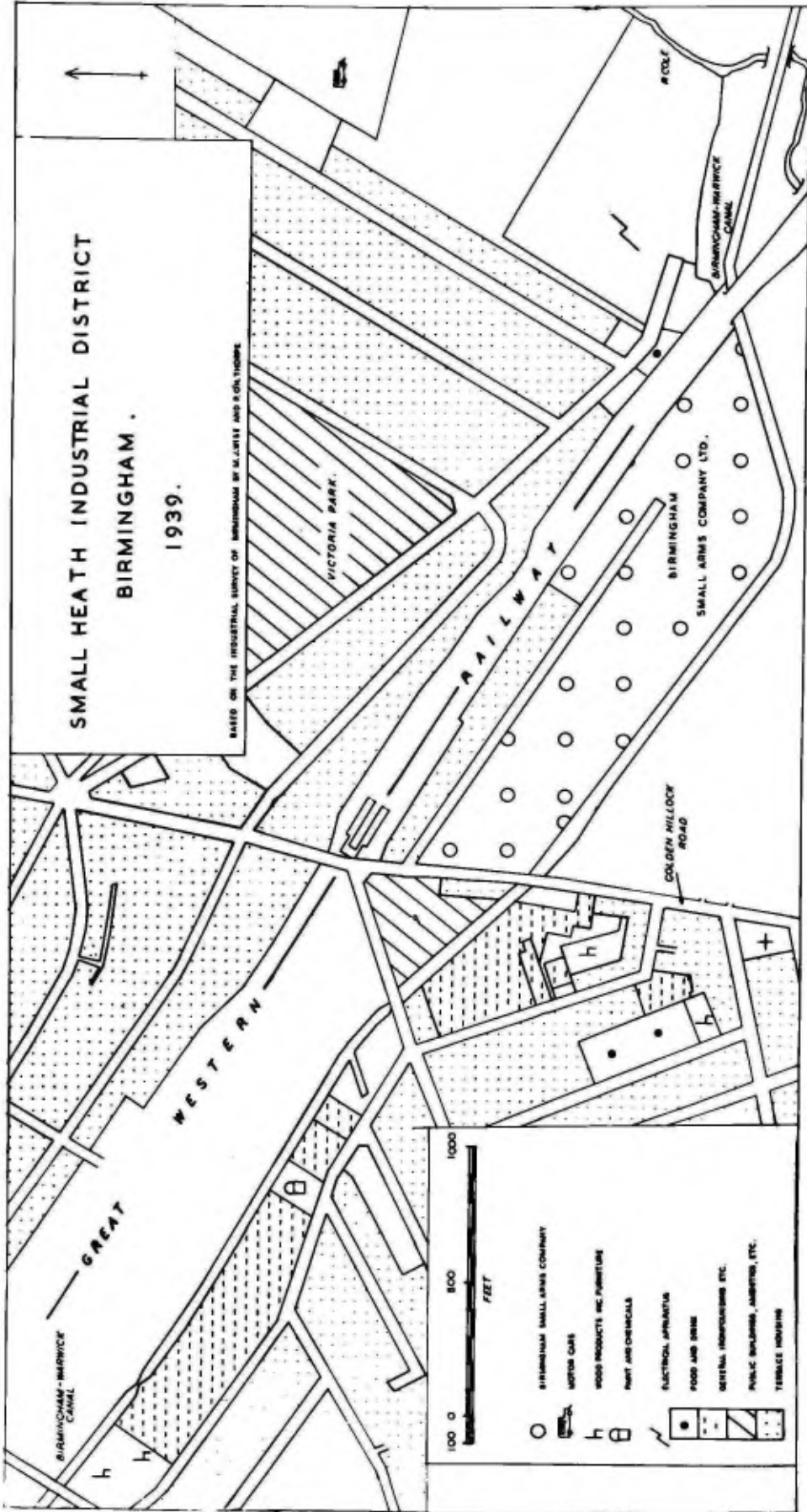


FIG. 10

fired from numerous ranges' and which was 'once a busy hive swarming with errand boys whose shoulders or basket carriages were loaded with arms of all descriptions', is now quiet and comparatively empty.

VI

The study of the relative rise and decline of these two quarters is indicative of the changing conditions of urban growth in Birmingham and of the varying influences on the concentration and localisation of industry. In these localisations the effect of the co-existence of extreme sub-division of processes and the small unit of manufacture is clear. The origins of the present quarters can be traced to the formative periods of rapid growth, during which 'beginning as a small master, often working in his own house, with his wife and children to help him, the Birmingham workman has become a master, his trade has extended, his buildings have increased. He has used his house as a workshop, has annexed another, has built upon the garden or the yard ... Whenever the business has overgrown its early home, and it is necessary to remove or to rebuild, a better class of building is invariably adopted'.¹

The study of 'functional areas' can, too, throw much light on the factors influencing the industrial and commercial growth of towns. Examination of the internal

1. Timmins, op.cit., p. 223.

regional structure is an important part of the geographical study of towns. 'Cities are living creatures, which must be planned and controlled, and which, to be controlled, must be understood'. To that understanding the geographer can make a major contribution.

SUMMARY

**THE DEVELOPMENT OF BIRMINGHAM
AND ITS INDUSTRIES SINCE c.1750**

List of Maps

- Fig. 1. Birmingham. The pattern of Turnpike roads
2. Birmingham. The Canal pattern
3. Birmingham. The Railway pattern

The Development of Birmingham and its Industries since 1750.¹

I

In the absence of simple, all-embracing explanatory factors, the phenomenon of the growth of Birmingham, in the heart of England and in close proximity to the major watershed, has long been a puzzle to historians and geographers. A little over two hundred years ago Birmingham was a comparatively unknown industrial village of some 20,000 inhabitants; by the end of the eighteenth century the population had more than trebled; today, Birmingham with a population of over 1,100,000 is the second city of Britain.

II

The modern growth of Birmingham can be viewed as the result of the interaction of a complex set of social, economic and physical forces. At no time in the history of the town can these forces be seen in operation more clearly than during the eighteenth century.

Birmingham, we know, possessed local advantages of site, which had been used, at an early stage in the history of the town, and on the initiative of the local lords of the manor, to develop the town as a local market and centre of exchange at a meeting place of routes.

What is more, Birmingham occupied a singularly fortunate

1. A summary of a paper read to Section E of the British Association for the Advancement of Science at the Birmingham meeting on 31st August 1950.

position with regard to the South Staffordshire coalfield. With scarcely any competition to meet from neighbouring villages, Birmingham was in an almost ideal position for development as a centre of exchange and distribution for the products of the coalfield.

It is interesting to see how these advantages were used by Birmingham men to gain a large share in the control of the coalfield to advance their own personal wealth and to widen the activities of the town. In particular the Birmingham merchants and ironmongers gained a large measure of control over the manufacturing activities of the coalfield, collected the finished products and marketed them over a wide area. The activities of one ironmonger, a Mr. Tobias Bellaers, have been examined in detail. Bellaers was one of many, who collected the nails, edge tools and locks of South Staffordshire and marketed them far afield. In his case Eastern England provided the chief market: other ironmongers concentrated their attention more particularly on the southern counties. Birmingham became, rapidly, the chief organising centre for the newly arising manufacturing area on the coalfield, the commercial heart of the embryo Birmingham-Black Country Conurbation - a function that it maintains to the present day.

The advantage of possession of industrial and commercial experience and the ready availability of

distribution services were of great importance in assisting the development of industry in Birmingham in the eighteenth century, as since. With the coalfield only some 6-7 miles away to the north-west, the town commanded cheap supplies of coal and semi-manufactured raw materials. The gun trade, for example, imported its coal and semi-finished parts from Wednesbury and Darlaston: the finishing processes were carried on by small firms already, by 1777, fairly well localised in the district later to become celebrated as the gun quarter. Whereas in the seventeenth century, Birmingham men had made swords, nails and edge tools, manufacturers now concentrated on buckles and toys of all descriptions - articles which required carriage of a comparatively small quantity of raw material but needed the application of highly skilled labour. Though many products were notorious for their poor quality, by the end of the century a high quality jewellery and plate manufacture was well established with a growing pool of highly skilled craftsmen.

Further examples of the opportunism shown by Birmingham men in appreciating and utilising the physical advantages and economic circumstances of the time can be drawn from the early factory proprietors of the later part of the eighteenth century. In particular one may note the work of men like John Taylor, the "wonderful genius" of the button trade and Matthew Boulton who made

perhaps the greatest contribution of any man to the industrial development of the town. Boulton's chief contributions lay in devising new methods of industrial organisation to provide cheaper and faster production of high quality products and in the application of the ideas of industrial inventors to stimulate production in an already thriving industrial and commercial centre.

Hitherto most of the manufacturers of Birmingham had been small masters, with a workshop in or at the rear of the dwelling house. Boulton's factory at Soho marks a stage in the development to the fully evolved factory system of the later nineteenth century. At Soho the Watt steam engine was first used simply to augment the supply of water to the water mills. Not until the development of the rotary motion some years later could the steam engine be applied directly to turning machinery.

In view of its position close to the main watershed of Britain, Birmingham was not well supplied with water power, although during the eighteenth century, the Rivers Rea and Tame and the Hockley Brook were utilised to their fullest extent in supplying power for forges, slitting and rolling mills and for the battery process. The application of steam power to general industrial use in the closing years of the eighteenth century removed one more physical disadvantage and opened the way to further industrial expansion and the adoption, on a large scale,

of new mechanical processes, associated particularly with the stamp and the press, on which the prosperity of the small metal trades in the nineteenth century depended.¹ It was significant that many of the early experiments in steam power took place in Birmingham.

The eighteenth century growth of the town was rapid - new housing estates spread out to north and north-west. With the increase in population grew retail and wholesale services and a variety of general amenities. But the provision of all these services for a rapidly growing population lagged behind the pace of industrial development. Eighteenth and nineteenth century Birmingham illustrates well the problem that expanding centres of industry often find it difficult to offer adequate amenities to their industrial population. However, in certain instances, Birmingham now began to emerge as a service centre commensurate in importance and in competition with older centres in the river valleys surrounding the Birmingham district. Towns such as Warwick, Worcester and Stafford which had formerly been service centres and local capitals now felt keenly the advance of Birmingham in these functions. This situation is shown clearly in maps of local newspaper circulations. By the early 1740's Aris's Birmingham Gazette, although only recently founded, had established a circulation over an area as large as

1. vide G.C. Allen, *Industrial Development of Birmingham and the Black Country*, (1929), pp. 106-7.

from Welshpool to Leicester and from Newcastle-under-Lyme to Evesham. Though the services provided by Birmingham as a retail and wholesale centre or in providing entertainments and professional services covered a very much more restricted area, the distribution map of the Gazette foreshadows the later development of Birmingham as a full regional capital.

By the end of the century the progress of Birmingham in all three of its functions - as an industrial town, commercial centre and regional capital, had made great strides. The achievements of the century would not have been possible, however, had Birmingham failed to overcome the one great disadvantage of its site, in the heart of England and remote from main road or water communications.

Early in the century the slowness and difficulty of road transport, particularly in the winter months, had been a considerable handicap to industrial and commercial progress. This was partly overcome by the development of the system of turnpike roads between about 1725 and 1760 (Fig. 1). Even so, carriage of coal and raw material remained slow and comparatively costly until the development of the Birmingham Canal (1766-69) and the construction of the canal system linking Birmingham with the river valleys surrounding the Birmingham Plateau (Fig. 2). Established by the demand of one industrial age, improvements in transport often form an important factor influencing the development of new industries in an area. In Birmingham,

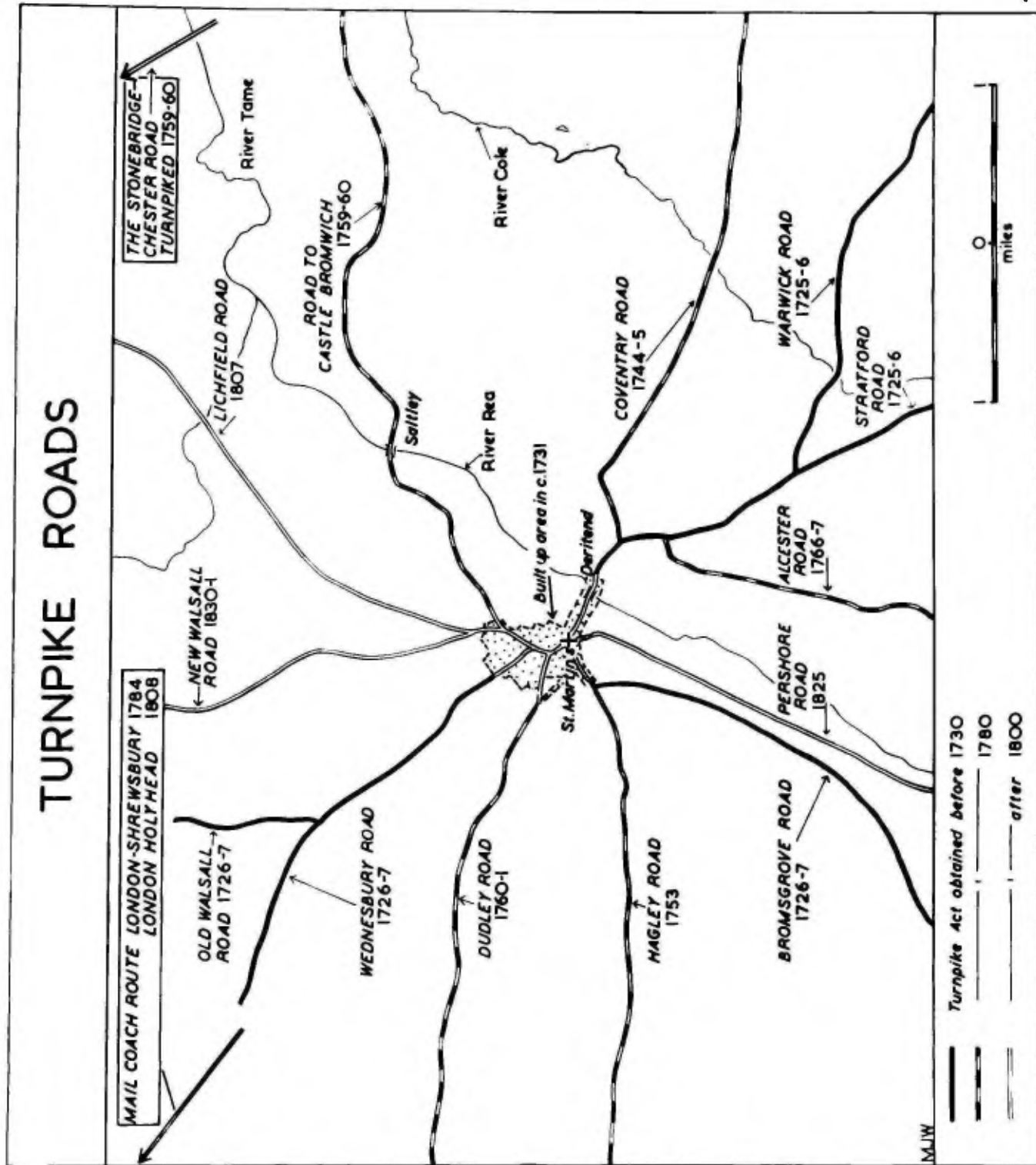


FIG. 1

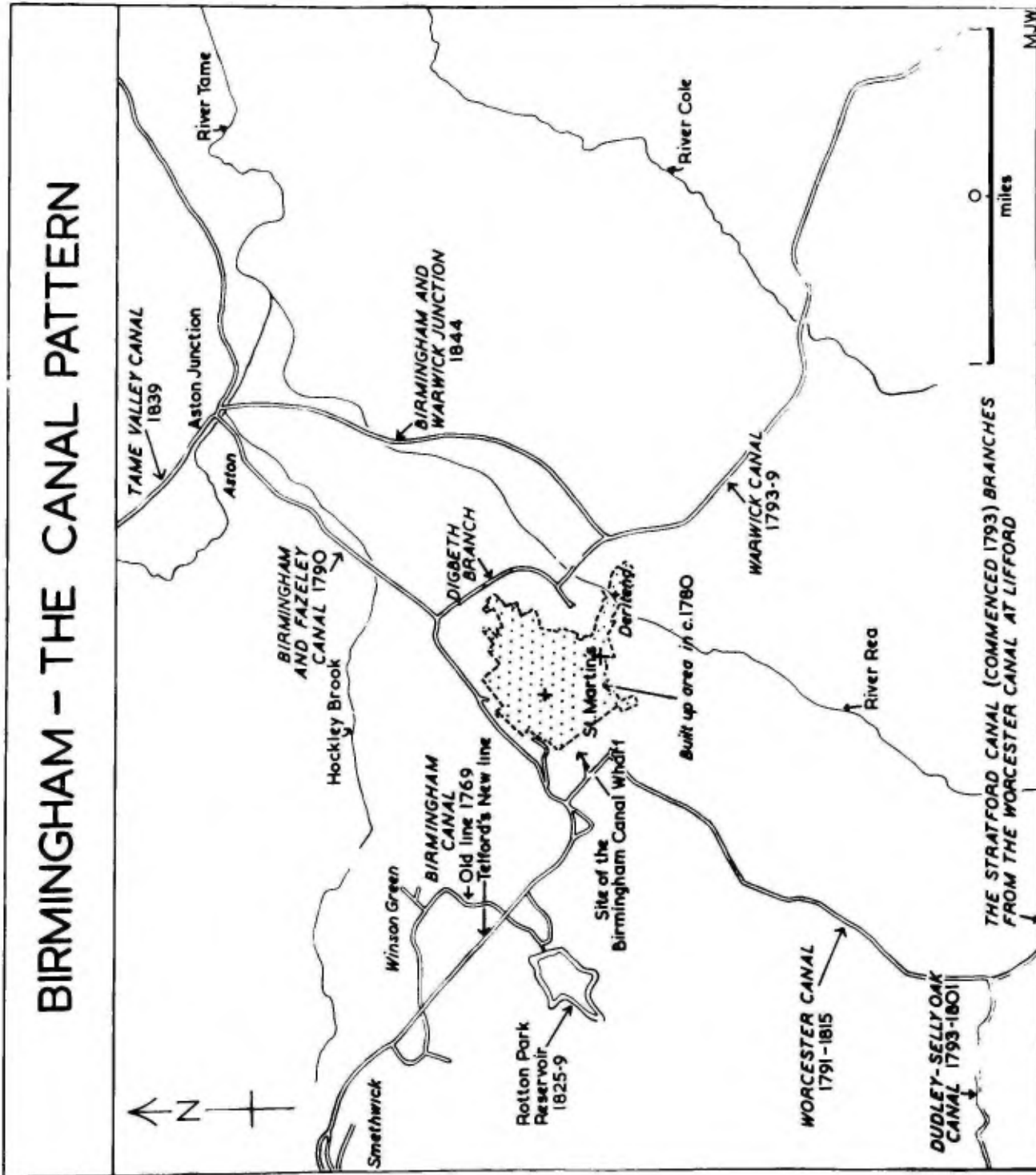


FIG.2

for example, the new ease of water communication rendered possible the reasonably cheap collection of raw materials for brass manufacture, a trade which became a staple trade of the town in the early nineteenth century.

III

Developments during the early nineteenth century

During this period the areas which now form the central industrial districts of Birmingham grew rapidly. The principal trades - the gun, jewellery, button and brass trades were, like those of the earlier period, influenced in their location in Birmingham by many factors. Birmingham not only had ready access to raw materials by water; she possessed a trained supply of skilled labour, an established function as a centre of industrial organisation and distribution and the new factor of an expanding local market.

The development of the central districts is well seen in a series of maps illustrating the development of the brass trade. The brass manufacturing and foundry trades grew very rapidly, particularly between 1830's and 1860's. Here again can be seen the response of Birmingham men to changing social and economic conditions. Birmingham with its improved communications and good supplies of coal, with the expanding local market and with long established distributive services, was in an excellent

location for development as a centre of the brass trade. The development of the engineering industry and the increased concern for public health and sanitary conditions were among the agents creating a new demand for brass products. Birmingham men took up the challenge and developed a trade which manufactured everything in brass from bedsteads to brass wire.

One other feature of particular interest in examining the growth of nineteenth century industry lies in a contrast in the evolution of the gun and jewellery quarters. Due to the intensive subdivision of each trade, both the jewellery and gun industries had become concentrated in specialised quarters by the end of the first quarter of the nineteenth century. Whereas the gun trade remained stationary in its quarter near Weaman Street, the jewellery quarter passed through a series of migrations before finally coming to rest in a highly localised state in its present quarter near Vyse Street and Warstone Lane. The migrations of the jewellery quarter may be summarised as follows:-

1800 Jewellery trade distributed generally in the northern districts of the town.

1825 Concentrated in newly built streets about St. Paul's Church.

1845 The centre of the trade had now shifted to an estate north-east of Great Hampton Street (the main road from Birmingham to West Bromwich).

1865 Finally located in ^{the} Vyse Street and Warstone Lane district.

The succession of migrations may be attributed chiefly to the influence of periods of expansion and prosperity in which workmen set up as small 'masters' in houses on the newly built estates, to which, also, older established manufacturers moved in search of more commodious premises.

By 1860, the evolution of the central industrial districts was complete. Views of the town at this period bear eloquent testimony to its ugliness. Large factories with smoking chimneys ranged alongside small houses converted into workshops and the slum houses of the general labourer combined to produce a grimy suburban landscape in which utility was of far more account than beauty. Birmingham was now a characteristic nineteenth century industrial town, though despite "the close population, the noxious effluvia of the various metallic trades and, above all, the continual smoke arising from the immense quantity of coals consumed", Birmingham remained a healthier town than many of its contemporaries.

One result of the developments of this period which has left the modern city labouring under a grave handicap is the cramped nature of the town centre. Throughout almost all the first half of the century the town's government remained in only an embryo state and the centres

of administration continued to operate from the neighbourhood of the old medieval nucleus around St. Martin's Church. The construction of new market halls confirmed the importance of this part of Birmingham as the market centre of the town. The new Town Hall was erected and opened on a site at the west end of New Street before the end of the half century, but though this foreshadowed the later home of city administration, it served only as a public assembly room and the building of the Council House had to wait until 1879.

The closely packed central industrial districts hedged in the shopping and business centre of the city and despite the construction of Corporation Street in 1878-82, the centre of Birmingham has never quite succeeded in breaking from the bounds imposed at this period.

One other factor of importance during this period was the final development of the communications network with the building of the railway system (Fig. 3). Besides imposing great changes within the city centre, the railways acted as a final factor in overcoming the earlier isolation of Birmingham and exerted a powerful influence on industrial location in the second half of the century. The disadvantages of a position in the heart of the Birmingham Plateau were now almost completely overcome: the railway network proved the final factor fixing the general location of the Birmingham area as a

BIRMINGHAM - THE RAILWAY PATTERN

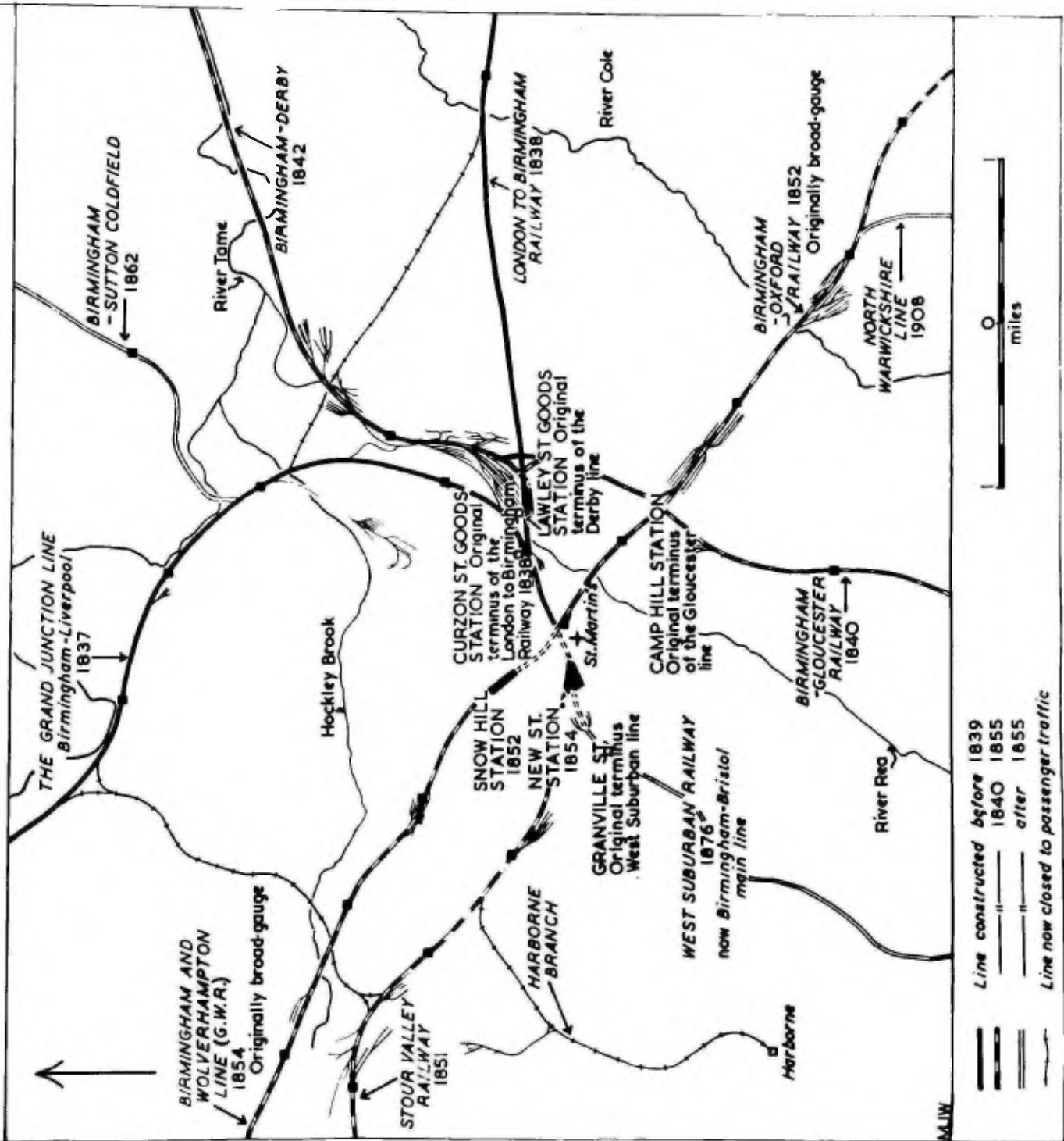


FIG. 3

major industrial district. In medieval times, Birmingham's position at the heart of the uninviting plateau country of the West Midlands had been a disadvantage. Now, with well developed road, canal and rail facilities this early handicap became an advantage, for its centrality, its situation in the heart of England, approximately equidistant between the four great estuaries and ports of Mersey, Humber, Severn and Thames, became an attraction to fresh industrial development and a spur to the redevelopment of older enterprises. For the assembly of raw materials as well as for the distribution of finished products, Birmingham now had a commanding advantage.

IV

Industrial development during the latter half of the Nineteenth Century

Changes in the industrial pattern of Birmingham, associated with the development of new industries - cycles, electrical apparatus, cars etc. - and with changes in industrial organisation, were evident even before 1860. In the old established gun trade the advantages of combination were becoming more and more apparent and by 1861 the factory of the Birmingham Small Arms Co. had been established at Small Heath.

The new factories demanded sites with favourable communications, cheap land for development and reasonable proximity to Birmingham. From the central districts, new

industrial zones spread outwards in long "tongues" along the main canal and railway routes. A long belt of industry developed to the south east at Small Heath along the Warwick Canal and the Birmingham - Oxford railway. But the most important of all the industrial extensions of the period took place to the north east where two tongues of industry spread outwards. The northernmost tongue followed the Fazeley Canal to Aston, the more southerly utilised land in the Rea Valley, hitherto undeveloped because of its liability to flood. Transport facilities were good and large railway engineering and motor works were established here. At Saltley rose the gigantic gas holders which do much to make the Saltley-Nechells district the most unsightly and unpleasant in the city. By the end of the century industrial development had reached Salford Bridge in the Tame Valley and industry then began to spread east and west along the Tame Valley.

In addition to the "tongue" of industry spreading outwards from the central districts, "pockets" of industry grew at points between 2 and 3 miles from the centre of Birmingham, as, for example at Selly Oak and Stirchley. The most important of these areas was that at Bournville. Here was established the factory of Cadbury Brothers, who, in consequence of the growth of the 'service' industries, removed from the central districts in 1879.

With this exception of Bournville, the industrial

areas of this period were quickly surrounded by long drab lines of terrace houses. Socially these houses represented an advance on previous building for the industrial worker, but the suburbs of this age were badly laid out, their shops fronting the main roads leading from the city. In the course of the next 20 to 30 years redevelopment of these suburbs - Aston, Bordesley, Greet, Selly Oak, Stirchley and many others, will become a vital necessity.

V

Recent changes in the Industrial pattern

With its broadly based industrial organisation, its wide variety of trades, the availability of a highly skilled labour force, capital equipment and comprehensive network of communications, Birmingham remains prosperous. The highly developed system of marketing and distribution which was so important a factor in establishing industry in the eighteenth century, today contributes no less to the present industrial expansion of the city. As in the eighteenth century Birmingham maintains strong links with the Black Country. Though manners, customs and speech and the industrial background differs, the life of Birmingham and the Black Country must be considered as complementary. There is no doubt that each half of the Birmingham - Black Country Conurbation has contributed much to the development of the other. Should one half die or fail to prosper, the other would find life

increasingly difficult.

The period of general prosperity in the electrical, motor and allied trades has led to renewed changes in the industrial pattern. Location of the new industrial districts has been influenced by many factors, including the control exerted by Town Planning Schemes. The demand for increased floor space for modern factories has prompted location on the fringes of Birmingham at points where cheap land and good communications were both readily available. At Longbridge, the Austin Motor Company, has grown, largely as a result of post-1914 expansion from $2\frac{1}{2}$ acres in 1906 to over 100 acres today.

The most striking feature of this period has been, however, the almost complete industrialisation of the Tame Valley from Perry Barr in the north-west to Bromford and Castle Bromwich in the east. Modern development here represents a continuation of trends already in operation in 1900.

The industrial pattern of Birmingham, at the present day, may then be summarised as follows:-

1. The central industrial districts which form an almost complete circle around the cramped commercial and business centre of Birmingham. They are characterised by a complex maze of factories of many types and ages, houses of eighteenth and early nineteenth century age converted into workshops, many acres of remaining slum

property and a complicated system of canal wharves and railway yards. Included within this group are the specialised quarters of the jewellery and gun trades in the vicinity of Vyse Street and Weaman Street respectively.

2. A series of industrial areas developed largely within the period 1860-1914 and including

(a) four elongated industrial zones at Ladywood, Aston, Saltley and Small Heath which radiate outwards from the central districts along main canal and railway routes.

(b) a number of isolated industrial "pockets" at a distance of 2 to 3 miles from the centre of the city, as, for example, at Selly Oak and Bournville.

As might be expected from the period of their development, these industrial areas are composed almost entirely of medium to large factories and vary in character from the concentrated ugliness of the Saltley - Nechells area with its gas works and engineering industries to the attractively planned 'factory in a garden' at Bournville.

3. This group includes a series of industrial areas developed principally since about 1914, which in some cases represent an extension of areas in Group 2. The most important industrial zone in this area and probably the most important in Birmingham is that in the Tame Valley extending from Perry Barr in the

north west, through Witton to Tyburn Road and Bromford in north east Birmingham. Group 3 includes, also, large but comparatively isolated areas such as that of the Austin Motor Works at Longbridge in the extreme south west of the city.

VI

Future changes in the Industrial Pattern

In view of present trends, the demand for land in Birmingham seems likely to continue. In looking ahead, it may be that some conflict may arise between the further extension of industrial areas and the need for careful planning of the city. Birmingham has spread its factories and housing estates so widely during the last three decades that, from the point of view of area, the city is already unwieldy to control. Difficulties in transporting workers from home to factory and the congestion of traffic in the central districts speak for themselves in this connection.

It is possible that plans for so called 'dispersion' of industry from Birmingham to points on the fringe of the Birmingham Plateau¹ may have some effect, eventually, in ameliorating the situation. Increasing competition from many sources is, however, likely to occur for the comparatively small area of undeveloped land within the city.

1. As advocated, for example, in the West Midland Plan (1948), of Sir Patrick Abercrombie and Mr. Herbert Jackson.

One answer to this difficulty may lie in the more intensive use of land already allocated to industry. From the land utilisation standpoint we have been generous, in our recent taking in of land for industry and industrial housing. Urban sprawl has already been carried far enough. More economical use of land already available is essential. This can be achieved by the eventual replacement of single storey by multi-storey factories. This may prove essential if industrial development in Birmingham is to continue unchecked. Similarly, greater economy of space in housing developments may be achieved by the careful application of new architectural techniques.

A further point of importance to the future of the industrial pattern concerns the redevelopment of the central industrial districts. Limited portions of these districts are in course of redevelopment at present; for the remainder redevelopment is long overdue. The converted houses and shopping usually provide an inefficient home for modern industry. The small scale nature of much industrial enterprise presents a special problem, the answer to which may be found in 'flatted factories'. Perhaps, inevitably, redevelopment will involve the removal of firms from the centre to the outskirts of the city. In the majority of cases this should not result in loss of working efficiency but will have the advantage of reducing congestion in the central districts. One feels strongly

that an exception should be made in the case of the jewellery quarter. New buildings and flatted factories will undoubtedly help to increase the efficiency of the jewellery industry provided only that the degree of localisation and the complicated associations of the trade can be retained intact. This can only be done by retaining the industry on its present site.

Birmingham men have always been quick to see the problems of the present and the opportunities of the future but woefully slow in realising the value of the past. A project for an Industrial Museum is now approved and making slow progress. At the same time parts of the central industrial areas - and in particular Birmingham's celebrated gun quarter - are passing from the city's landscape almost without notice. For many years the gun quarter has been declining in size and intensity and when plans for the future road pattern of the city mature, is likely to disappear from the map altogether. There is an urgent need for an officially published record of the buildings and streets of Birmingham and their history before the buildings themselves and the districts of which they form part finally disappear. A Topographical Survey of Birmingham on the lines of that in progress in London is long overdue.

PART THREE

The South Staffordshire and Cannock Chase Coalfields

9. The Cannock Chase Region and its Evolution since c.1800.
10. Some Notes on the Growth of Population in the Cannock Chase Coalfield
11. The South Staffordshire and Cannock Chase Coalfields and Future Planning in the Birmingham-Black Country Conurbation
12. Appendix:- The Cannock Chase Coalfield and Future Planning

THE CANNOCK CHASE REGION

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*Reprinted from "Birmingham and its Regional Setting."
A Scientific Survey, 1950.*

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THE story of the Cannock Chase region since 1800 is, very largely, that of the development of the Cannock Chase coalfield. The origin, growth and spread of large scale coal mining represents the latest major stage in the long process of encroachment on to the once extensive woodland and waste of the ancient Forest of Cannock.

In medieval times, the Forest extended over almost all the northern sector of the Birmingham Plateau. Its bounds were delimited in 1340 as extending from the Rivers Penk and Trent in the north, to Wolverhampton, Wednesbury and Walsall in the south. From Tamworth, in the east, the Forest laws were in operation as far to the west as Penkridge and Brewood.¹ During the medieval period a gradual development of settlements within the boundaries of the Forest took place. The settled area was extended by a process of piecemeal enclosure of the waste and clearing of woodland. In the sixteenth century, the cutting of woodland for charcoal burning increased the rate of clearing. "Whereas of ancient tyme", observed Leland,² "all the quarters of the countrie about Lichefield were as forest and wild ground, and naturally somewhat bareyne, now . . . the woods be in many places so cut downe that no token is that any ever were there". In the extreme south of the district, the development of coal mining and a local iron industry were responsible for a further growth of population and for renewed inroads on the heaths and commons. During the seventeenth and eighteenth centuries the process quickened until by the end of the eighteenth century the area of waste land had been reduced to a triangular belt stretching southwards from Brocton and Rugeley to the vicinity of Walsall.

As a result of the spread of the coalfield during the nineteenth century this has now been further reduced and a triangular stretch of upland heath and woodland country, less than 25 square miles in extent, is, today, the sole remnant of the once extensive Forest of Cannock.

THE PHYSICAL BACKGROUND

The Cannock Chase region occupies the northern tip of the Birmingham Plateau. It stretches across two open sub-plateaus which are framed to west, north and east by the vales of the Rivers Penk, Trent and Tame. The boundaries of the northern (or Cannock Chase High plateau) extend from Milford, at the apex, southwards through Brocton to

¹ HACKWOOD, F. W. *Chronicles of Cannock Chase*. (1903). 41.

² TOULMIN SMITH, Lucy (ed.). *Itinerary of John Leland*. 5. (1908). 102.

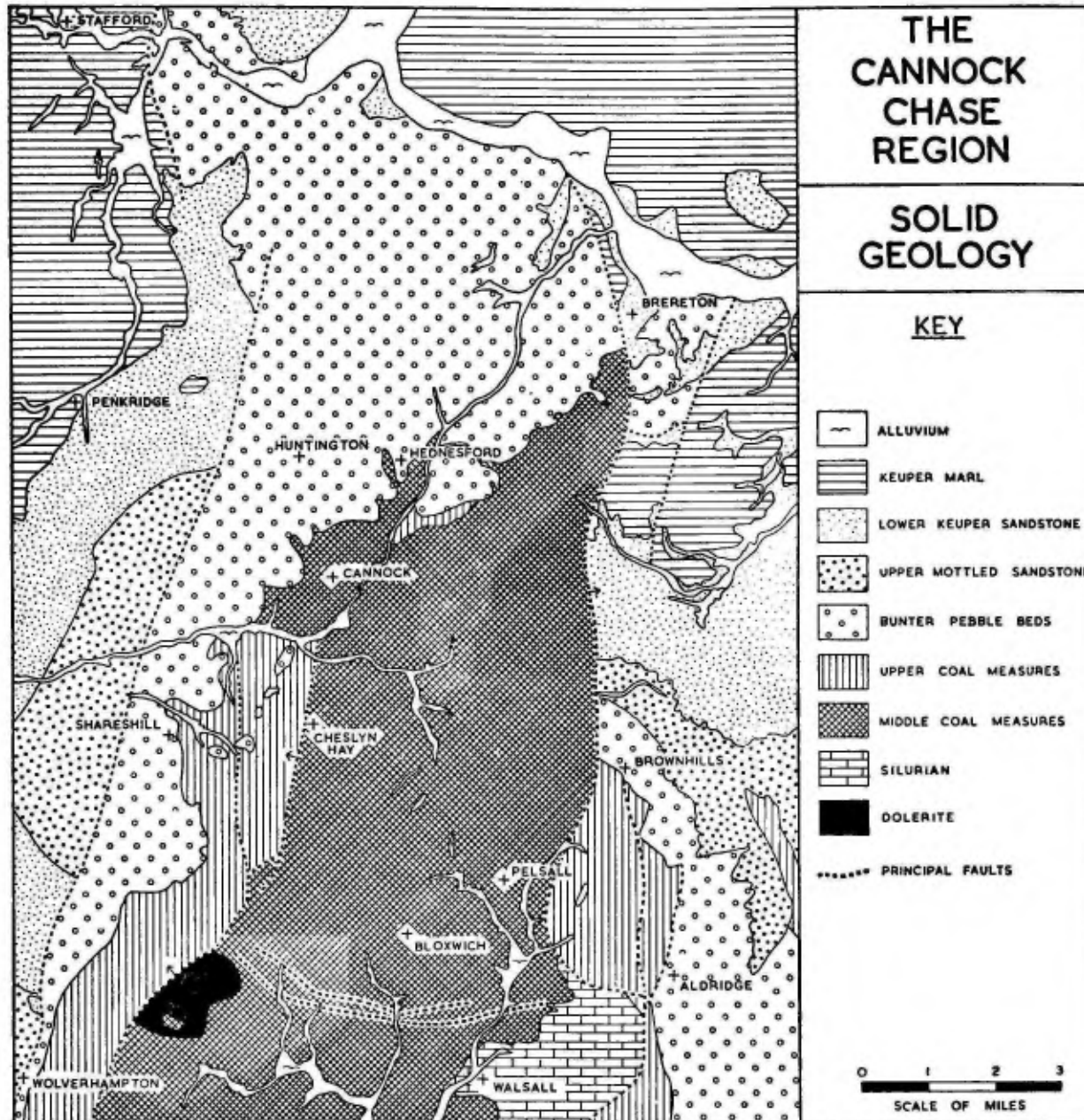


Fig. 55

Huntington; on the north-east, a sharp edge overlooks the Trent valley. To the south, this plateau terminates, in places abruptly, along a zone extending from Cannock eastwards through Heath Hayes to the north of Chase Terrace. With an average height of about 600 feet the plateau rises often to over 700 feet (Castle Ring, its highest point is 801 feet O.D.), but it declines gently in altitude towards the north. In its northern and north-eastern sections the plateau has been deeply dissected by the tributaries of Penk and Trent. The resultant valleys, of which that of the Sherbrook is the most celebrated, carved into the relatively uniform plateau surface, form a most attractive feature of the landscape. The plateau is bisected by the south-west to north-east valley of the Bentley

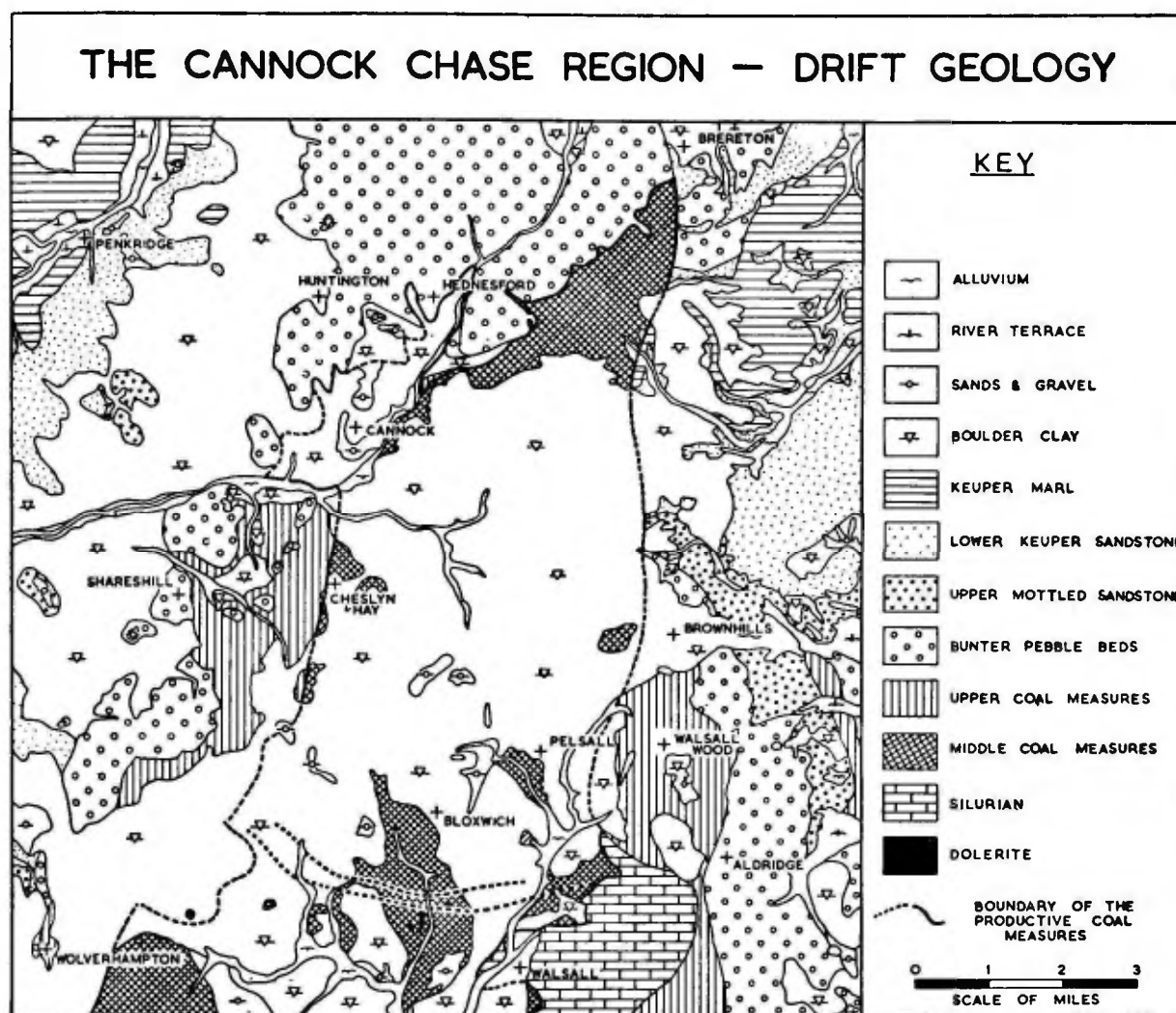


Fig. 56

Brook which has provided an easy route connecting the coalfield with the major communication lines of the Trent valley. Except for its south-eastern corner, the Cannock Chase plateau is underlain by Bunter Pebble Beds, a formation which, together with the overlying sandy and gravelly drifts, gives rise to a thin acid soil unsuited to agriculture. The Pebble Bed outcrop continues to the south on the flanks of the coalfield (Fig. 55), but between Cannock and Littleworth the Pebble Bed escarpment makes a conspicuous feature overlooking the coalfield to the south.

The lower and more southerly of the two sub-plateaus extends from Cannock and Heath Hayes southwards to Wednesfield and Rushall. Varying in average height between 450 feet and 550 feet, this area presents a gently sloping and at times monotonous landscape, which falls gently away in the south-east to the basin of the Upper Tame, around Birchills, Shelfield and Rushall. This South Cannock, (or Wyrley-Essington) plateau is crossed in its northern section by a shallow col from Bridgtown eastwards to Norton which is followed by the line of Watling Street. The area is underlain almost entirely by Middle Coal Measures and Etruria Marl.

The outcrop of Middle Coal Measures, roughly triangular in shape, extends from Brereton, near Rugeley, at the apex, to Essington in the south-west and Pelsall in the south-east. The southern boundary of the coalfield is formed by the trough of the Bentley Faults which divide it from the South Staffordshire coalfield. Though the outcrop of Middle Coal Measures is continuous and though the faults give rise to no marked relief feature they form a definite zone separating the South Staffordshire field from that of Cannock Chase, in which the Thick Coal is represented by a number of comparatively thin seams.¹ Over almost the whole coalfield the outcrops of the seams are hidden, however, by a cover of glacial drift. (Fig. 56). The drift consists of sands, gravels and boulder clays which vary considerably in thickness up to a maximum of about 100 feet.²

The coalfield is bounded to east and west by faults which throw down the coal seams to considerable depths beneath strata of Upper Coal Measure and Triassic age. In the extreme west, in the concealed field, the seams are again downthrown by the westwards throwing Bushbury Fault. To the north, the Middle Coal Measures dip beneath the Triassic rocks of the Cannock Chase High plateau.

In general, the seams tend to dip towards the north-west but the structure of the coalfield is complicated by folding and faulting. Two systems of faults exist, one trending N.N.E.-S.S.W., the other roughly east-west. The effect of this, as Gibson has shown,³ is to parcel out the coalfield into a number of large blocks, in each of which relatively uniform mining conditions exist. The influence of these conditions on the origin and spread of mining activity has been examined by Johnson.⁴ The principal characteristics of each zone, as discussed by Johnson, are outlined below.

Zone 1 (southern) (Fig. 57) lies in the south of the coalfield, immediately north of the Bentley Faults. This area provided comparatively easy mining conditions during the early stages of development. It is not greatly affected by faulting⁵ and it was possible to work a number of seams at the surface or at shallow depths. At certain points, for example, Pelsall, the drift cover is very thin or absent altogether (Fig. 56).

Zone 2 (mid-western) is bounded in the east by the Leacroft and in the west by the Mitre Faults. West of the Mitre Fault the Middle Coal Measures are downthrown beneath Etruria Marl. Seams outcropping in the Wyrley district are free from drift, a factor of some importance in early small scale mining. In general, however, conditions are more difficult than in Zone 1; seams are deeper and tend to dip to the north and west.

¹ Details of the coal seams present in this coalfield are to be found in MITCHELL, G. H. *The Geology of the Northern Part of the South Staffordshire coalfield (Cannock Chase Region)*. Geological Survey Wartime Pamphlet. 43. (1945). 3-13.

² *The Geology of the Country around Lichfield*. Memoir of the Geological Survey of England and Wales. (1919). 177.

³ *Ibid.* 69 et seq.

⁴ JOHNSON, G. S. *An Introduction to the Historical Geography of the Cannock Chase Coalfield*. Unpublished thesis in the Library of the Department of Geography, University of Birmingham. (1947). 19-29.

⁵ MITCHELL. *op. cit.* 16.

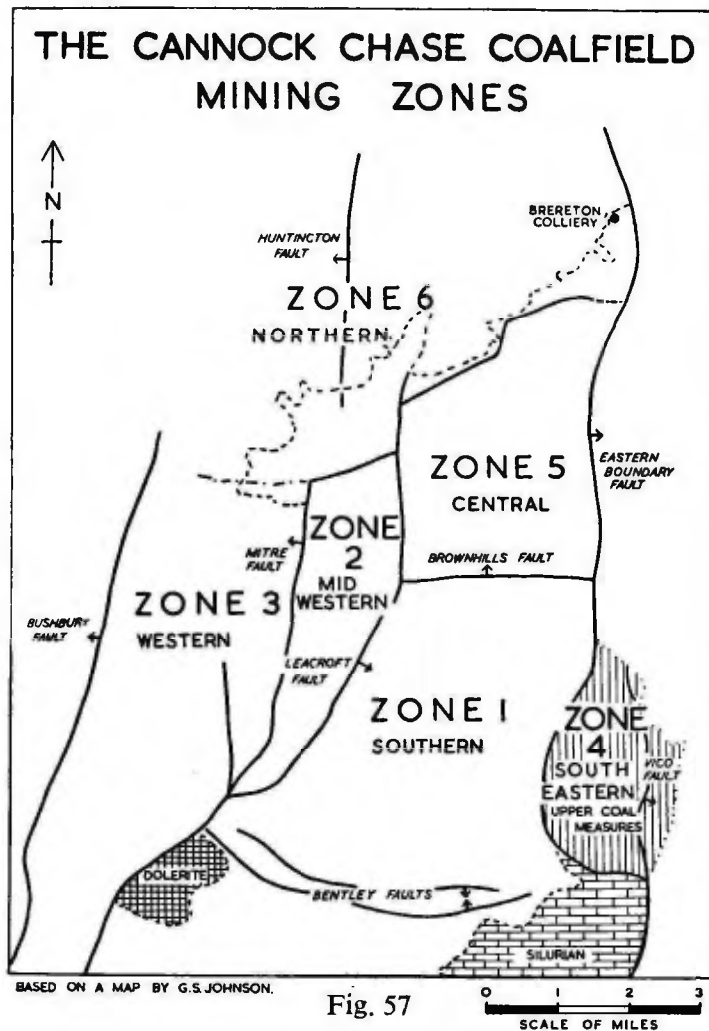


Fig. 57

Zone 3 (western). This zone extends west of the Mitre Fault. The Top Robins seam which is 228 feet in depth at Holly Bank colliery east of the Fault is 1,700 feet deep at Hilton Main some one and a half miles away, west of the Fault. Due to the westward dip, the depth of seams increases away from the exposed field, and is further increased by the presence of the Bushbury Fault.

In *Zone 4 (south-eastern)*, which lies between the Clayhanger and Vigo Faults, the presence of a cover of Etruria Marl delayed early mining operations.

Zone 5 (central) is situated to the north of the east-west trending Brownhills Fault, which crosses Watling Street near Norton. Here, faulting has been more intense than in Zone 1, while the seams lie at greater depths, deepening generally to the north and west.

Zone 6 (northern) lies to the north of the Littleworth Fault and may be subdivided into

- (a) West of the north-south Huntington Fault. Here seams lie at considerable depths. The westerly downthrow of the Huntington Fault which is some 450 feet at Huntington increases northwards.
- (b) East of the Huntington Fault, where seams are at shallow depths.
- (c) The Brereton district. In this district the measures rise to the north beneath the Trias. Coals lie at comparatively shallow depths and the outcrops are, in places, drift free. Due to the northward rise of the Coal Measures possibilities of the northward extension of mining in this sub-section are slight.

In addition to coal, the Middle Coal Measures have also yielded ironstone, which was formerly produced from many districts, including Beaudesert, Bloxwich and the area immediately north of the Bentley Faults. In the seventeenth century, the ironstones of Rushall achieved local fame on account of their high quality.

Other important economic resources of the region include the Wenlock and Woolhope limestones of Silurian age which outcrop near Walsall. They have been worked

in the past both for building purposes and for use as a flux in iron smelting. In the Etruria Marl outcrops, at Aldridge and on the western margin of the coalfield, the region possesses a valuable source of clay for brick and tile manufacture. Bunter Sandstones and Pebble Beds are extensively worked for building and moulding sands.

THE EVOLUTION OF THE CANNOCK CHASE REGION SINCE c. 1800

The growth of the Cannock Chase region during the last century and a half can be considered as falling into three main stages. The first of these can be discerned at the end of the eighteenth century and continued throughout almost all the first half of the nineteenth. During the latter half of the nineteenth century the landscape and economic life of the coalfield was transformed, following the development of large scale coal mining. During the present century further changes in the distribution of coalmining have left firm imprints upon the regional structure of the whole area.

Cannock Chase in the early Nineteenth Century

Widespread belts of heath and woodland remained a major feature of the Cannock Chase landscape at this time. (Fig. 58). The higher ground, north of Hednesford, was renowned as a wide, bleak heathland. Southwards from Hednesford and Cannock, a wide tongue of heath extended to Norton and Aldridge and continued across the ridge of Barr Beacon almost to join the open expanse of Sutton Park. At Cannock Fair were sold the Cannock Chase grey-faced sheep, considerable numbers of which were reared on the waste. "The Common", reported Pitt at the end of the eighteenth century, "being now in many places perfectly whitened with them".¹ But the waste lands of Cannock, though still extensive, were receding slowly before the advance of agriculture, mining, manufacturing industry and the gradual spread of settlement.

During the period of the Revolutionary and Napoleonic Wars, further ingress on the waste was made. By 1817, many outlying patches of heath, such as Calf Heath in Penkridge parish, had been very much reduced.² In the same year, the waste lands in the manor of Teddesley were under enclosure, "which will", it was said, "contract the enormous waste of Cannock heath". Enclosure was in progress at many places, among them Penkridge heath, Dunston heath, Huntington common and the common at Cheslyn Hay.³

Mining was active in 1800 in a number of districts. One of these was the vicinity of Beaudesert. Here the seams lay close to the surface and free from drift. This was an area in which coal mining had proceeded since medieval times. A century earlier, Celia Fiennes had described the "coale pitts where they were digging, they draw up the coale in baskets with a little wheele or windlass like a well, it's very good".⁴ Mining now proceeded in similar small pits, using traditional methods. For the cannel coal, "that

¹ PITT, W. *A General View of the Agriculture of Staffordshire*. (1794). 52-3.

² PITT, W. *A Topographical History of Staffordshire*. (1817). 257-8.

³ *Ibid.* 263.

⁴ MORRIS, C. (ed.). *The journeys of Celia Fiennes*. (1947). 167.

valuable and elegant species”, mines up to 240 feet in depth had been sunk. This was “excellent fuel which when placed edgewise on the fire presently flames as bright as a candle”, but it was mined also “to be worked into a variety of useful and ornamental articles, particularly inkstands and candlesticks”.¹ On the northern fringe of Beaudesert Park lay Brereton, already an established centre of mining. In the southern zone of the coalfield mining operations were being gradually intensified. At points where conditions were easiest, in particular at Pelsall and near Bloxwich, groups of small, shallow mines were working. Brownhills colliery was by 1817 an old and profitable establishment. Around Essington and Great Wyrley, in areas where the outcrops of seams were unconcealed by drift, many small pits were in operation.

Mining of a different type was in progress at Rushall, where the working of limestone had been an important local industry in the seventeenth century but had lapsed during the early part of the eighteenth. In 1780 the stone was worked in open pits and ten years later mining had begun.² Near at hand, at Daw End, further works and new mines were opened during the first years of the nineteenth century.

During the early years of the new century trades and manufactures increased gradually in importance in the southern half of the region. At Churchbridge, near Cannock, Mr. Gilpin had established “a very considerable iron manufactory of edgetools, augers and various similar articles, besides which he has built a good house, and raises coal for his manufactory and for sale.” “By this Public spirited industry”, it was reported, “he has much increased the population and the prosperity and comfort of the inhabitants of his neighbourhood”.³ The auger and edge tool industry thus established remains prosperous at Churchbridge to this day. At Great Wyrley, according to the 1811 Census, 31 out of 82 families were employed in trade, manufactures or handicraft arts. The notoriety of the Wyrley district rested largely, however, on its disreputable character as “a great resort of beggars and lawless vagabonds . . . of illegitimate children . . . and wandering mendicants”. It was, in part, a settlement of squatters on the fringes of the waste. Bloxwich, on the other hand, was a large and populous village inhabited chiefly by manufacturers of saddlers’ ironmongery. This trade, organised by small masters in their own homes, relied principally on the demand for its products from the Walsall leather trade.

In general, manufacturing industry was on a small scale and was scattered throughout the small and slowly growing towns and villages of the southern zone. Many of the industries were still organised on a domestic basis. Farming and manufacture were often carried on side by side and many local textile industries survived, stimulated by the cultivation of small patches of flax.

Population as yet grew but slowly. Cannock itself had a population of only 1,359 in 1801 and had barely reached 2,000 by 1851. Within the mining districts, Pelsall 477, Cheslyn Hay 443, Essington 369 and Rushall 485 were typical villages in 1801.

¹ PITT, W. *A Topographical History. op. cit.* 165.

² SHAW, S. *History of Staffordshire.* 2. (1801). 66.

³ PITT, W. *A Topographical History. op. cit.* 263.

Many small squatting settlements existed on the edge of the waste. Hednesford, now a large mining centre, was nothing more than an "enclosed hamlet on Cannock heath" possessing a good inn and stabling for blood horses which, it was said, "are trained and exercised on the excellent turf of Hedgford hills".¹

Despite the slow growth of population and the scattered nature of industry, the face of the landscape of the southern part of the coalfield had begun to change markedly by 1800. In particular, canals had begun to link the coal, iron and limestone workings north of the Bentley Faults with the expanding industrial districts to the south. The earliest canals of the Birmingham district had had little effect on Cannock Chase. These were the long distance canals such as the Staffordshire-Worcestershire and Grand Trunk canals and all followed the valleys avoiding the plateau country of Cannock. By 1790, the Cannock Chase region had been encircled by canals, though it was not yet crossed by a single mile of waterway.² Local canal construction had been undertaken in the South Staffordshire coalfield and after 1790 canals were cut north into the Cannock coalfield. By 1792, assent had been given to the construction of the Wyrley-Essington canal (Fig. 58), an event which, some say, marked the beginning of the modern development of Cannock Chase. Diverging from the Birmingham Canal near Wolverhampton this canal wound through the mining areas of Birchills and Sneyd Common to Wyrley Bank, its object being "to render the conveyance of coals, corn, ironstone and limestone and other products less expensive than at present". An extension to join the Coventry Canal was constructed in 1796. New cuts were made to tap the mining areas near Wyrley and Essington Park and the limestone workings near Rushall and Aldridge. Extensions from the Birmingham Canal penetrated into the coalfield to tap the mining districts around and north of Walsall. The first phase of canal construction then ended. Its effects, though important, were limited to the southern zone of the coalfield and in particular to those areas in which coal was most easily accessible.

Some features of the local regional pattern of Cannock Chase in about 1830 are summarised on Fig. 58. There was, as yet, little change in the distribution of the chief mining centres. In the extreme north, collieries were active in Brereton and Beaudesert. A tramway connected pits at Brereton with wharves on the canal. Tramways were in use, similarly, in the southern zone near Bloxwich and Walsall. Brownhills Common was an important mining centre. Tramways connected workings at Cheslyn Hay with the minor industrial centre at Churchbridge. Mining had increased somewhat in intensity in the Wyrley and Essington districts. Mining was, in fact, just beginning to spread on to areas of slightly more difficult conditions. This was reflected in the next decade in a very gradual shift of mining centres northwards.

Little fresh canal construction had been undertaken by 1830. Settlements continued to grow only very slowly. Cannock itself remained a local marketing centre and the

¹ PITT, *op. cit.* 262.

² CARTWRIGHT, M. *Some Aspects of Inland Navigation, with particular reference to the Cannock Chase Area*. Unpublished thesis in the Library of the Department of Geography, University of Birmingham. (1948).

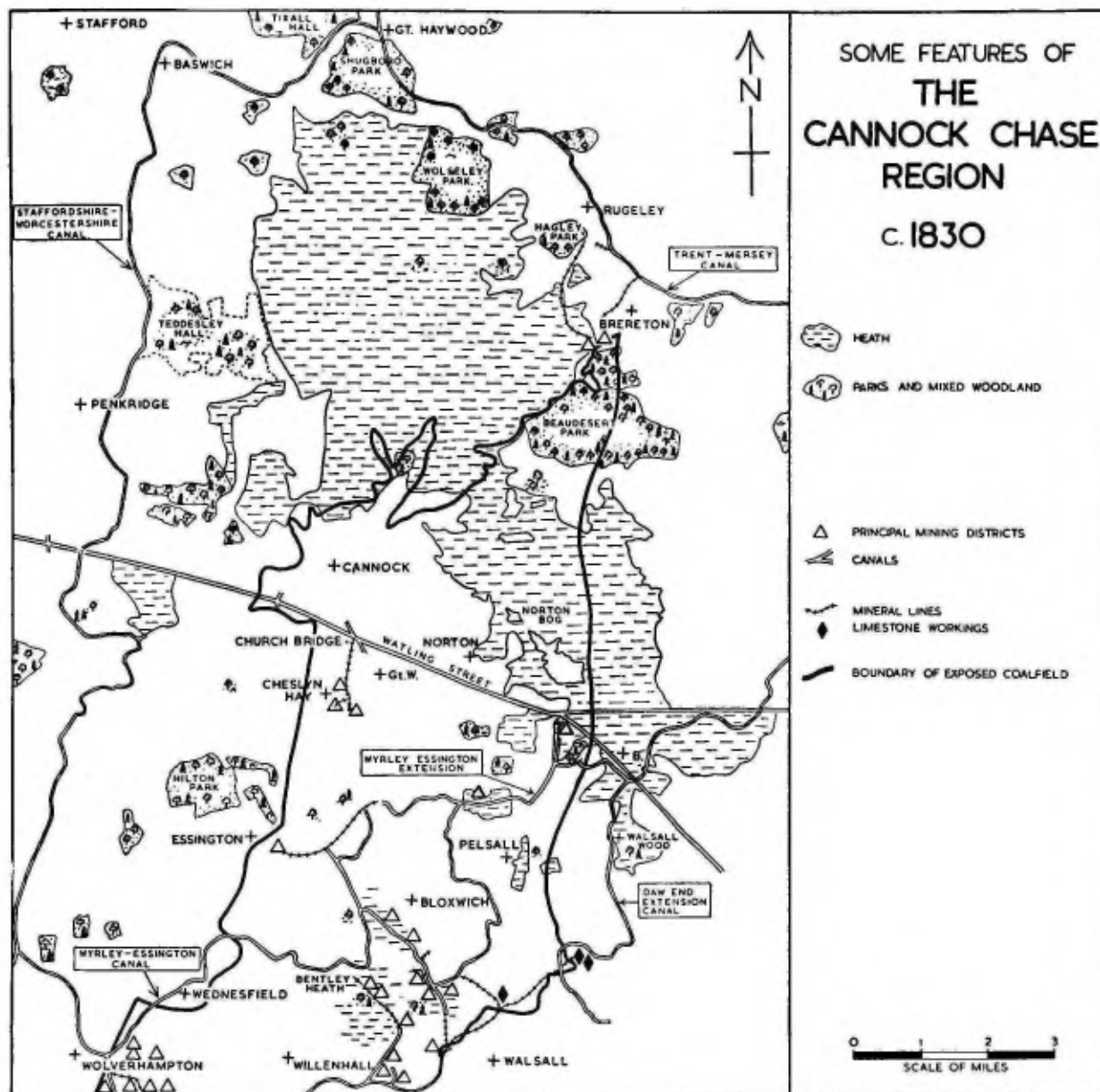


Fig. 58

threat of transformation into a centre of large scale mining remained far away. In 1835, so lightly was this prospect regarded by some observers that it was remarked, “we have two academies of a superior class, one for young gentlemen and the other for young ladies; the healthful situation of this village far removed from the smoke and noise of manufactories renders it pre-eminently suitable for such establishments.”¹ The same author reminded his readers that the village was bounded “on the north and east by a very extensive heath”, and indeed, despite enclosure for agriculture, for settlement and for parks, heathland was still very much more characteristic of this region than coal mining.

¹ WHITE, F. *Directory of Staffordshire*. (1835).

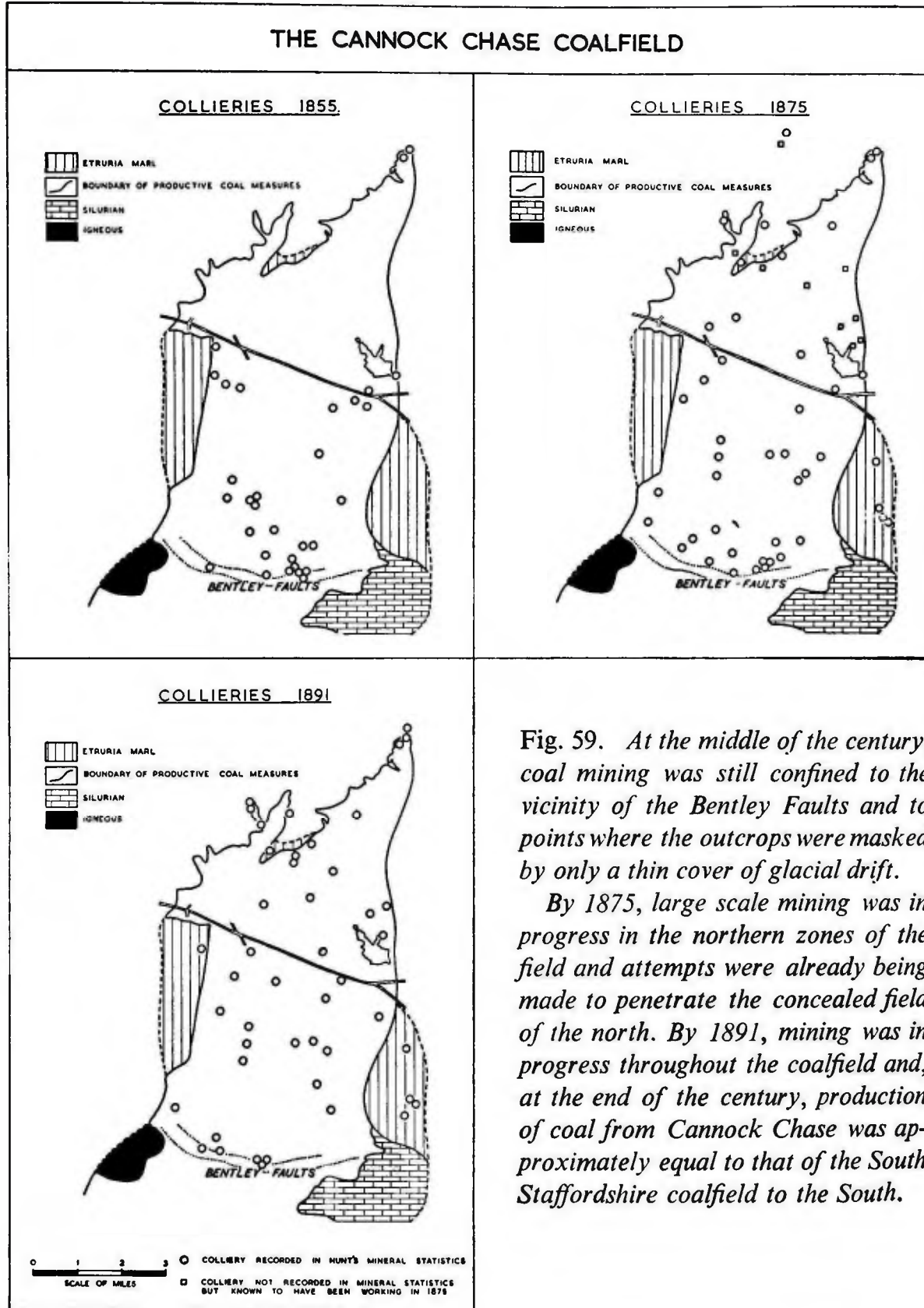


Fig. 59. At the middle of the century, coal mining was still confined to the vicinity of the Bentley Faults and to points where the outcrops were masked by only a thin cover of glacial drift.

By 1875, large scale mining was in progress in the northern zones of the field and attempts were already being made to penetrate the concealed field of the north. By 1891, mining was in progress throughout the coalfield and, at the end of the century, production of coal from Cannock Chase was approximately equal to that of the South Staffordshire coalfield to the South.

The Cannock Chase Coalfield 1850-1900

During the hundred years before 1850 the Thick Coal of South Staffordshire had provided a seemingly inexhaustible source of wealth. Little incentive had existed to mine the thinner and, usually, deeper seams, north of the Bentley Faults, especially as the Cannock coal was not suitable for coking. By 1850 conditions had changed. Signs of exhaustion in the better seams of the Tame Valley sector of the South Staffordshire coalfield had become apparent. Mines there were encountering increasing difficulty from water. At the same time the demand for coal for domestic and manufacturing purposes continued to grow. New areas of South Staffordshire were brought into production. Individual mines increased in size. At the middle of the century large scale mining activity spread to the Cannock Chase coalfield.

The principal trends of mining during this period are illustrated in Fig. 59. The distribution of mining in 1855 represented, in part, a summary of the trends of the first half of the century with collieries active near Brereton, in the north, and around Bentley, Cheslyn Hay, Essington and Brownhills in the southern half of the coalfield. But signs of change were now unmistakable. In 1852, the Uxbridge Colliery, near Hednesford, had been developed successfully by the Cannock Chase Company.¹ Large scale mining now began to spread rapidly over the field. Especially important developments occurred in the central zone around Norton Canes. It was reported in 1866 that here "very rapid strides are now being made in developing the thin seams over several thousand acres of previously unexplored ground".² With large scale mines at work in the central zone, a gradual replacement of small pits by larger units began in the south. Activity spread next to the south-eastern zone where the coal seams lay hidden beneath the Etruria Marl. Here the then comparatively deep Aldridge and Coppy Hall collieries were sunk. Next, the problems of the mid-western zone were tackled. The seams here lay deep and faulting was more intense than in other zones. In 1873, the Mid-Cannock Colliery Company acquired considerable areas of land for mining purposes and by 1875 active development was in progress. Development of the whole of the exposed coalfield was now proceeding rapidly. By 1875 so rapid had been the spread of mining that attempts were already being made to work the concealed field to the north, though for a variety of reasons attempts made in that year at Fair Oak and two years later at Huntington failed.

Collieries were now active across the whole face of the exposed coalfield from the Bentley Faults to Hednesford and Brereton. More and more the "centre of gravity" of the South Staffordshire and Cannock Chase coalfields tended to swing to the north. Production in Cannock Chase increased rapidly. In 1855 the Cannock total output had been only a very small proportion of the total for the two coalfields. By 1880, the Cannock Chase field was responsible for about one-third of the combined total.

¹ HACKWOOD. *op. cit.*

² JOHNSON, H. "The South Staffordshire Coalfield," in TIMMINS, S. (ed.). *Birmingham and the Midland Hardware District*. (1866). 25.

Production was then at a rate approaching four million tons a year and by the end of the century no less than one-half of the total for the combined fields was mined in Cannock Chase.

The migration of mining activity on to districts of increasingly difficult mining conditions continued to the end of the century. By 1900, in the south-east, the Walsall Wood colliery was winning coal from beneath the Etruria Marl and further sinkings had taken place in the west central sector. Significantly, those districts of the south, which had been responsible, fifty years earlier, for a very large share of the total production, had declined sharply in importance. Already the Bentley district was becoming exhausted and the gradual abandonment of many areas in the southern sector was in prospect.

The rapid development of mining was followed by great changes in the cultural landscape. As a direct result of the extension of mining a new phase of canal construction opened. Practically no new cuts had been opened since the end of the first phase of activity some fifty years earlier. The objects of new construction were twofold. In view of the growing importance of the coalfield, it was desirable, firstly, to link more closely the canals of Cannock with those of the Black Country. Of the canals of this type, the Bentley Canal, which linked the Wyrley-Essington Canal with the Anson Branch and so with the intricate network of South Staffordshire, was a good example (Fig. 60). The second object of the new canals was the further opening up of the coalfield itself. Northwards cuts included the Hatherton Extension, the Anglesey Branch and the Cannock Extension. The Cannock Extension was planned originally to connect the Wyrley-Essington canal via Cannock and Hednesford with the collieries at Brereton in the extreme north. By 1858, the line of the canal was completed as far as Hednesford, but was carried no further. The second and final phase of canal construction closed in 1860 with the construction of the Churchbridge Extension canal, which in its course of five furlongs included no less than thirteen locks.

Many areas in the northern and central sectors of the coalfield remained uncrossed by canals. Mineral lines were built to connect collieries with either the canal wharves or the main railway lines. Some mineral lines were built with passenger carrying as a primary object but all came eventually under the influence of the colliery companies. Many remain to form a distinctive feature of the landscape of the coalfield to-day.

For a variety of reasons the important main line railways of the Birmingham district avoided the upland country of Cannock Chase. The Grand Junction line, for example, which used a comparatively easy route north from Birmingham in the Upper Tame valley, passed across the south-western fringe into the lowland of south-west Staffordshire. The main line from Rugby to Stafford passed along the Trent valley to the north. Eventually, two lines crossed the region, one running from Walsall via Cannock to join the Trent valley line at Rugeley, the other from Walsall via Brownhills to Lichfield. Early attempts to use the latter as part of a through route from north-east to south-west came to naught and both lines became of only local passenger importance. The development of these lines, however, played a considerable part in influencing the growth of the

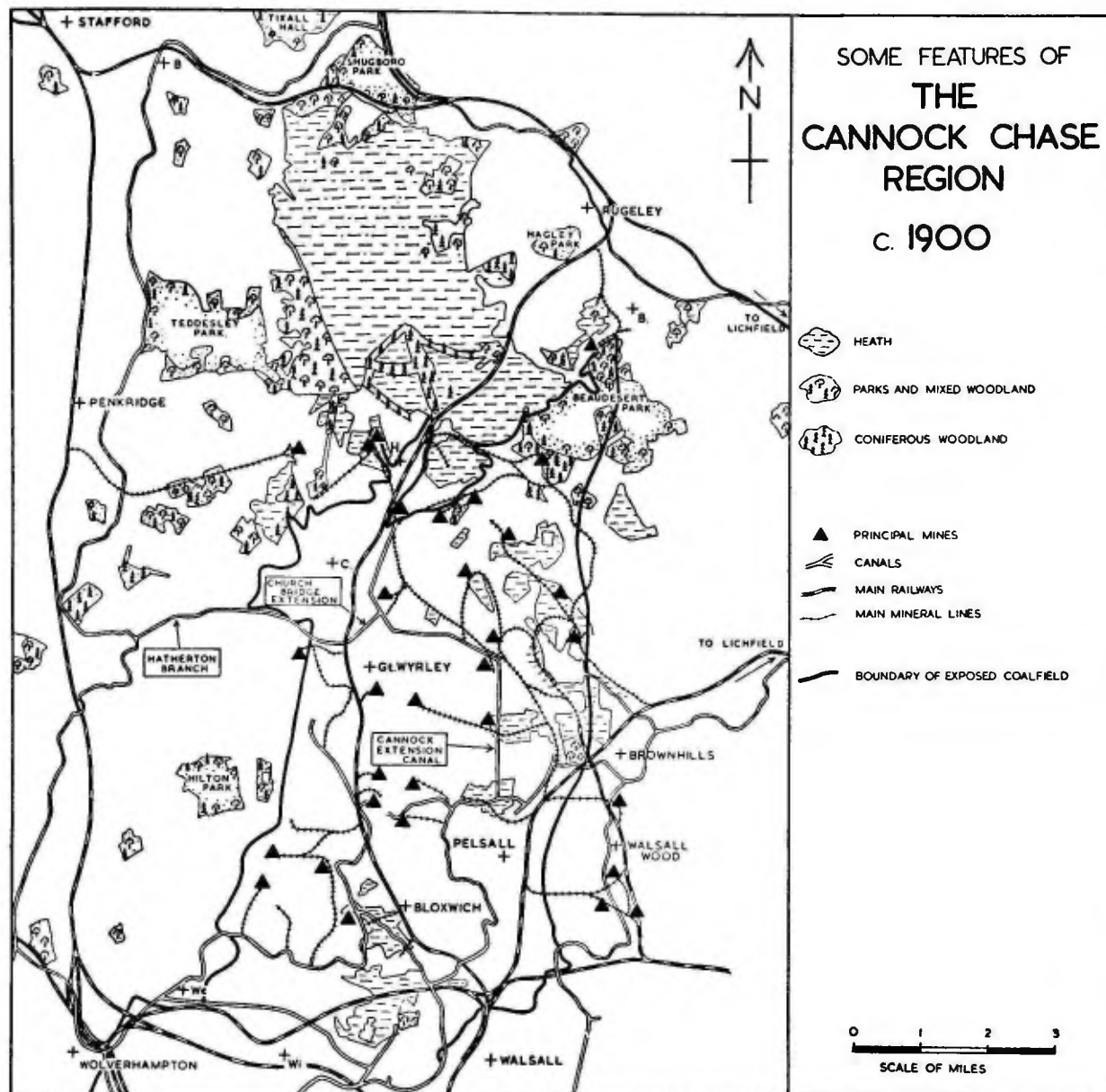


Fig. 60

coalfield in the latter part of the century. Both lines met at Walsall and aided greatly the growth of that town, not only as a centre handling coalfield traffic, but as a town providing services and amenities for the population of the coalfield.

The rapid development of the coal mining industry was followed by an immediate influx of population and by the growth of towns and villages. Some idea of the comparatively small numbers dependant on mining early in the century can be obtained from the Census Reports. In 1831, mines in Cheslyn Hay, Great Wyrley, Cannock Wood and Hednesford had together employed only 87 persons and mines in Norton Canes and Little Wyrley 48. In contrast, the large scale developments of the mid-century period brought rapid increases in population. The sinking of pits by the

Cannock Chase Colliery Company in the east centre of the field was followed by an increase in population in Burntwood and Hammerwich parishes and by the growth of two new villages, Chase Town and Chase Terrace. In the case of Burntwood the most rapid phase of development occurred between 1841 and 1871 with a population increase from 749 to 4,525. When mining spread into the west central sector, great increases in population again resulted. Here the most significant phase lay between 1861 and 1881. Cannock, a large village of 2,913 in 1861 had become a town of 17,125 in 1881 and 20,613 in 1891.

The towns and villages which sprang up over the countryside became almost entirely mining settlements. Many of them remain today as straggling street villages composed of long lines of terrace houses built originally in the shadow of the pit bank. Brown-hills, Norton, Heath Hayes and Chase Town are good examples. "They possess so little that is attractive", wrote an observer at the end of the century, "they are ill-built and ill-kept; their very architecture is depressing; they present nothing to elevate or refine, either in the nature of the industry, or in the environments of the people's daily life". Socially, the life of these villages was often barren; they possessed few amenities; the welfare of the mining communities was sacrificed in the search for coal.

For the most part, the towns and villages remained single industry settlements. Only to a very limited extent did manufacturing industries spread northwards from South Staffordshire. Blast furnaces thrived for a time in the south of the coalfield near Walsall and Pelsall, but the age of expansion of the Black Country primary industries had passed. The Cannock Chase region was not rich in ironstones, neither was its coal suitable for coking. The towns in the south of the region retained their light metal industries. The Directories of 1900 reveal a minor concentration of bit makers and awl blade makers at Bloxwich. Lock and bit makers were to be found distributed in the villages and hamlets north of Willenhall and Wednesfield. Limestone working was still in progress at Rushall. The Etruria Marl of the Aldridge district and on the west of the coalfield was proving a valuable source of clay for the manufacture of the celebrated "Staffordshire blue" bricks. The presence of huge claypits and unsightly brick-kilns, from whose clumsy chimneys smoke swept across the barren landscape, aided by the results of fifty years of coal mining, completed the transformation of the countryside in the Shelfield and Aldridge areas. Cannock remained, in 1900, the most important town in the district and still retained its old function as a marketing centre. At Churchbridge, nearby, the auger and edge tool industries were still prosperous. In Cannock itself were a number of small metal industries. Here, too, the proportion of shops and service industries was higher than in any other town on the coalfield. Cannock was the titular capital of the region. Though its printing trades served the whole coalfield, the amenities and facilities provided by the town were, however, insufficiently strong to attract more than a comparatively small area of the north-west of the field within its sphere of influence. Handicapped by its position on the fringe of the coalfield the relative importance of Cannock suffered from the increasing competition of the towns on the

northern fringe of the Black Country. In particular, Walsall had begun to emerge as an important centre of services for the southern half of the coalfield.

To the heaths and commons on the South Cannock plateau the coming of mining was a death blow. By 1900, (Fig. 60) the limits of the heath had been restricted to the northern half of the region and only a few outlying patches of waste remained as evidence of the former remoteness of this populous and active district.

The Cannock Chase Coalfield since 1900

By the commencement of the century the whole of the exposed coalfield was being worked, with the exception of a small exhausted corner in the south-east. The twentieth century has witnessed two major changes in the distribution of mining.

The working out of part of the southern zone was apparent in 1905 (Fig. 61). Further, a contrast in scale of working was evident between the smaller pits of the southern sector and the larger units of the centre and north. By 1924 the abandonment of the south and concentration in the north had become intensified. Decline had set in, too, in the south-eastern zone near Aldridge and Walsall Wood.

During this century the extreme north and west of the coalfield have become progressively of greater relative importance. This has been due largely to the exploitation of the concealed coalfield in these directions. The successful sinking of the Littleton colliery in 1897 foreshadowed development to the north-west. The northerly trend was intensified by the sinking of West Cannock No. 5 pit in 1917. To the west, the principal occurrence has been the sinking of the large Hilton Main colliery in 1924.

As a result of these new extensions the coalfield as a whole has maintained a total production at a fairly constant figure of between four and a half and five million tons a year. On the exposed coalfield twentieth century mining policy has relied largely on the consolidation of existing mines rather than on new sinkings.

At the present time, with a few small exceptions, mining has ceased in the south and south-east of the field. The boundaries of the 'worked-out' zone are spreading gradually northwards into the central zone. Within recent months this trend has been re-emphasised by the closing down of collieries in the southern districts of the mid-western and central zones. Further closures may be expected as the policy of reorganisation now in operation by the National Coal Board proceeds. The intention is to concentrate production at a small number of redeveloped and modernised pits.

Despite the rapid spread of the coalfield during the last hundred years possibilities for future expansion have not yet been exhausted. Future developments are likely to include the extension of working beneath the Triassic cover to the west and north-west. In these directions no new sinkings are likely in the immediate future as working will be from existing collieries. Possibilities for new sinkings exist, also, on the concealed field east of the Eastern Boundary Fault where coal has been proved in the vicinity of Longden. Recent announcements of the proving of coal at a depth of over 3,000 feet at Whittington near Lichfield have aroused speculation regarding the likelihood of an extension of the coalfield in that area. Further geological work will be necessary before

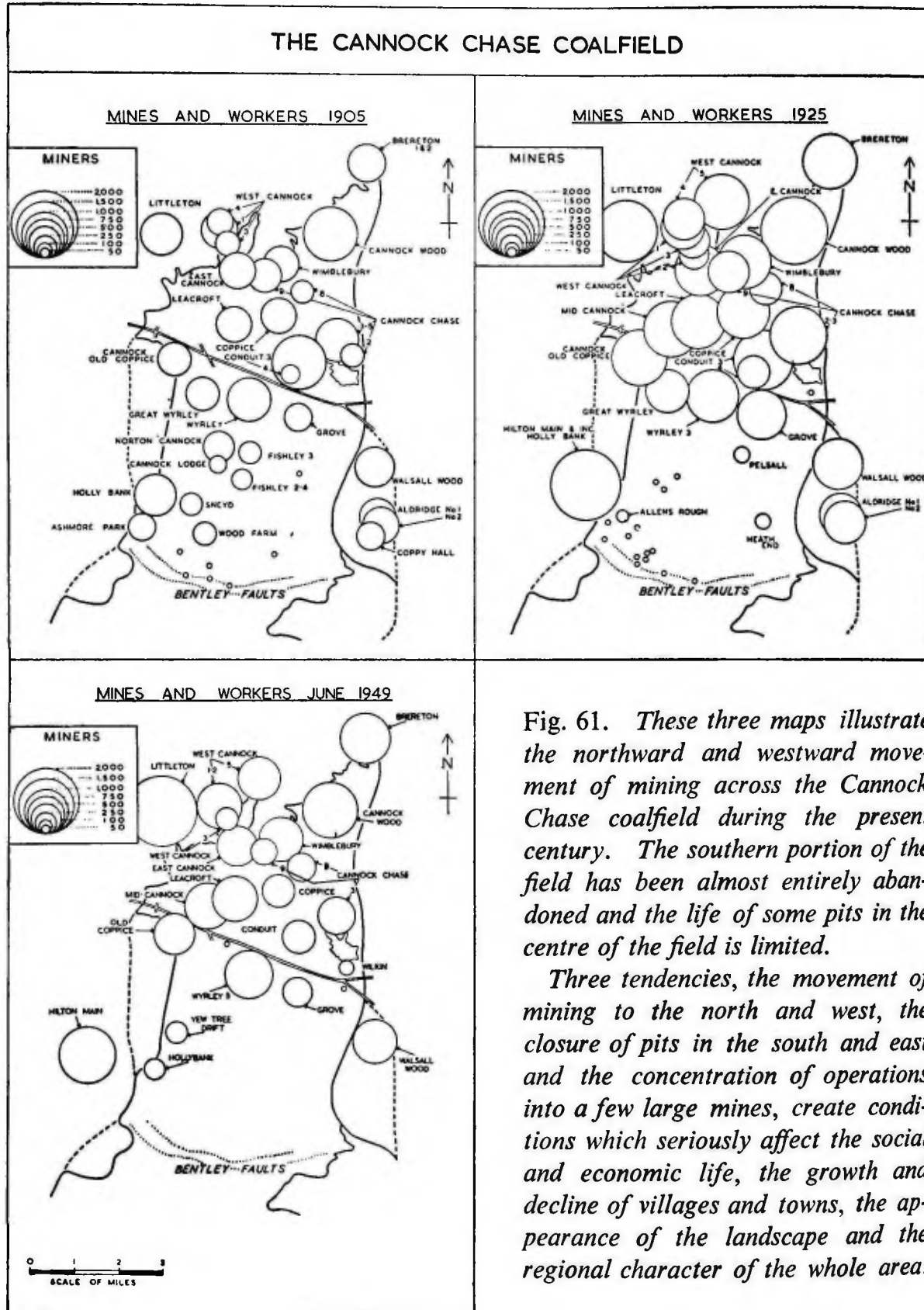


Fig. 61. These three maps illustrate the northward and westward movement of mining across the Cannock Chase coalfield during the present century. The southern portion of the field has been almost entirely abandoned and the life of some pits in the centre of the field is limited.

Three tendencies, the movement of mining to the north and west, the closure of pits in the south and east and the concentration of operations into a few large mines, create conditions which seriously affect the social and economic life, the growth and decline of villages and towns, the appearance of the landscape and the regional character of the whole area.

the feasibility of working coal in this vicinity is fully known. In the present state of knowledge that can be little more than a long term possibility.

THE PRESENT REGIONAL PATTERN OF CANNOCK CHASE

To dwellers in the Birmingham district the term Cannock Chase is a familiar one. Yet the meaning it conveys will be found to differ widely. To some—a Birmingham man, for example—the name calls to mind a coalfield, source of the “best Cannock” house coal. To others, as, for instance, the inhabitants of Stafford, Cannock Chase means an unrestricted tract of heath and woodland, a source of attraction on Bank Holidays. The present Cannock Chase region is the result of a long period of evolution. It has been a Royal Forest and a true Chase. It has included woodland, barren heathland and farmland of various grades. Across it has sprawled a modern coalfield.

At the present stage of its evolution the Cannock Chase region includes three widely differing sub-regions. There is, in the north a district of upland heath and woodland, in the centre an active coalfield and in the south a district in which the coal resources have been largely exhausted but which bears the scars and problems left by mining, once its staple industry.¹

The most northerly sub-region extends for some five miles from Brocton in the north to the outskirts of Hednesford (Fig. 62) and represents the principal surviving relic of the old waste lands of the Forest of Cannock. There are three main types of country. The wooded valleys of the north, including the Oldacre, Sherbrook and Old Brook Valleys, are celebrated Staffordshire “beauty spots”. The open heathland is particularly extensive in the west, and contains, in addition to areas of considerable beauty, districts recognised as of high scientific importance from a botanical point of view.² The third variety of landscape is provided by the almost exclusively coniferous plantations of the Forestry Commission which now occupy rather more than 5,000 acres. The beauty of the landscape, the scientific importance of the semi-natural vegetation and the relative accessibility of the district from large industrial centres combine to render this an amenity area of very great value. Recent investigations³ have shown that the heaths and commons at Milford, at the northern tip of the region, are used regularly by visitors from as far away as Birmingham in the south and the Potteries to the north. In this respect Cannock Chase acts as a valuable “lung” to such industrial centres as Wolverhampton, Walsall, Stafford and Stoke upon Trent. At the same time, the boundaries of the heath and afforested country are by no means static and many threats exist to the scenic and recreational value of this belt of country. It is known, for example,

¹ *Vide* WISE, M. J. “The South Staffordshire and Cannock Chase Coalfields and Future Planning in the West Midland Conurbation,” in *Conurbation*. (1948). 258-80. Also The Cannock Chase Coalfield and Future Planning. *Transactions of the Institution of Mining Engineers*. 107. (1948). 647-51.

² *Vide supra*. 70.

³ By the Stafford Friends of Cannock Chase to whose Secretary, Mr. P. H. Jennings, I am indebted for details of the investigations.

that prospects for future coal working exist beneath the western side of this district. This may be carried out, possibly, by the redevelopment of existing collieries on the southern fringe of the sub-region. Should surface developments become necessary great care must be taken, by the careful design and siting of surface building, to minimise disfigurement of the landscape. In this connection, especial attention must be given to methods of disposing of colliery waste. Already, certain sections of the sub-region, of considerable amenity value, are over-shadowed by the ugly conical tips of collieries to the south and south-west.

Further inroads on the heathland are being made by workings of sand and gravel. The Bunter Pebble Beds are believed to contain considerable reserves of good, economically workable gravels and on these increasing demands will be made.

The upland heaths have been much used in the past as the scene of military manœuvres and are still in demand by the War Department for military training purposes and for the testing of military weapons. Whereas former infantry and cavalry manœuvres have had little harmful effect, the testing of modern tracked vehicles and the erection of buildings necessary for their servicing has resulted in considerable damage to the flora and disfigurement of the landscape.

The process of reduction of the waste which has been carried on for many hundred years is, then, still in progress. Any further considerable diminution of this already small sub-region would mean the loss of an area of great scenic, recreational and scientific value to the Birmingham district as a whole. It may be that steps already in hand, to designate much of this sub-region as a "Conservation Area" for future planning purposes will result in the stabilisation of its boundaries.

The central sub-region, that of the active coalfield, extends southwards from Huntington and Hednesford to Great Wyrley and Brownhills. The majority of its modern problems arise from the rapidity with which the coalfield was exploited during the latter half of the nineteenth century. The social character and appearance of the mining towns in 1900 has been suggested earlier. They remain long, straggling street villages composed of lines of terrace houses; many of the townships are inadequately equipped with shopping, recreational and social facilities. In some, a considerable proportion of the houses are judged to be below the minimum standard for modern habitation and ripe for replacement.¹ The straggling lines of settlement, overshadowed by the characteristic conical pit mounds, have offered little possibility of employment outside coal mining.² The results of the unbalanced industrial structure and particularly of the lack of employment for female labour has led to the migration of many dependents of colliery workers from the district in search of work. The Census reports have revealed, in consequence, a relative absence of females in the coalfield. At the present time there is a large daily migration of workers by bus from Cannock, Heath Hayes, Brownhills,

¹ According to surveys carried out by the West Midland Group on Post-War Reconstruction and Planning.

² In 1947 approximately 80% of the insured male population in the Brownhills Exchange area were employed in coal mining.

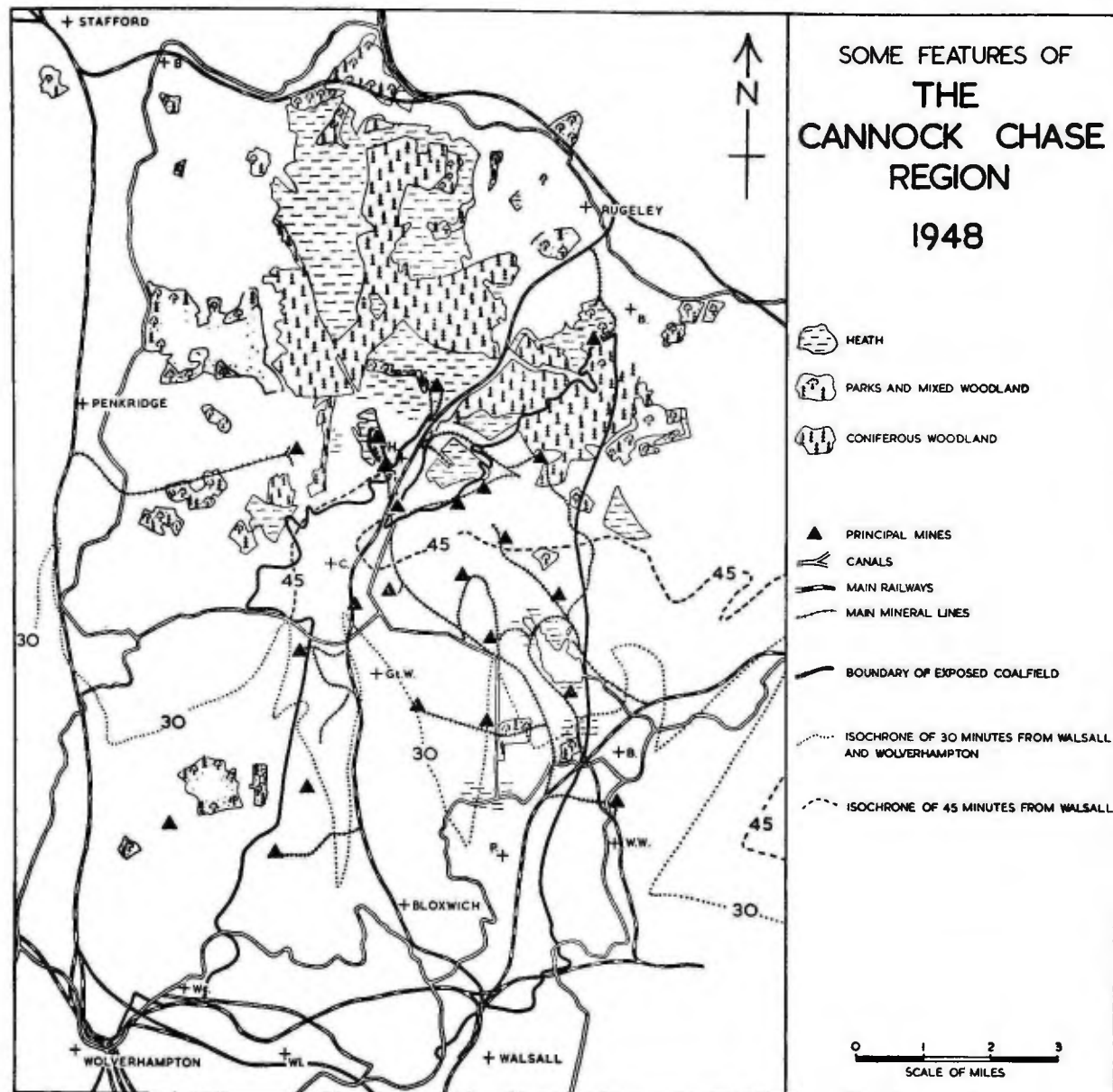


Fig. 62

Norton and other towns to destinations as far away as the factories in the northern suburbs of Birmingham. Recent attempts to broaden the industrial structure of the Cannock Chase coalfield have not all been successful and have, as yet, touched only the fringe of the problem. Dependence on mining alone has resulted, as in some other coalfields, in many social ills. It has been shown that some of the psychological ills of the coal mining industry can be traced to the isolation engendered by residence in solely mining communities. In many areas of Cannock Chase poor communications have intensified this isolation.

Opportunity for the redevelopment of some existing settlements may occur when production of coal has been concentrated at a comparatively small number of pits. The Cannock Chase towns need replanning: they should provide a full background of

social, cultural and recreational facilities and should be organised ideally as mixed communities in which the mining population would be an important though not an overwhelming element. As it exists today the active coalfield is socially unbalanced.

Further problems in the coalfield include the restoration of areas left derelict following the abandonment of coal mining and the levelling and re-vegetating of colliery sites and pit heaps. The results of surface subsidence are readily apparent to any traveller through the district. Roads, canals, sewers, water and gas mains suffer continual damage from the settling of the surface. Due to the comparatively shallow nature of many of the workings and to the weakness of the overlying strata, the effects of subsidence have been widespread. Perhaps the worst example of many is at Clayhanger, near Brownhills, where a former part of a village is now occupied by a stagnant swamp and by a typical Staffordshire "swag", or waterfilled subsidence hollow.

The southern sub-region which extends from the southern edge of the coalfield to the northern fringe of the Black Country presents problems of almost equal importance. Here, too, the effects of subsidence may be readily seen and much derelict land, as, for example at Pelsall, Shelfield and Aldridge lies in need of reclamation. Near Aldridge and Walsall Wood the effects of coalmining and brick making have combined to produce a landscape more intensively disfigured, perhaps, than any area of comparable size in the Black Country. But the essence of the problem of this sub-region lies in the fact that it was developed solely as a coalmining district, that few other industries except brickmaking have been introduced, and that mining has passed to the north out of the area. The district is now held, as it were, between the pull of the active coalfield to the north and the increasingly stronger pull of the Black Country Conurbation to the south. Those still employed in mining travel some miles to the pits of the central and northern zones. As mining passed out of the area, however, the attractions of employment in the factories and offices of Walsall and Wolverhampton became stronger. Coupled with the rapid expansion of motor bus services from the Conurbation this has resulted in an increasingly close connection between this sub-region and the Conurbation to the south. All the towns and villages lie within thirty minutes bus journey of either Walsall or Wolverhampton. It may be said that Bloxwich is already a part of the Conurbation. Rushall, Aldridge, Essington, and Walsall Wood are now on its very fringe. Many of these villages present similar problems to those of the active coalfield.

The growth of the coalfield represents, then, the latest and most significant major stage in the story of the evolution of Cannock Chase. Within the space of one hundred years the landscape has been transformed and the present threefold regional structure developed. The problem of our day is the reconciliation of the interests of those concerned with the planning of the landscape with those whose business is coal mining and its development. The aim for the future of the Cannock Chase region should be the "achievement of a cultural landscape of maximum utility and beauty and the advancement of the social life and welfare of the population of the coalfield". The full realisation of that aim may be the story of the next stage in the evolution of this region.

SOME NOTES ON THE GROWTH OF POPULATION
IN THE CANNOCK CHASE COALFIELD

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SOME NOTES ON THE GROWTH OF POPULATION
IN THE CANNOCK CHASE COALFIELD¹

The present crisis in the British coal industry has focussed attention upon the necessity for a detailed examination of social problems in the coalfields.

Furthermore, as has been recently suggested by Professor Stamp,² geographers, for too long, have neglected the study of problems presented by the rapid growth and changing structure of the British population during the last two centuries. This is true not only in general, but in respect of the population of the coal mining districts.

The purpose of these notes is to outline some of the characteristic features of the population structure of the Cannock Chase coalfield, and to show that many of the present demographic problems in this area have their origin in the period of very rapid development of the coalfield after about 1850.³

The development of the coalfield

The physical characteristics of the coalfield and the story of the growth of coal mining have been

-
1. The text of a paper submitted for future publication in "Geography".
 2. In his Presidential Address to the Geographical Association on January 4th, 1951.
 3. The author's thanks are due to Professor R.H. Kinvig and, for cartographical assistance, to members of the technical staff of the Department of Geography in the University of Birmingham. Acknowledgement should be made to Mr. G.S. Johnson and Mr. M. Cartwright, former students in the Department of Geography, with whom many of the points raised in these notes have been discussed. Fig. 4 is based in part on a map by Mr. Cartwright.

discussed in detail elsewhere.¹ The main stages of development may be summarised as follows:-

1. Prior to 1840: Mining, on a small scale, was confined to the areas of easiest mining conditions, i.e. where seams were exposed at the surface and free from the overlying drifts which, elsewhere in the coalfield, masked the seams to a variable, but often considerable, depth. Districts near Cheslyn Hay, Brownhills, Bloxwich and, in the north of the coalfield, at Beaudesert Park, near Brereton, had been worked, among others, since medieval times.
2. Post-1840: This was a period of intensive development, contrasting with the steady decline of mining in the Thick Coal areas of the nearby South Staffordshire coalfield, and in which coalmining spread throughout the entire exposed coalfield.
3. More recently, and, in particular, since 1900, a marked feature has been the spread of mining on to the concealed coalfield to the west and north-west. This has been balanced, however, by a great reduction of mining activity, due to exhaustion, in the southern part of the exposed coalfield, over much of which mining has now

1. Vide "The Cannock Chase Region" in Birmingham and its Regional Setting - a Scientific Survey (1950), pp. 269-88., and "The South Staffordshire and Cannock Chase Coalfields and Future Planning" in Conurbation (1948), pp. 258-80.

ceased completely.

THE GROWTH OF POPULATION

Population distribution in the early Nineteenth Century

Until the middle of the nineteenth century much of the coalfield remained an undeveloped heath. A wide tongue of unreclaimed heathland extended south-eastwards from the High Plateau of Cannock Chase through the Hednesford district to Norton Canes and Pelsall.¹

Population was gathered in small settlements, often situated, as at Great Wyrley, on the edge of the waste, supplementing the income derived from mining by part-time work on local farms and smallholdings. In general, the distribution of settlements reflected the location of areas of relatively easy mining conditions. In the north, Brereton was the home of miners from the pits in the extreme northern tip of the coalfield around Beaudesert Park. Norton Canes, Cheslyn Hay, Pelsall and Essington were small mining centres. Local iron trades existed, in addition, at Cannock and Bloxwich.

Between 1801 and 1841 the growth of population and spread of settlement proceeded slowly over much of the coalfield. The chief exception lay in the south, where the spread of mining northwards across the Bentley Faults from the South Staffordshire coalfield had induced a more rapid rate of population increase, particularly

1. Birmingham and its Regional Setting, pp. 274-7.

THE CANNOCK CHASE REGION – POPULATION

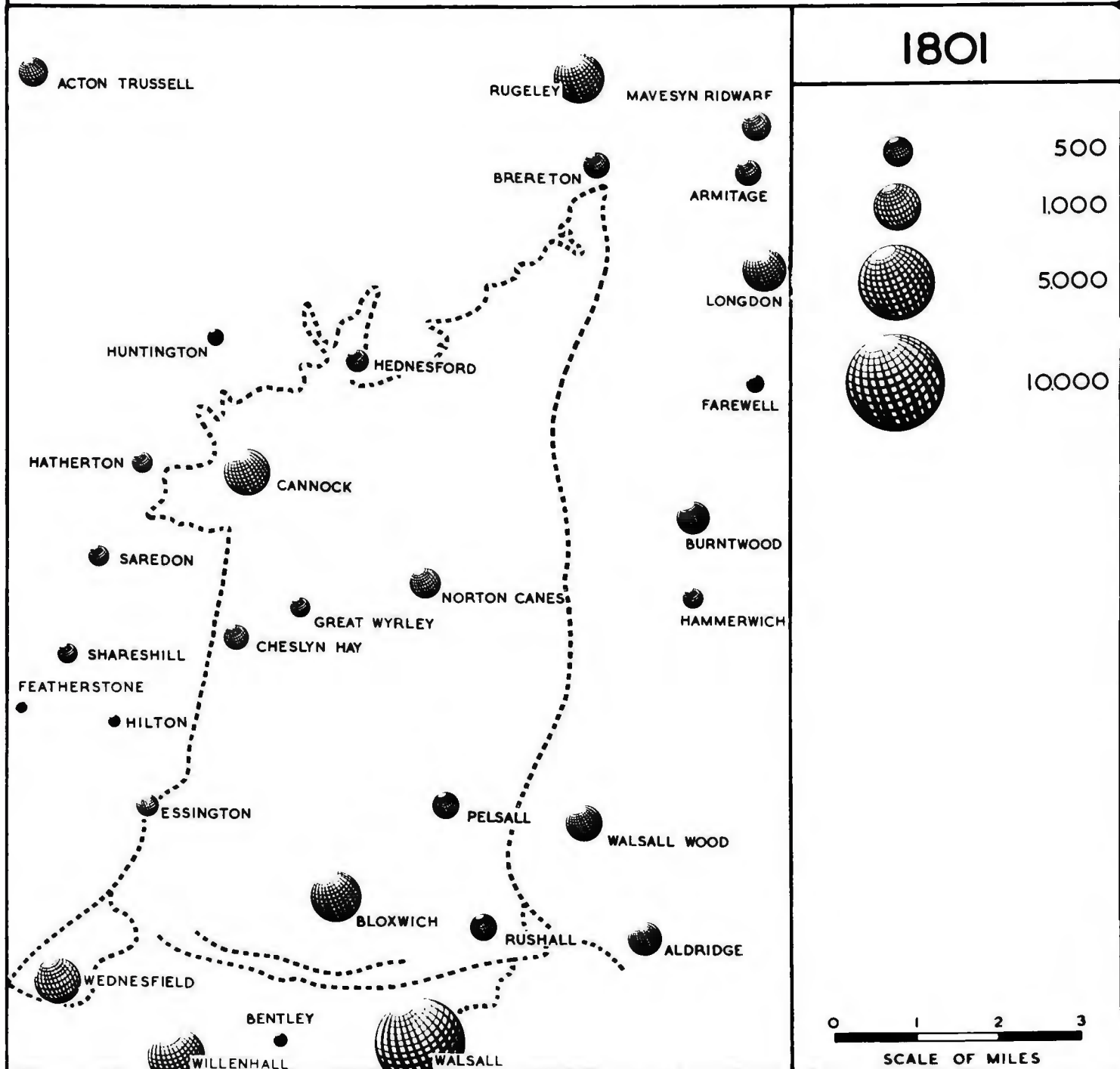


FIG. 1

THE CANNOCK CHASE REGION – POPULATION

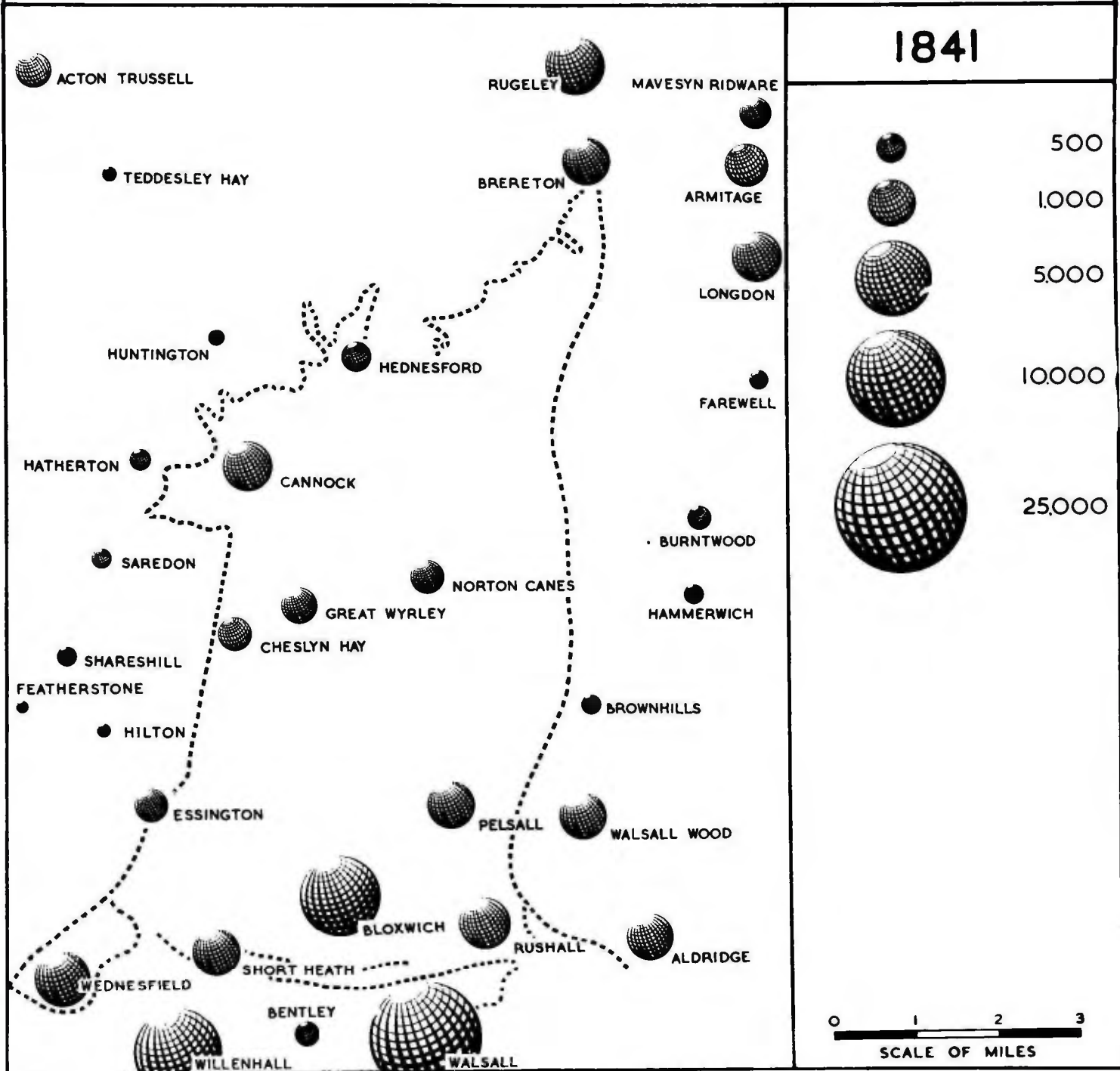


FIG.2

after 1831. Thus Rushall grew very slowly from 485 in 1801 to 693 in 1831 but by 1841 the population had doubled to 1,609 and a period of rapid expansion had begun. A comparison of the distribution maps for 1801 and 1841 (Figs. 1 and 2) illustrates the more advanced position of districts in the southern part of the coalfield compared with those of the centre and north. While Hednesford in the north showed very little change of population, Wednesfield increased from 1,088 in 1801 to 3,168 in 1841 and Felsall from 477 to 1,026. The population graph (Fig. 3) makes it clear that a significant change in the rate of increase of population in the southern districts (of which Rushall is shown as an example) took place around 1831.

The growth of population in the post-1840 period

The rapid growth in all sectors of the coalfield is clearly shown by a comparison of the distribution maps for 1841 and 1901. In the southern sector, continued growth in Walsall and Bloxwich was associated with the development of the iron and leather trades as well as of mining. Walsall lay just beyond the eastern boundary of the South Staffordshire coalfield, and though mining was important it was by no means the primary occupation. The rates of growth of settlements in the southern district, during this period, were by no means as great, however, as those of the mining towns in the central and northern sectors.

CANNOCK CHASE COALFIELD COMPARATIVE RATES OF POPULATION INCREASE IN SELECTED PARISHES

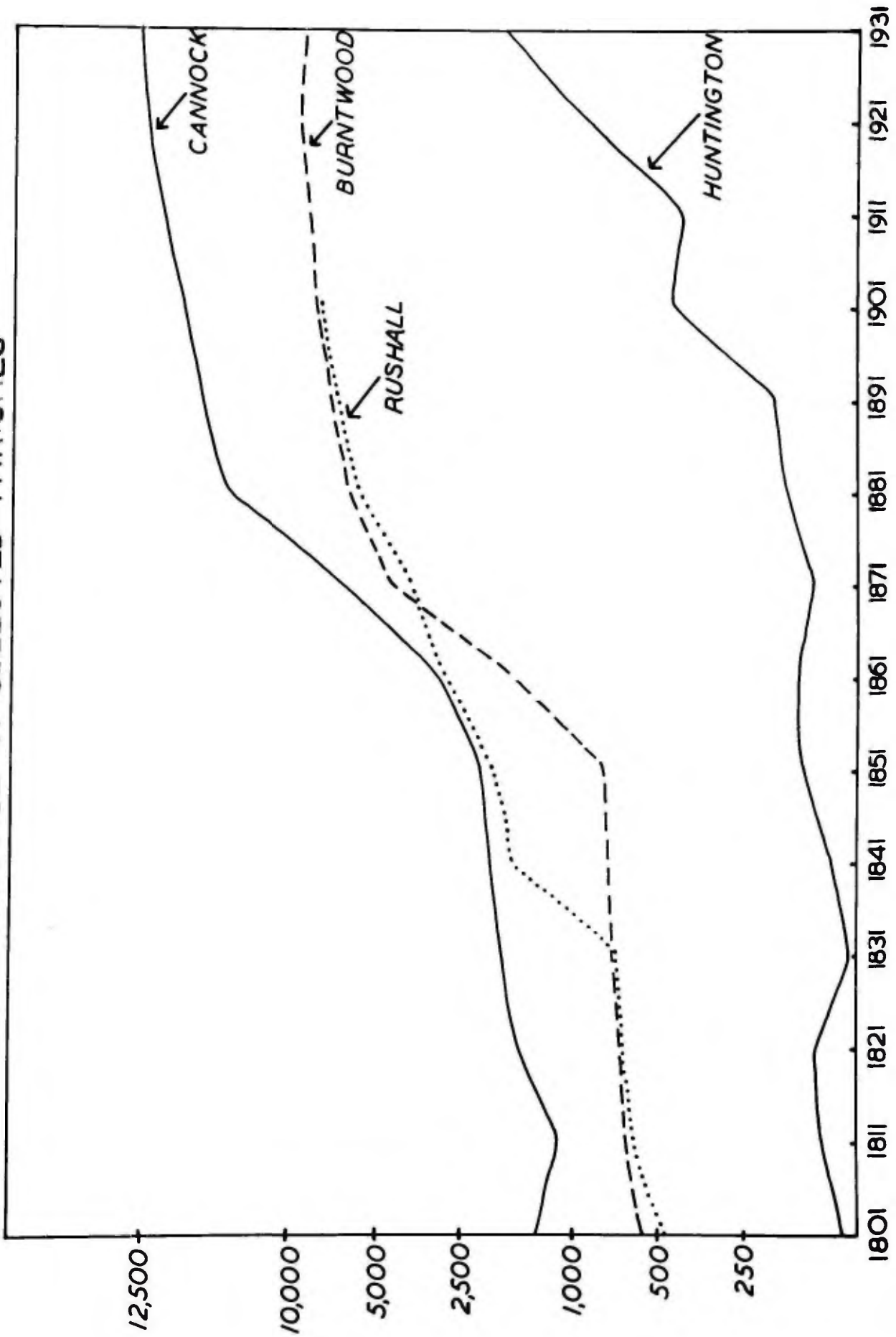


FIG. 3

This can be clearly shown from the graph (Fig. 3). Good examples from the central sector are provided by Chase Town in the parish of Burntwood, which developed quickly after the mid-century as a newly founded and purely mining settlement. Chase Terrace also was a newly founded mining village. The growth of these mining settlements was quickly reflected in the population totals for their respective parishes, Burntwood increasing from 781 in 1851 to 8,195 in 1901 and Hammerwich, from 270 to 1,572 in 1891. Similarly Cannock parish grew rapidly from 3,081 in 1851 to no less than 26,012 in 1901. Within Cannock parish a marked feature was the development of subsidiary settlements such as Heath Hayes, which was non-existent before 1801, and Hednesford, which developed from a small hamlet providing local staging services for travellers into an active mining settlement numbering over 8,000 by 1901.

The rapidity of growth of these towns of the central and northern sectors during the latter part of the century is apparent from Fig. 3.

The growth of population since 1900

Two phases in the growth of population have been discussed already. The earliest, after 1831, included the growth of towns in the southern district. After 1841 the rate of population growth in the centre and north of the coalfield increased rapidly. The further spread of mining

THE CANNOCK CHASE REGION - POPULATION

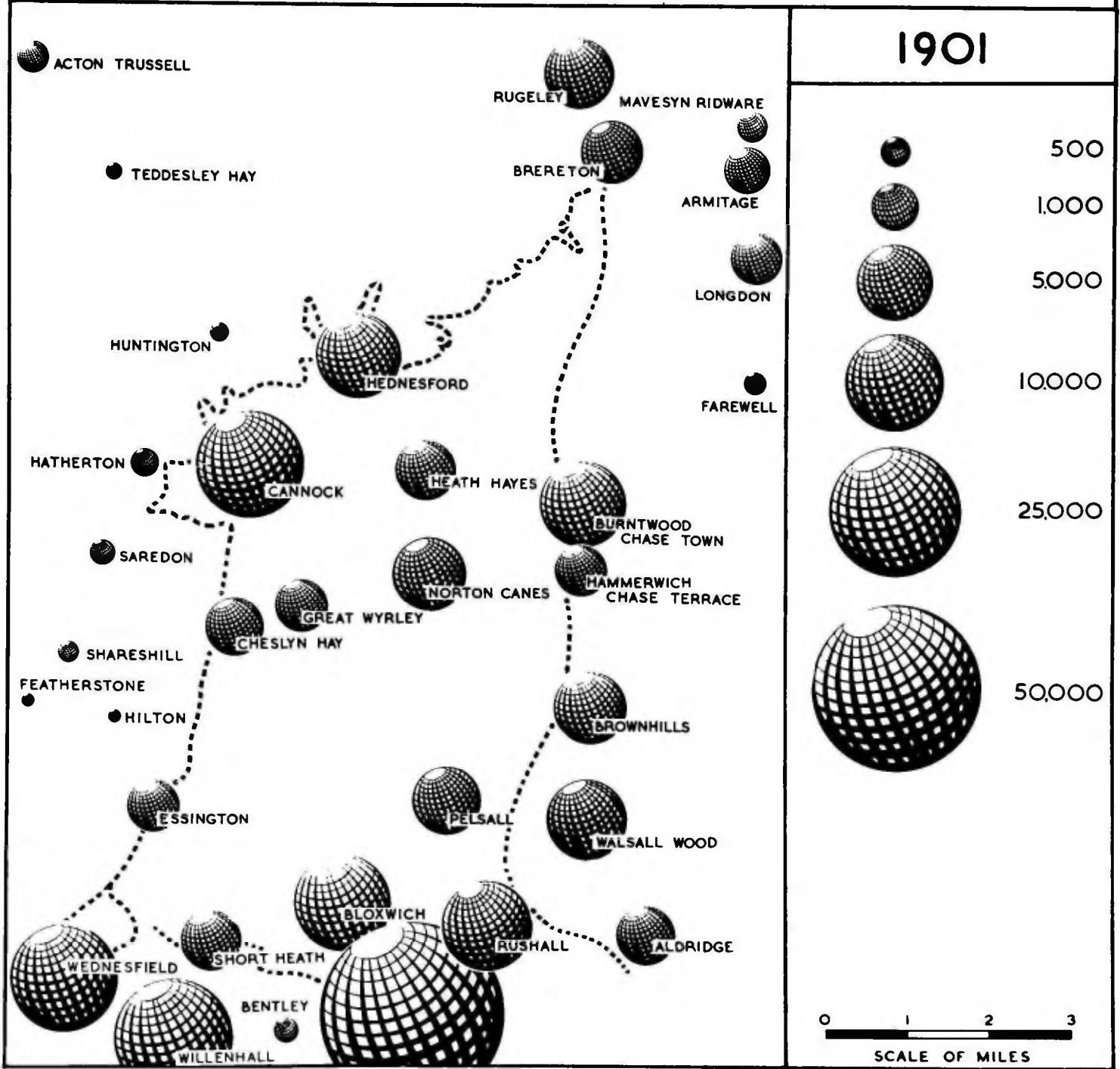


FIG. 4

THE CANNOCK CHASE REGION – POPULATION

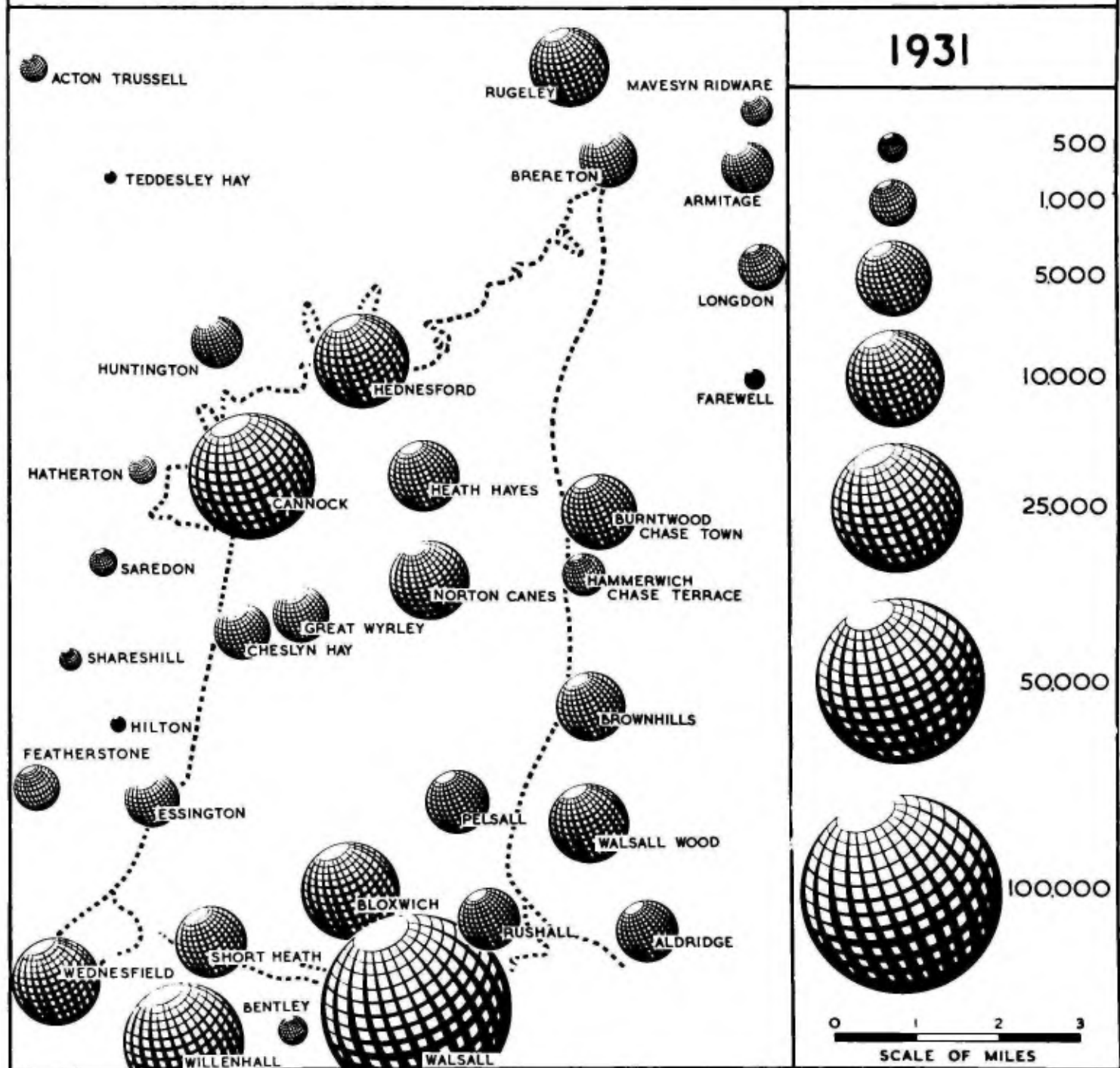


FIG. 5

since 1901, on to the concealed coalfield, has been reflected in a third phase of population growth. This, though smaller than either of those already discussed, has resulted in the growth of new mining settlements of which the most interesting is Huntington. This village, which serves the nearby Littleton colliery, has grown from 300 in 1911 to 1,816 in 1931. A similar development, from 39 in 1921 to 1,058 in 1931, occurred in the parish of Featherstone due to the sinking of the large Hilton Main Colliery in 1924 (Figs. 4 and 5).

The decline of coalworking in the south and south centre of the coalfield, which has been characteristic of this period, has not resulted in any marked decline of population totals, though, as will be seen from Fig. 3, once the maximum period of mining development was over, population rates of increase slackened rapidly. That population totals have been maintained in the worked out parts of the coalfield is due to two causes. Miners have been able, without travelling inordinately long distances, to find employment in the more prosperous areas to the north, while the factories and offices of the Black Country to the south have provided a large and fairly constant demand for labour.

POPULATION STRUCTURE

One of the most interesting features of the distribution of population in this coalfield is shown on

Fig. 6. In common with many other coalfields,¹ Cannock Chase exhibited in 1931 a marked deficiency of females. In the Midlands I Region of the 1931 census, including the four counties of Shropshire, Staffordshire, Warwickshire and Worcestershire, an overall ratio existed of 1,074 females to 1,000 males.² For the Administrative County of Staffordshire the ratio was 1,038. To this situation, the Cannock Chase coalfield presented an almost complete contrast. In examining the position in this coalfield three districts emerge.

1. In the southern half of the coalfield, including such parishes as Rushall and Essington, the deficiency of females existed but to not quite the same degree as in the central and northern sectors. Essington and Felsall possessed ratios of, respectively, 90.5 and 90.0 females to every 100 males. In the transitional area between the Cannock Chase and South Staffordshire coalfield, where Short Heath, for example, possessed a ratio of 98.4 per 100 males, the deficiency was reduced, while, in the Black Country itself, in Willenhall, Darlaston and Walsall, the ratio assumed almost normal proportions. It will be remembered that the southern portion of the coalfield was almost worked out by 1931, and this area has come increasingly

1. See, for example, the population map of the South Wales coalfield in T. Alwyn Lloyd and Herbert Jackson, *South Wales Outline Plan* (1949), p. 58.

2. This compared with a ratio of 1,087 females to 1,000 males for the United Kingdom as a whole.

CANNOCK CHASE SEX DISTRIBUTION 1931

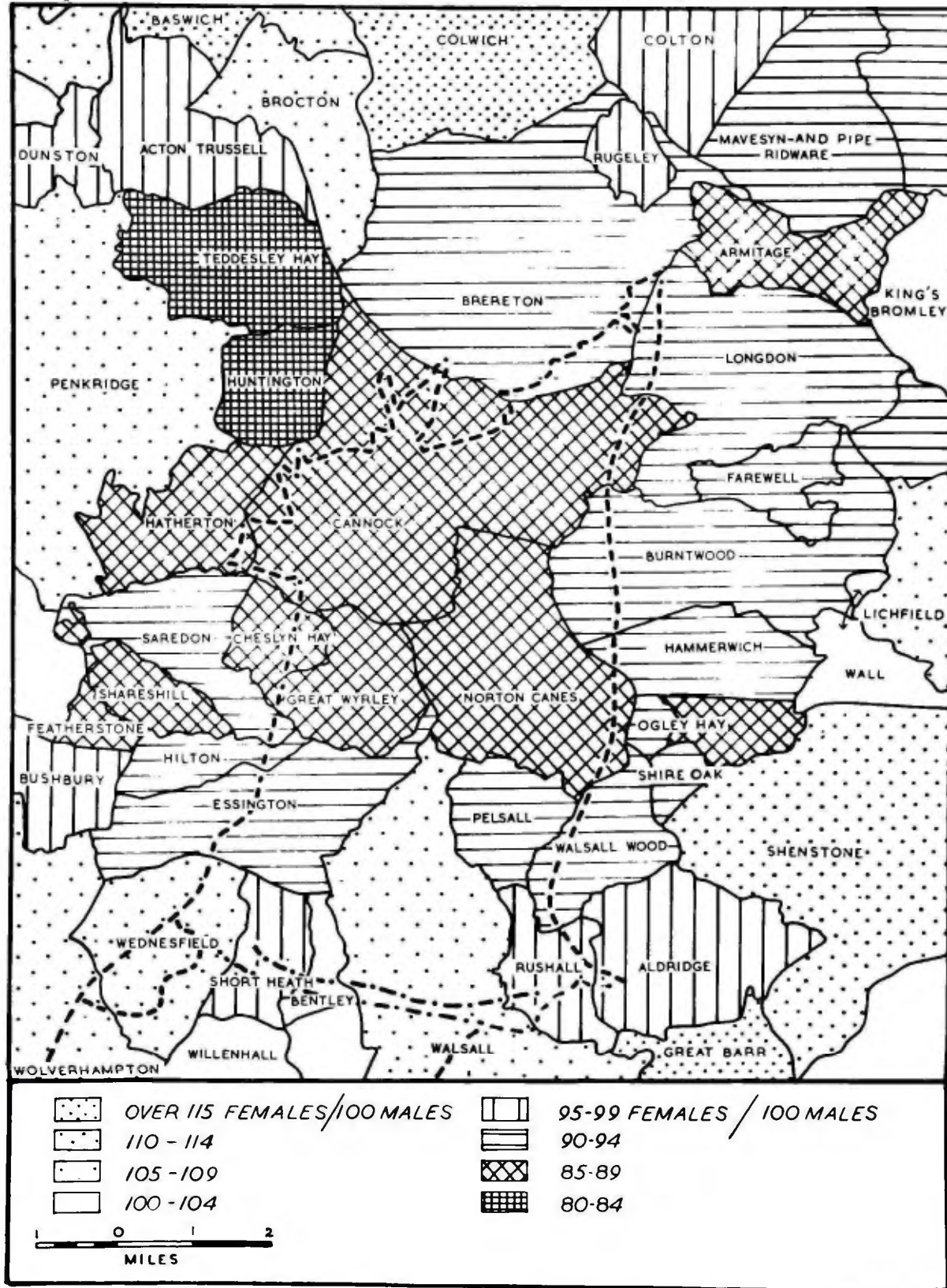


FIG. 6

under the immediate sphere of influence of the Black Country Conurbation.

2. In the central sectors of the coalfield, as, for example, in Cannock, the deficiency of females became still more marked. The Cannock ratio was 88.1 females per 100 males; for Cheslyn Hay the figure was 88.6. This district is roughly comparable with the area of the central and northern sectors of the exposed coalfield, which are still worked actively. It is interesting to note that, in the east of the coalfield, Burntwood and Hammerwich, which include the almost purely mining settlements of Chase Town and Chase Terrace, did not exhibit the same deficiency of females to the same very marked degree, but it must be remembered that these parishes include also much rural country and some non-mining settlements.

3. The third group of parishes included those areas associated with the twentieth century spread of mining on to the western concealed coalfield and, here, Huntington, for example, had a ratio of only 84.9 females to every 100 males.

The rural parishes and service centres around, but away from, the coalfield exhibited ratios comparable, or in some cases slightly in excess of, that for the Administrative County. Penkridge, for example, had a ratio of 106.3, while the comparable figure for Lichfield M.B. was 108.6.

It is unfortunate that population statistics for the period since 1931 do not yet make possible a completely full examination of trends up to the present day. General indications, from the estimates of 1939, were that the position was somewhat improved. The general ratio for Brownhills, for instance, had improved from about 91.0 females per 100 males in 1931 to 97.06 in 1939, a figure which was still below the county average. The two sets of figures are not in all cases, however, strictly comparable. The Registrar General's estimates for 1947¹ provide a ratio for Brownhills U.D. of 101.1 females to 100 males which suggests a considerable alleviation of the problem, but it must be remembered that these figures do not include the number of males absent on service in H.M. Forces. Corrected estimates suggest a ratio slightly above that for 1939 but one still well below the county average. In Cannock U.D. the ratio according to the 1947 estimates was 95.3 compared with 93.8 for the 1939 estimate and about 88 for 1931. Allowing for a correction for the absence of young males, this suggests that there has been little change in the position in Cannock since the immediate pre-war period. Among other areas, Cannock R.D., which includes a large part of the northern and central mining districts possessed

1. "Estimates of the Sex and Age Distribution of the Civilian Population 1947" (H.M.S.O., 1949). The estimates of 1947 and 1939 are not strictly comparable with the 1931 Census. In the instances shown the figures quoted may be taken to indicate general trends only.

a ratio well below average.

It will be clearly seen that a marked deficiency of females has been and, to some extent, is still a marked feature of the population pattern of this coalfield.

The problem becomes of even more interest when pursued into the question of age distribution. The total deficiency of females, as Fig. 7 makes plain, is due principally to a marked absence of girls in the 15-24 age groups. In fact, in Cannock U.D. for 1931 only 2,213 girls were included in those age groups compared with 3,338 men. Two possible causes may have contributed to this feature. Either the balance of male/female totals has been upset by an immigration of young males into the coalfield or, alternatively, the absence of females in the age groups mentioned is due to a migration from the area. In the case of Cannock U.D. for 1931 the latter explanation is undoubtedly the chief one. As will emerge later, social and industrial conditions have combined to make the coalfield an unattractive place for girls, once the school leaving age has been reached and a migration from the area of girls in the 15-19 age groups ensues. It is interesting to note that in the 25-34 age groups the deficiency of females is smaller and this may possibly be due to the fact that many women return to the district either to marry or, having failed to marry in their migration areas, to return to the parental home. Whereas,

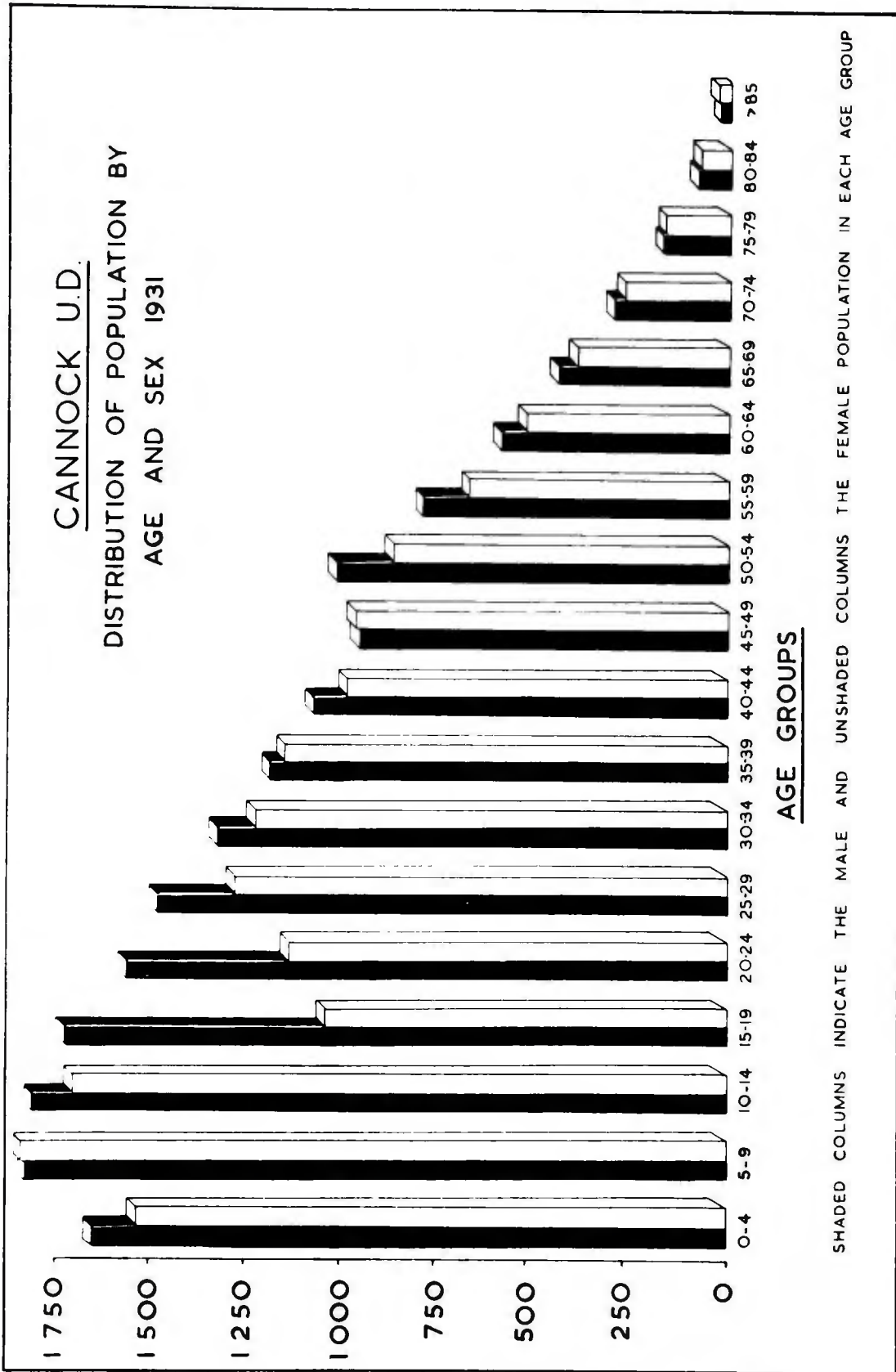


FIG.7

in the nineteenth century, domestic service provided a consistent demand, in areas outside the coalfield, for young girls, the majority now seek employment in the shops, offices and factories of nearby large towns and especially Birmingham. In this connection a migration into Birmingham of girls in the 15-24 age groups has been noted, coupled with a movement outwards and back to their home areas of women over 30.¹

It can be argued, that, in some coalfields, the difference in the respective totals of males and females is to be accounted for not only by the emigration of young women but also, particularly, in earlier periods of coalfield development, by the immigration of young men in search of work. In the Cannock Chase coalfield, this latter explanation is undoubtedly of only secondary importance and finds little support from a study of the age and sex structure of the population in any period, except, possibly, that of the initial development of the coalfield.

It is true that a certain immigration of young men into the coalfield has been noticeable in periods of high demand for coal. The Cannock Chase coalfield provided, in the pre-1939 period, one of the most extreme examples of the seasonal coal trade in the country, the peak demand for the household and general industrial coal occurring

1. W. Taylor, Migration in Birmingham, 1931-47, in Birmingham and its Regional Setting, p. 264-5.

in the winter months.¹ The actual totals of young men recorded may, then, vary, but to only a very limited extent, according to the time of year at which the count was made. On the other hand, the emigration of women presented no such seasonal features.

In an attempt to examine the question historically, graphs similar to Fig. 7 have been prepared for earlier periods in the development of the coalfield, as far as the statistical records allow. In the early period of development of the coalfield a number of the immigrants were young, unattached men, but it has not yet been possible to obtain a quantitative estimate of this immigration for the whole coalfield.² The acute deficiency of females in the 15-24 age groups, due to emigration, seems to have developed, however, once the period of maximum rate of increase of population was over. Then, as now, the coalfield provided few opportunities for employment to girls leaving school and migration in search of work became a common feature. This feature of the population structure was certainly well developed by 1881 and the Census report of that year³ indicated that the very high proportion of males to females in Staffordshire was due to the presence of mining. Similar conditions

1. First Report of the Departmental Committee on the Eight Hour Working Day in Coal Mines, Pt. III, (1907), p. 72 et seq.

2. Considerable information for the study of these problems in other coalfields will be found in the Census Reports and in the Annual Reports of the Registrar General.

3. Vol. 4, p. 16.

prevailed also in other coalfields, notably in Durham, Derbyshire and South Wales. They had existed also at an earlier period in the South Staffordshire coalfield, for the 1841 Census indicated a marked deficiency of women in many parishes which depended largely on the coal and iron trades.

In assessing the causes for the relative deficiency of women in this coalfield, the emigration of young women in the 15-24 age group in search of employment elsewhere, must be given first place.

It is not possible to enter into more detail here but it is suggested that the movements and structure of population to and in the coalfields in the nineteenth and present centuries is a subject which might well engage the future attention of geographers.

THE GROWTH OF SETTLEMENT AND INDUSTRY

It has been shown that, among the factors responsible for the social problems of this area, the character of the settlements and the almost ^{complete} dependence on coalmining are chief. Fig. 8 demonstrates the rapid growth of mining towns and villages. In 1830 lines of cottages were spreading along the roads of the southern sector of the coalfield. Groups of houses were gathered around newly sunk collieries. Tracts of heathland occupied the north and north-east. By the end of the century, many new towns had emerged and the basis of the

**THE CANNOCK CHASE REGION
SETTLEMENT PATTERN**

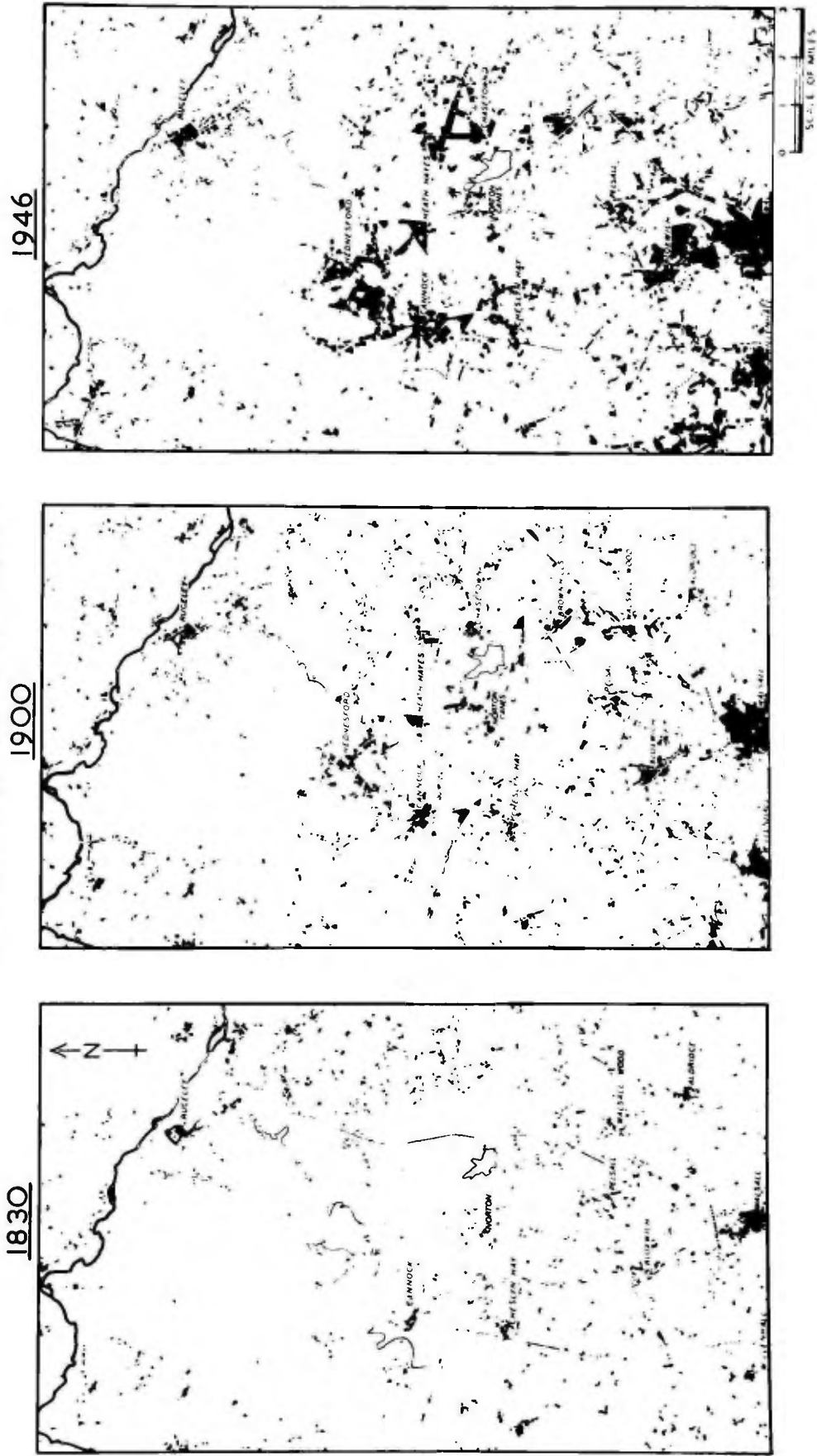


FIG. 8

present pattern was in existence over the whole of the exposed coalfield. Hednesford and Heath Hayes were purely mining towns. On the eastern margin Chase Town and Chase Terrace grew quickly, in ugly, long lines of miners' terrace houses. These are well represented in the 1946 map. Quite apart from the ugliness of many of these townships, their characteristic linear development has not made for social cohesion. Services and amenities were often lacking. Observers at the end of the century found much to criticise in the social environment provided by these settlements. "They possess so little that is attractive, they are ill-built and ill-kept; their very architecture is depressing; they present nothing to elevate or refine, either in the nature of the industry, or in the environments of the people's daily life".¹ Though many improvements have been made, the inadequacy of the social services has recently been re-demonstrated by the Report of the West Midland Plan. "With the exception of parts of the Black Country", these towns, it is said, "have the poorest social facilities of any part of the West Midlands".² The social environment is, then, one which hardly encourages the development of any but a monotonous class structure and a lack of balance within the population.

This is, unfortunately, intensified by the

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1. E.W. Hackwood, *Chronicles of Cannock Chase* (1903).
 2. Abercrombie and Jackson, *West Midland Plan, Advance edition* (1948), Vol. III.

industrial structure. Cannock Chase has never developed, to any large degree, industries other than coal mining. Cannock coal is non- or only very weakly caking. Reserves of iron ore were small and for the most part of poor quality. Furthermore, the Cannock coalfield was developed only after the coming of the railways had finally confirmed the location of heavy industry in the Black Country to the south. Small enterprises engaged chiefly in the iron trade did and do maintain themselves in, for example, Cannock but attempts to introduce a heavy iron industry were few and only temporarily successful. In particular, few industrial enterprises have been introduced to provide suitable employment for the unemployed female element in the population. Service industries, which usually provide suitable occupations for young women, have always been and are still inadequate.

The 1947 position, which is shown in Fig. 9 represents a considerable improvement in this respect over the pre-1939 period, due to the introduction of some light industries and the development of local and national government services in the coalfield. Even so, the predominance of coalmining is obvious in the Cannock and Brownhills labour exchange areas. In Brownhills, for example, 72.6% of the total, and almost 80% of the male, insured population were engaged in coalmining. A marked contrast occurs between Brownhills, where women form

CANNOCK CHASE INSURED POPULATION BY INDUSTRIAL GROUPS 1947

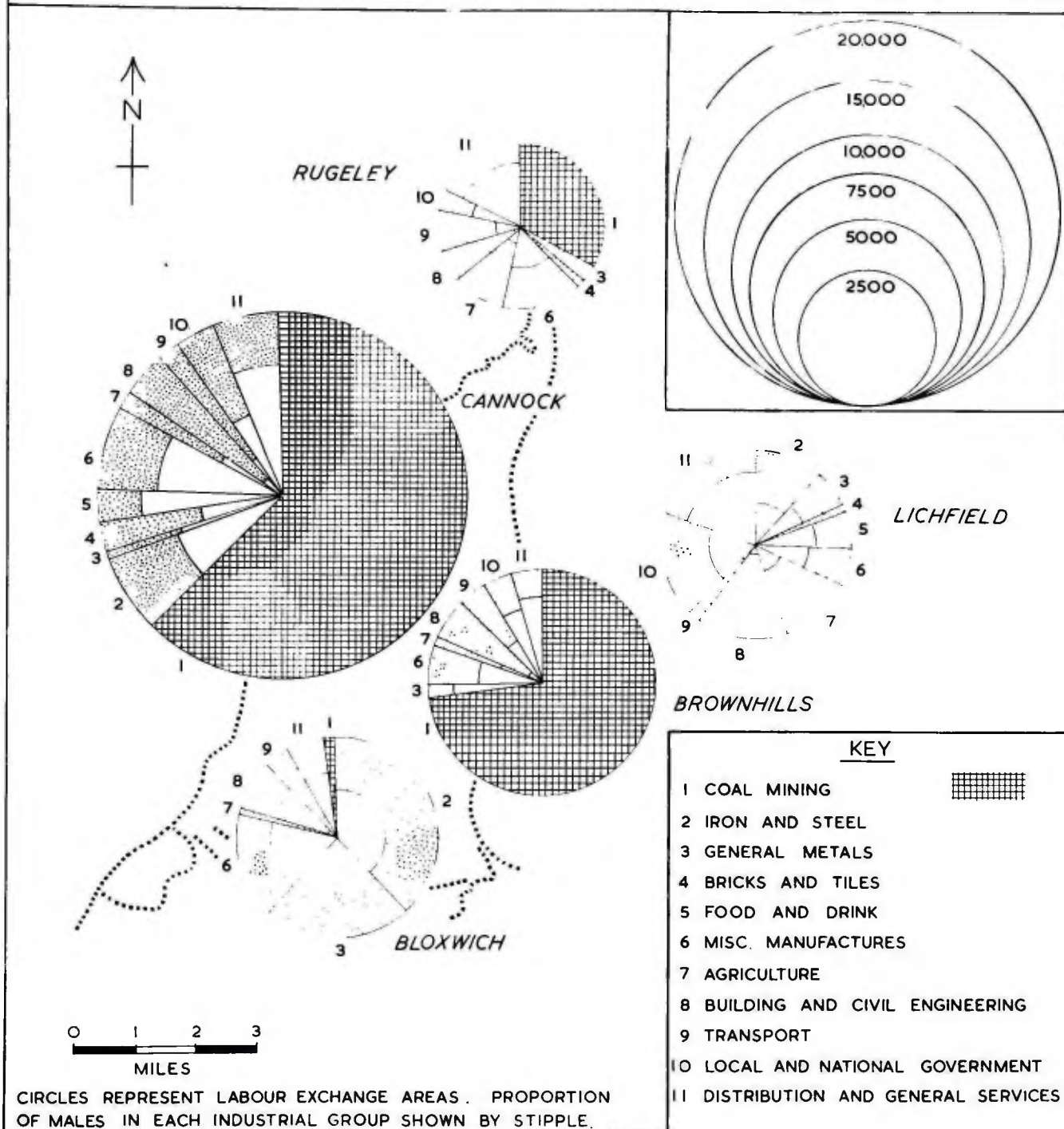


FIG. 9

barely 9% of the total insured population, and the town of Lichfield, a local market and distributive centre in the Trent Valley away from the coalfield, where women form 27.6%

In the southern sector of the coalfield mining has now ceased to be an occupation of prime importance and here the principal part of the insured population is engaged in the steel and other metal industries of the northern part of the Black Country and which have spread also into the extreme south of the now worked out southern sector of the Cannock Chase coalfield. These are more properly related to industrial development in the Black Country than to the coalfield proper.

The industry map serves to emphasise, once again, the division of the Cannock Chase coalfield into the abandoned southern sector and the still active central and northern areas.¹ More and more, people in the towns of the south, such as Bloxwich, Rushall and Pelsall, look southwards towards the Birmingham-Black Country Conurbation for employment, services and amenities.

The Cannock Chase coalfield presents, then, an unsatisfactory social and demographic environment. The coal industry offered, in pre-1939 years, irregular employment due to the fluctuating seasonal demand for house coal. Over-dependence on coalmining has led both

1. See also Birmingham and its Regional Setting, pp. 286-98.

to the immigration of young, unattached men at periods of demand for coal and to the emigration of girls and young women in search of employment in happier environment.

The results of a century of unplanned development are only too apparent. It is not too much to say that the future prosperity of British coalfields depends in a large measure upon the development of settlements comprising mixed communities, engaged not only in mining but in other carefully introduced industries, and with a balanced population structure, as well as upon the careful replanning and rehabilitation of the cultural landscape.

11

THE SOUTH STAFFORDSHIRE

AND

CANNOCK CHASE COALFIELDS

AND

FUTURE PLANNING IN THE WEST MIDLAND CONURBATION

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- The problem of the spoil heap - Littleton
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Note: For convenience the maps are referred to by the
same Figure numbers as those used in the Conurbation
Survey.

The South Staffordshire and Cannock Chase Coalfields and
Future Planning in the West Midland Conurbation¹

INTRODUCTION

This survey of mining trends in the South Staffordshire and Cannock Chase Coalfields in and adjacent to the West Midland Conurbation was carried out in July and August, 1947, with the primary object of assessing the extent to which any future plan for the Conurbation should take into account possible developments in the coalmining industry. Efforts have been made to analyse the major influences of the physical background and to show the main stages in the growth of the industry in the Conurbation; at the same time, an attempt has been made to indicate the probable areas in which future coalmining activities may develop, and to discuss some of the problems that may be occasioned by shifts of mining activity. It is hoped, too, that enough detail has been added to enable the reader to assess the present and future importance of the production of the two coalfields relative to the output of the nation as a whole.

Some confusion has arisen in the past regarding the nomenclature of the two coalfields. The term "South Staffordshire Coalfield" was formerly used, and is still used occasionally, to describe all the mining districts in the southern half of Staffordshire, i.e., south of

1. The text ^{of} ~~for~~ a contribution to the West Midland Group Survey "Conurbation", (1948), pp.258-79.

Stafford and Rugeley. Owing to the operation of a number of physical and historical factors, however, the mining districts formerly included in that description are now divided into two well-marked regions, viz:-

- (a) The area centred on Dudley and formerly often known as the Dudley coalfield. This includes the districts in which coalmining was first developed extensively and where the coalfield reached its maximum development about 1860. This is the area which is now usually referred to simply as the South Staffordshire Coalfield, and lies south of the belt of the Bentley Faults. This belt, which has important geological, historical and economic significance, extends from the north of Walsall westwards to the north of Wolverhampton (see Fig. 55).
- (b) The second region, now usually termed the Cannock Chase Coalfield, includes all the mining districts of the southern half of Staffordshire which lie north of the Bentley Faults. Development of coal working in these districts has chiefly taken place since 1860.

The presence of a coalmining industry, on even a small scale, may have an influence on town and country planning out of proportion to the quantity, quality and value of the coal produced. The locations of extractive

THE
CANNOCK CHASE
AND
SOUTH STAFFORDSHIRE
COALFIELDS
GEOLOGICAL SKETCH MAP

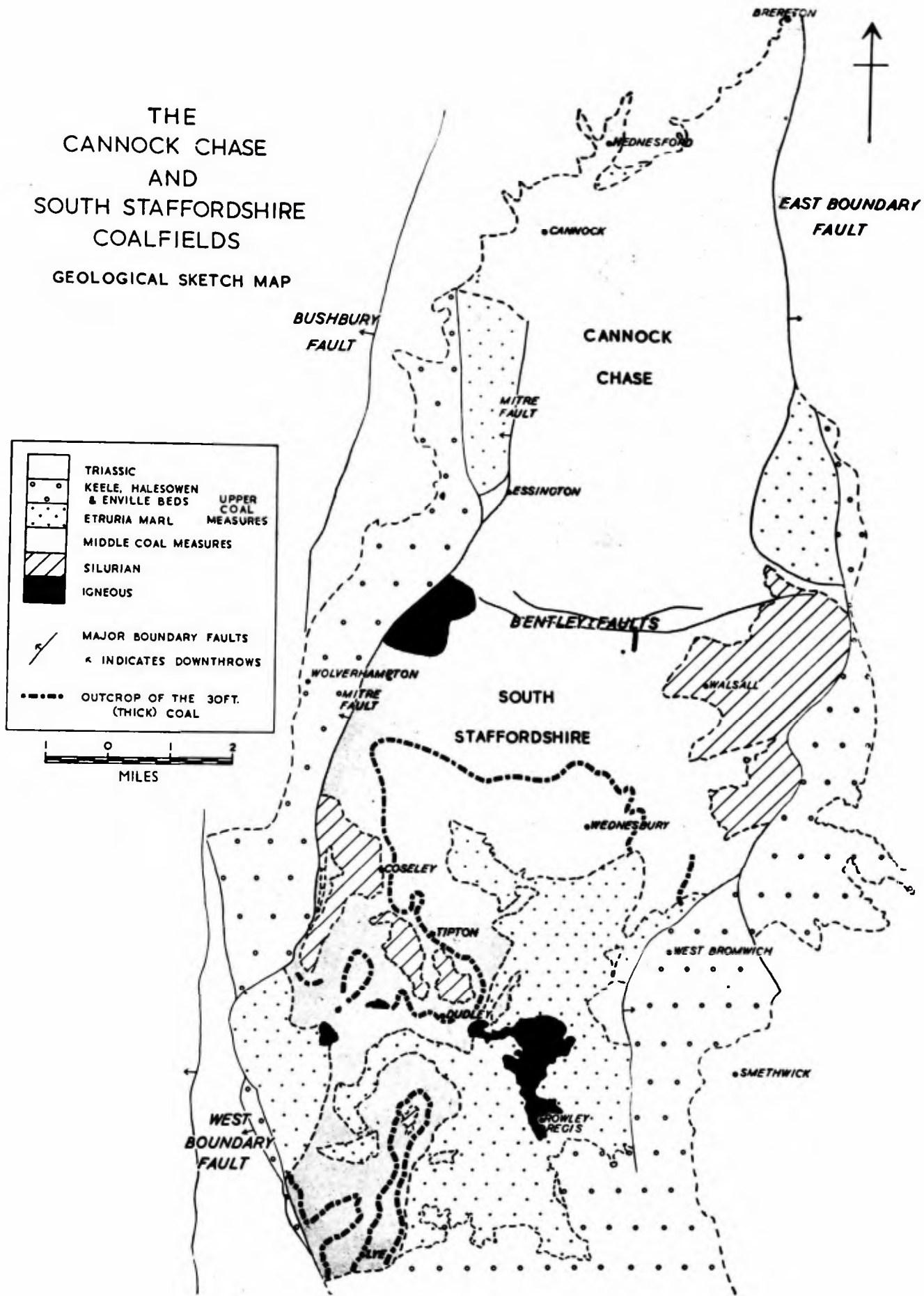


FIG. 55

industries, the sites of mines, are, unlike the sites of most manufacturing industries, fixed within fairly rigid limits by purely physical factors, which are the presence and accessibility of the mineral. It is, of course, impossible to transfer coal mines to new locations simply because the ugly pithead buildings and waste heaps form a disfigurement to an otherwise attractive landscape.

The presence of Hamstead and Sandwell Park collieries in the northern "green wedge" of the Conurbation is unfortunate from the point of view of landscape and amenity, but the planner must at present accept the coal mines as necessary and formulate such plans as he can for minimizing their consequences. Even when collieries become defunct, the black pyramidal bulk of the pit heap, together with the skeletons of colliery wheels and pithead buildings, remain to overshadow the countryside.

A knowledge of mining trends is essential to those responsible for planning areas such as the Conurbation; they must know the precise limits of those areas into which mining operations are likely to spread, and, just as important, those areas in which it is likely to cease. It may well be, for example, that an otherwise desirable regional park of "playground area" is destined in the course of a few decades to become the centre of a new mining zone. The planner should be warned, and should have in mind his alternatives or his plans for minimizing the effects

Sandwell Park Colliery

The two conical banks of this colliery dominate much of the open country which makes up the wedge of open land stretching from the Aldridge area into the heart of the Conurbation.



of the entry of the industry by schemes for control of pithead sites, and rehabilitation of the landscape. Near the West Midland Conurbation, for example, mining is gradually spreading towards and across the forest and heath-clad slopes of the northern part of Cannock Chase, at present of great value both from landscape and amenity standpoints.

The possible attraction of a new coal producing area for industry and population is a factor to be taken into consideration. The Conurbation itself, in the first place, grew up mainly as a result of the extraction of coal and iron in South Staffordshire, and although such spectacular urban and industrial growth is not to be anticipated in the near future, the possibility that a new coalfield or a new area of a coalfield may form an attraction to industry and labour should be considered. Again, the shifting of the "centre of gravity" of a coalfield may leave a settled population in the older established mining towns and villages deprived of its major occupation - a problem of workers without industry. Are the towns and villages to move? Are means to be found for conveying miners to the new colliery sites? Or is the old area to be classified as one suitable for the entry of new industries? Associated with these problems, and of immediate urgency, is the need for housing and rehousing mine-workers and for replanning and reorganising the settlements and communities which have grown up throughout

the coalfields.

Finally, the effects of surface subsidence caused by underground working of the coal seam can be disastrous to any development scheme prepared without regard for such contingencies.

It is apparent, then, that in any area in which mining has a place in the economic structure, planning must be sufficiently flexible to allow for the appearance of new mine-workings in a hitherto rural countryside. The possibility of shifts of mining centres must be kept in mind when planning for industry, when providing for housing, and when laying out the towns and villages, communities and neighbourhoods of the region. Changes in the size and shape of working coalfields are often gradual but, with very few exceptions, are effective for very long periods of time. Without careful planning and control, the decay of mining in once active areas may leave scars more lasting and disfiguring to the landscape of town and country than are produced by changes in any other single industry. Almost every square mile of South Staffordshire offers evidence of this.

EXTENT AND GEOLOGY OF THE COALFIELDS

The South Staffordshire Coalfield, which has played such a large part in the industrial rise of Birmingham and the Black Country, lies entirely within the West Midland Conurbation; the Cannock Chase coalfield which has, as it

were, grown "out of" its now less important southern neighbour, fringes the Conurbation on its northern side. The outcrop of Carboniferous rocks, across the southern half of which the Conurbation "straddles", extends in an elliptically-shaped band from the neighbourhood of Hednesford and Brereton in the north almost to the Lickey and Clent Hills in the south - a total distance of some 20-24 miles. The band is widest in its centre where it extends for some 11 miles from Baggeridge Wood, in the west, to Hamstead, in the Tame Valley, to the east.

Of the Carboniferous rocks, only the Middle and Upper Coal measures are present; Carboniferous Limestone and Millstone Grit are locally absent. Details of the Carboniferous rocks present are given in Table II (Chapter III)¹

"The "visible" or "exposed" coalfield, comprising that area in which the coal seams are present at or near the surface, is cut off on both its east and west sides by boundary faults (Fig. 55). It will be seen that some outcrops of Etruria Marl fall within the area enclosed by the boundary faults, and on that account, although the Etruria Marl is barren of coal, the outcrops are usually included within the "visible" coalfield. To west and east the boundary faults bring Middle Coal measures and Etruria Marl against the barren sandstones and marls of the Keele and Halesowen Beds of the Upper Coal Measures,

1. Conurbation, p. 45.

which overlies the productive measures.

In the extreme south the Middle Coal Measures thin out and pass, finally, beneath the Upper Coal Measures, while in the north of the coalfield the coal seams disappear beneath the Triassic red sandstones and pebble-beds which form a bold southward-facing escarpment extending roughly east-west immediately to the north of Hednesford.

Those areas to the west and east of the boundary faults in which the coal seams are known to exist but are overlain by barren rocks, are regarded as belonging to the "concealed" coalfield. In the concealed coalfield the seams in general tend to "dip" or slope away from the boundary faults; thus, as one passes out of the Conurbation to west or east of the exposed coalfield, the seams for the most part attain greater depths. This depth is increased by the presence of faults, such as, in the west, the Bushbury Fault (Fig. 55), which throws down the coal seams to the west, i.e., away from the Conurbation.

The apparent continuity of the Middle Coal Measure outcrop, from Brereton and Hednesford in the north to Lye in the south-west (Fig. 55), is broken along a narrow belt extending from the north of Walsall westwards across Bentley Common to the north of Wolverhampton. This is the belt of the Bentley Faults, which is usually taken as the line of demarcation between the South Staffordshire and Cannock Chase Coalfields, although in practice a very

much wider zone separates the areas of each field at present actively worked.

THE SOUTH STAFFORDSHIRE COALFIELD

This coalfield has a total area of approximately 62 square miles and is divided into two unequal sectors by the four outcrops of Non-Carboniferous rocks which extend from Sedgley, through Dudley Castle Hill to Rowley. The outstanding feature of the field has been the presence of the Thick or Thirty-foot coal, from the exploitation of which resulted much of the area's early prosperity. The chief seams of the coalfield, as given in the recent Regional Survey Report of the Ministry of Fuel and Power, are given, in descending order, in the following table:-

Table XLI

<u>Name</u>	<u>Approximate Thickness</u>
Brooch Coal	2ft. 9 ins. - 3ft. 6ins.
Flying Reed Coal (where separated from the Thick Coal) ..	2ft. - 3ft.
Thick Coal	18ft. - 30 ft.
Heathen Coal	3ft. 6ins. - 5ft.
Sulphur Coal	4ft. - 7ft.
New Mine Coal	4ft. - 6ft.
Fireclay Coals	About 4ft.
Bottom Coal	2ft. - 12ft.

In addition to coal, the field has had considerable importance as a producer of ironstone and fireclay. Most seams rest upon a layer of clay (fireclay or underclay), which is usually grey in colour and contains the roots and rootlets of the plants and trees from which coal seams themselves were formed. The fireclays vary in composition

but they are generally deficient in alkalies, a characteristic which renders them particularly resistant when strongly heated. In South Staffordshire, fireclays are particularly well-developed in the Lye and Amblecote districts as well as near Dudley and Gornal. There is considerable variation in the type of clay over the coalfield; the best clay has been used chiefly for the manufacture of glasshouse pots and the inferior qualities have been principally employed in the manufacture of crucibles and firebricks.

In general, exploitation of the seams has been an easier operation in the north-eastern (Tame Valley) sector of the field than in the south-western, for here the almost horizontal seams were never far from the surface, while the outcrop of the Thick Coal was extensive, passing from near Dudley through Darlaston and Bilston to Wednesbury (Fig. 55). In the extreme north-east, however, between Wednesbury and Walsall, the Coal Measures have proved very much less productive. The more restricted south-western (Stour Valley) sector has presented more difficult problems. In this part of the coalfield the outcrop of Thick Coal was more limited, while much more folding and faulting of the rocks has taken place than in the north-eastern sector. To the south the Middle Coal Measures gradually thin and die out as they pass beneath the barren Upper Coal Measures, with the result that there is virtually no concealed field in the Halesowen-Stourbridge

district.

CANNOCK CHASE COALFIELD

North of the Bentley Faults the Thick Coal splits, and is represented by a number of distinct seams. The classification of coal seams in this field, given in Table XLII, is essentially that of G.H. Mitchell,¹ the seams being given in descending order.

Not all the coalfield area lies on Cannock Chase itself; its southern portion includes the undulating land around Essington and Cheslyn Hay, while in the west and north-west the coalfield now extends off the Chase on to the relatively fertile valley of the Penk. Topographically the coalfield is, in general, at a higher elevation than the neighbouring area of South Staffordshire, for although the Essington area, which forms a link with South Staffordshire lies at only some 400-800 feet above sea level, the Chase rises in places to heights greater than 750 feet.

In general, the seams dip to the north-west and the angle of dip increases towards the western and north-western edges of the present worked coalfield. To the east the Eastern Boundary Fault throws down the Coal Measures to a considerable depth, beneath Triassic rocks, while in the west the exposed coalfield is bounded

1. G.H. Mitchell, Geology of the Northern Part of the South Staffordshire Coalfield (Cannock Chase Region). Geological Survey Wartime Pamphlet No. 43., May 1945, pp. 3-13.

PRINCIPAL SEAMS OF THE CANNOCK CHASE COALFIELD

TABLE XLII

Name	Thickness	Remarks
Top Robins Coal	4 ft. - 7 ft. 6 in.	—
Bottom Robins Coal	6 ft. - 9 ft.	The topmost coal of importance
Wyrley Yard Coal	2 ft. 6 in. - 5 ft.	Best developed in the Wyrley district
Charles Coal	Up to 5 ft.	—
Brooch Coal	3 ft. - 4 ft.	An important well-worked seam
Benches Coal... ..	3 ft. - 6 ft.	—
Wyrley Bottom Coal	4 ft. - 8 ft. 6 in.	Thickest in west and north-west of field where it consists of high quality coal
Old Park Coal	2 ft. 6 in. - 7 ft.	An important good quality coal
Heathen Coal... ..	2 ft. 6 in. - 5 ft.	An important secondary coal
Stinking Coal... ..	1 ft. 6 in. - 3 ft.	Of inferior value and little worked
Yard Coal	2 ft. 6 in. - 3 ft. 6 in.	A widely worked, good quality coal
Bass Coal	2 ft. - 8 ft.	—
Cinder Coal	2 ft. 4 in. - 10 ft.	An inferior coal, though now considerably worked
Shallow Coal	5 ft. - 10 ft. 8 in.	—
Deep Coal	3 ft. - 7 ft. 3 in.	Represents the Bottom Coal of South Staffordshire
Mealy Grey	2 ft. - 4 ft. 3 in.	—

by the westerly throwing Mitre Fault. An unmistakable indication of the presence of the Mitre Fault may be seen on the road between Essington and Cheslyn Hay, where, to the east, opencast mining for coal is in progress, while, immediately to the west of the road, Etruria Marl is quarried for the manufacture of bricks and tiles. In the extreme west, the coal seams are downthrown westwards by the Bushbury Fault, to the west of which the Productive Measures have been encountered in a borehole at a depth of well over 2,000 feet. In the north of the field the coal seams pass beneath the Triassic escarpment beyond Cannock and Hednesford, and are again downthrown westwards and northwards by the Huntington and Littleworth Faults respectively. Boreholes have proved the existence of the Productive Measures beneath the Trias of the higher portions

of Cannock Chase at depths greater than 1,000 feet. It will be seen then that the coal measures are present to north and west of the present worked field though at greater depths, and, in general, dipping more steeply than on the exposed and already proved coalfields.

GROWTH OF THE COALMINING INDUSTRY IN SOUTH STAFFORDSHIRE
AND CANNOCK CHASE

Mining of the coal seams and ironstones has been carried on in South Staffordshire and in local areas of Cannock Chase since medieval times, and formed the foundation on which the prosperity of the iron industries of the Birmingham district arose. By the sixteenth and early seventeenth centuries, the industries were well established and Leland in 1538 was able to describe how the smiths of Birmingham had their "iron and seacole out of Staffordshire". The pits of the time were small and provided employment for only a few men or perhaps a family, while they were limited to areas where coal seams outcropped at the surface. Wednesbury was a well known early centre. From records of collieries and pits - some sunk in the middle of the roads, to the great inconvenience of travellers - and from maps and descriptions, we have evidence of the change in the modes of life and landscape of the district, ("the south part of Staffordshire hath coles digged out of the earth, and mines of iron, but whether to their commodity or hindrance I leave to the inhabitants,

who do or shall better understand it").¹ The coalworkings and iron furnaces, set at first against a rural background, spread and multiplied, population increased and towns formed. The speed of change quickened in the eighteenth century, and the early nineteenth century displayed the full extent of the exploitation of the countryside in the smoke and grime of the fully developed Black Country.

The early coal workings were shallow. Coal was dug at the surface or from immediately under it by "bell" pits. Plot, writing in 1686, described how the miners of Wednesbury, in their open works, "rid off the earth and dig the coal under their feet and carry it off in wheelbarrows". This, it may be noted, was an area in which the Thick Coal appeared at the surface (Fig. 55).

By the early eighteenth century, production was increasing and coal was being sent by road from South Staffordshire to many parts of England, notably into Northamptonshire and Oxfordshire. Later in the century, developments in the iron industry, together with improved means of transport and technical improvements in the mines (notably the introduction of the steam engine), were responsible for large increases in production. New mines were opened and the size of many of the older ones increased. "The Proprietors of the Hoo Estate",² Shaw writes at the end of the century, "have lately opened a large colliery

1. Camden's *Britannia*, trans. Holland, (1610).

2. The Hoo Estate was situated near Bilston. Vide Shaw, *History of Staffordshire*.

of excellent coal, having branches of the Birmingham canal brought close to it: and there being a quantity of ironstone Mr. Addenbrooke has since erected a large furnace for the purpose of smelting that valuable commodity, which undertaking alone will consume a great part of the inferior coal".

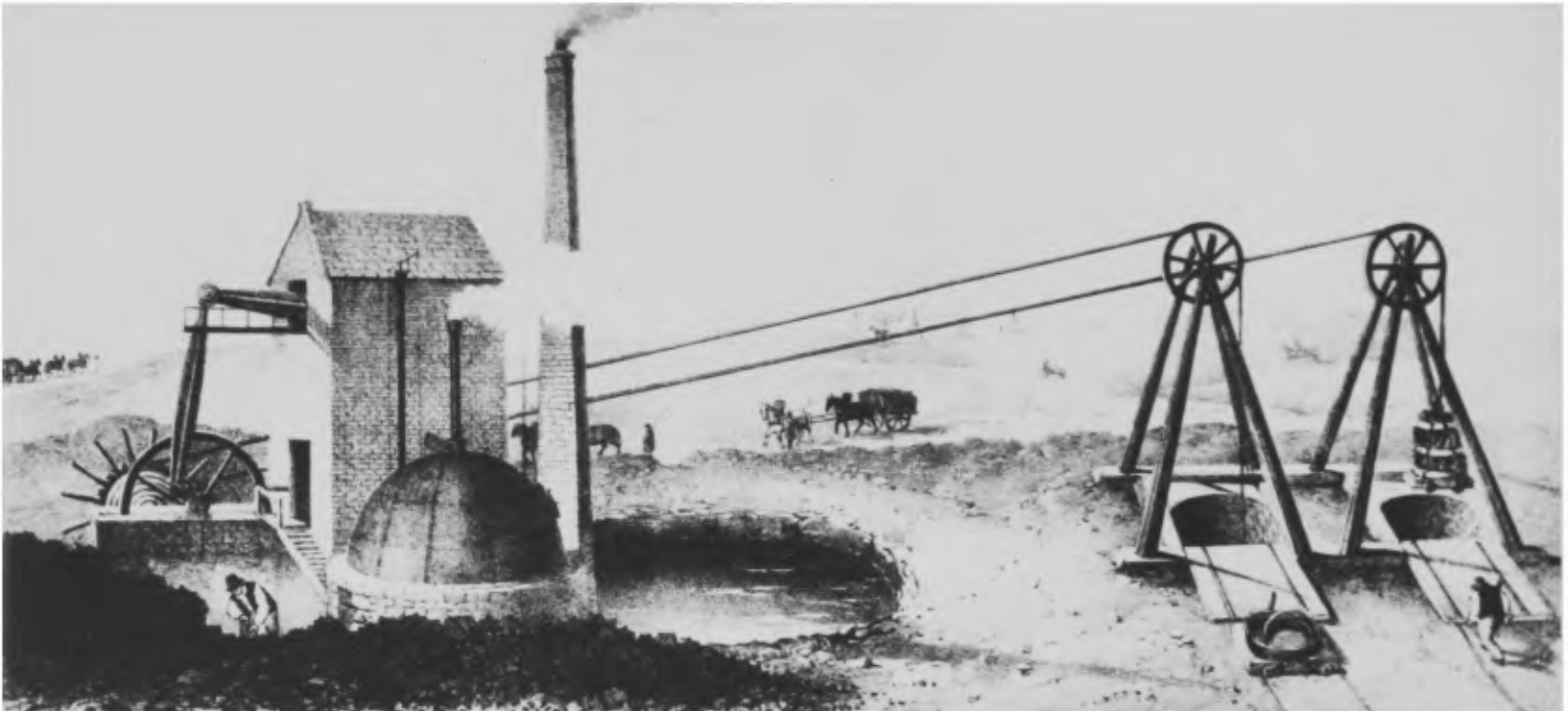
Output continued to be drawn mainly from outcrops of the Thick and other seams and considerable quantities of ironstone were raised - a fact which led to the erection of many blast furnaces and ironworks adjacent to the mines. Limestone was available locally - it was extensively quarried in Dudley Castle and the Wren's Nest Hills - for use as a flux, while the growth of the canal network made transport of the raw materials and heavy products a comparatively straightforward matter. Fireclay was also mined over the whole field, though principally to south and south-west of the central ridge and formed the basis of the pot, crucible, firebrick and other industries of the Stourbridge district. Methods of working the coal varied somewhat from mine to mine, but, as contemporary diagrams, illustrations and descriptions attest, coal from the Thirty Foot, seam and others of the thickest seams was won principally by the "pillar and stall" method. By this method the coal was excavated in chambers, in size up to 50 yards square, four large pillars some 9 feet square being left to support the roof, with each chamber separated

from its neighbour by a solid rib of 6 - 10 yards width. The whole thickness of the coal was extracted and the roof then allowed to fall in, but it was often possible to extract the coal remaining in the pillars and ribs by driving roads through the fallen debris of the old workings. As one would expect, accidents were common, and fatalities of frequent occurrence.

The immediate results of this undermining of the land surface were serious: it was reported to the Midland Mining Commission in 1843, for example, that a number of houses in Sedgley had, perforce, to be built with a special framework to "admit of their being screwed up into the perpendicular again whenever they may be thrown out of it", while the lay rector of Wednesbury reported that great difficulty has been experienced in finding a site for a new Church owing to the "hollow nature of the land". The long term effects of eighteenth and early nineteenth century exploitation of the exposed coal seams, on the present land surface, are, in certain areas, only too apparent today. In many districts of the Black Country wide stretches of abandoned, derelict land, pitted by old workings, now flooded, and starred by broken pit banks and heaps, are the only evidence left of the former prosperity of the coal and iron mining industries.

Compared with other British coalfields, the unit of production remained small and an average mine in

COAL MINING



Pithead gear in a South Staffordshire colliery a century ago. (From the Report of the Midland Mining Commission, 1843).



Colliery at Upper Gornal, Sedgley, in the South Staffordshire Coalfield. Pithead gear at one of the small collieries still working in the western part of the Conurbation. Lifts and cages have improved upon the simple pithead gear of the nineteenth century, and beam engines have been replaced by more efficient steam engines, but in many cases a century has produced few essential changes in mining methods and pithead equipment.

1800 raised perhaps 300-400 tons weekly, though, of course, this varied from time to time with demand, and according to the local conditions. During the nineteenth century production rose fairly rapidly and steadily and, though most mines remained small, larger enterprises began to raise an increasing proportion of the production. The prosperity of this coalfield reached its peak in about 1860 in which year a total output of about $7\frac{1}{2}$ million tons of coal (nearly 10% of the national total) and $\frac{3}{4}$ million tons of ironstone were raised from over 400 collieries. At this time, coal was being mined from almost every part of the coalfield south of the Bentley faults (Fig. 56), but after 1860 changes in the distribution of active collieries began to take definite form.

In South Staffordshire itself increasing difficulties of drainage and exhaustion of the better seams caused gradual abandonment of much of the north-eastern sector - particularly the Tipton-Bilston-Wednesbury sector, in the prosperity of which the Thick Coal had been such a vital factor. By the turn of the century the south-western sector of the coalfield was relatively of greater importance than the north-eastern - mines in the latter were generally small and of limited life (Fig. 57). The total number of mines had fallen to less than 300 and was decreasing year by year, the chief centres of production remaining in the Aetherton-Lye-Old Hill areas of the south-

FIGURE 56

SOUTH STAFFORDSHIRE COALFIELD
COLLIERIES 1861

Three hundred and twenty pits have been identified on the first map (Figure 56), which shows the location of almost all the collieries in existence in 1861, at the peak period of the coalfield's productive life. Others, which would bring the total to 380, were in existence at the same date, but could not be located. There are no statistics to indicate the relative size of pits, but the average colliery was small.

The two later maps (Figures 57 and 58) show clearly the decline of the coalfield since 1861, especially during the present century. Apart from Hamstead and Sandwell Park Collieries, all workings in the centre, north and east have closed down.

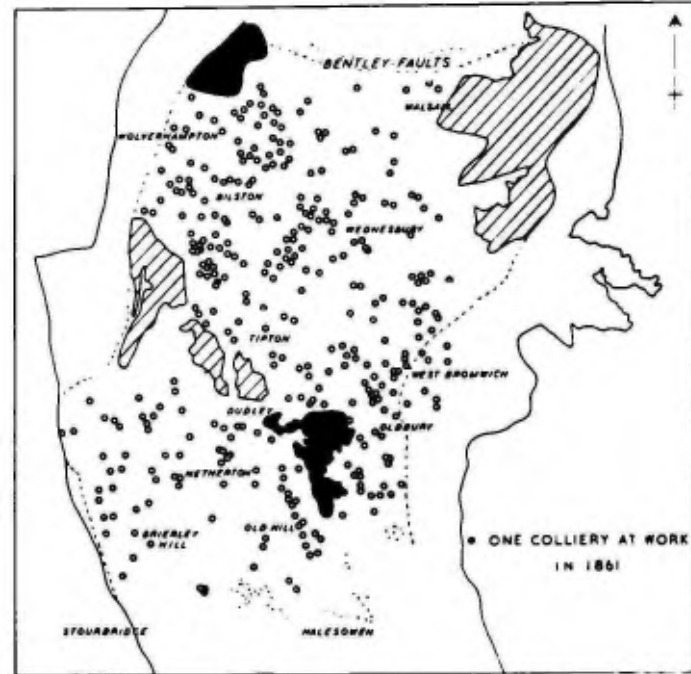


FIGURE 57

SOUTH STAFFORDSHIRE COALFIELD
MINES AND WORKERS 1902

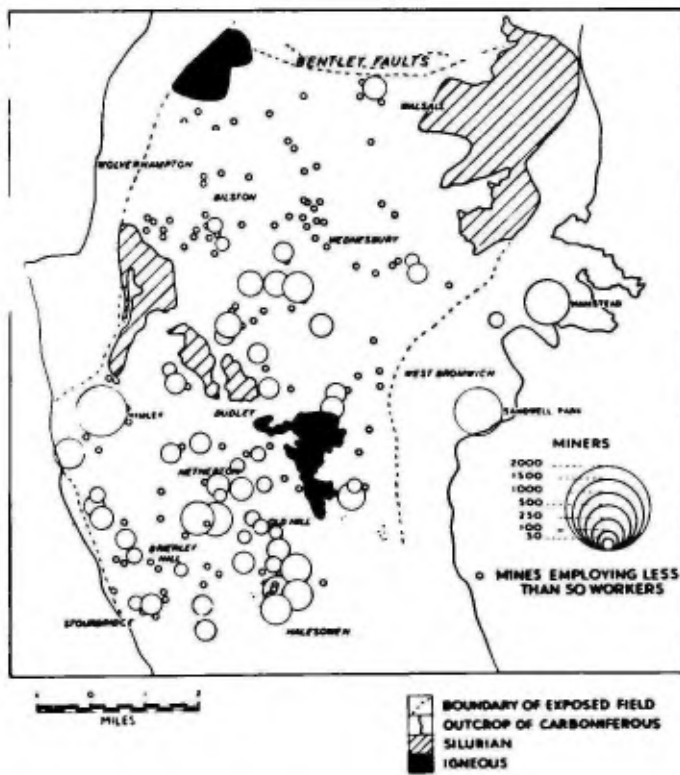
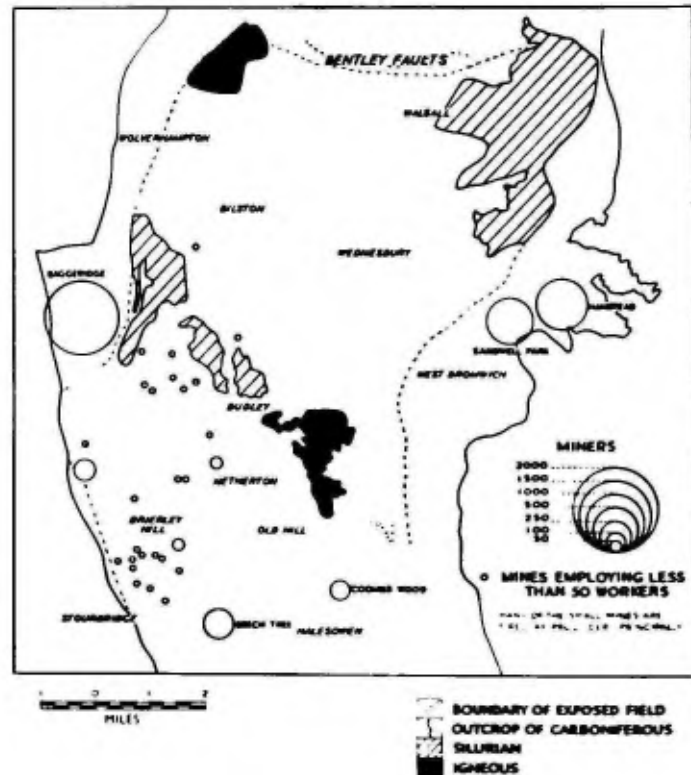


FIGURE 58

SOUTH STAFFORDSHIRE COALFIELD
MINES AND WORKERS 1945



western sector. Here exploitation of the coal seams had been delayed by the presence of the overlying Etruria Marl. By 1900, a shift of mining outwards, towards and on to the concealed coalfield, had taken definite form. The earliest attempts at working coal through the overlying Upper Coal measures had been made on the eastern side of the field in the middle of the nineteenth century, and the Heath Colliery at West Bromwich had been working for some years prior to 1860. Following a number of trial borings in the Tame Valley, pits were sunk at Sandwell Park (1873) and Hamstead (1875), the Thick Coal being encountered at depths of 1,200 and 1,800 feet respectively. In the west of the coalfield, mining activity was concentrated on the fringe of the exposed coalfield where the Himley Collieries were in 1902 the largest in the coalfield, employing over 700 workers. The move on to the concealed coalfield in the western district has been a twentieth century development, the Baggeridge Colliery opening in 1912 (Fig. 58).

In the north of the South Staffordshire coalfield, the second half of the nineteenth century witnessed a spread of mining northwards through Wednesfield and Bentley Common, across the Bentley Faults and on to the fringe of Cannock Chase itself. The development of coalmining in the area of the Bentley Faults had been delayed by a number of factors, among them the considerable thickness

of the overlying glacial deposits. The sinking of shafts in this area now went on vigorously, and activity was carried northwards into the Wyrley, Pelsall and Brownhills areas, where the activity was clearly an extension northwards from South Staffordshire. The most intensive period of this growth of the Cannock Chase Coalfield, as it came to be known, lay in the two decades 1860-1880; collieries were opened as far north as Cannock, Hednesford and Brereton, and mining became the principal occupation throughout the area. The urban district of Cannock, for example, which in 1861 contained only 2,913 persons, increased its population to 20,613 in 1891, the population of Rushall, 2,842 in 1861, had more than trebled by 1891, while the figure of 1,628 persons for Norton was more than doubled during the same period. The spread northwards was accompanied by the growth of the elongated street villages, e.g., Brownhills, Great Wyrley and Cheslyn Hay, which form so prominent a feature of the present settlement pattern. By 1880 coal production in the Cannock Chase area had reached a total of two-thirds of that in South Staffordshire, and by 1900 the totals were approximately equal, despite the fact that only some 33 mines were at work in Cannock Chase (Fig. 59) as against a total of about 276 for South Staffordshire. Only eleven mines in South Staffordshire, however, employed more than 100 men underground, and only three (including Hamstead and Sandwell Park) employed more

FIGURE 59

**THE CANNOCK CHASE COALFIELD
MINES & WORKERS 1905**

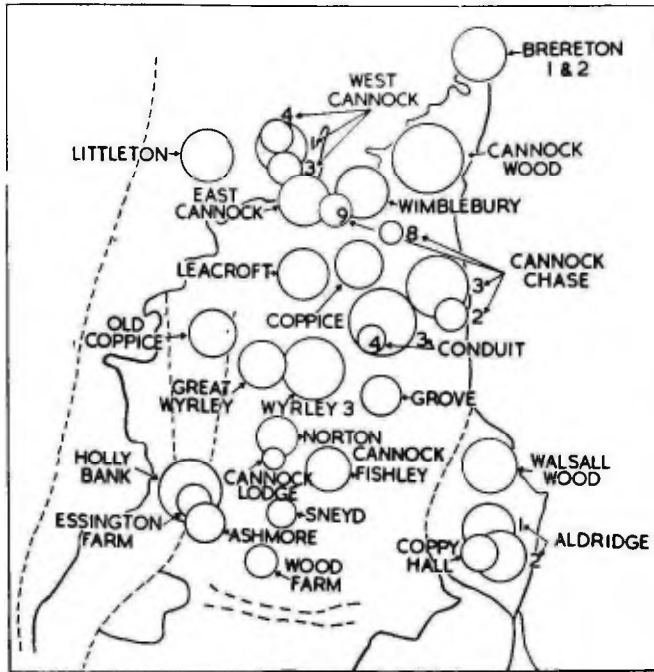


FIGURE 60

**THE CANNOCK CHASE COALFIELD
MINES & WORKERS 1924**

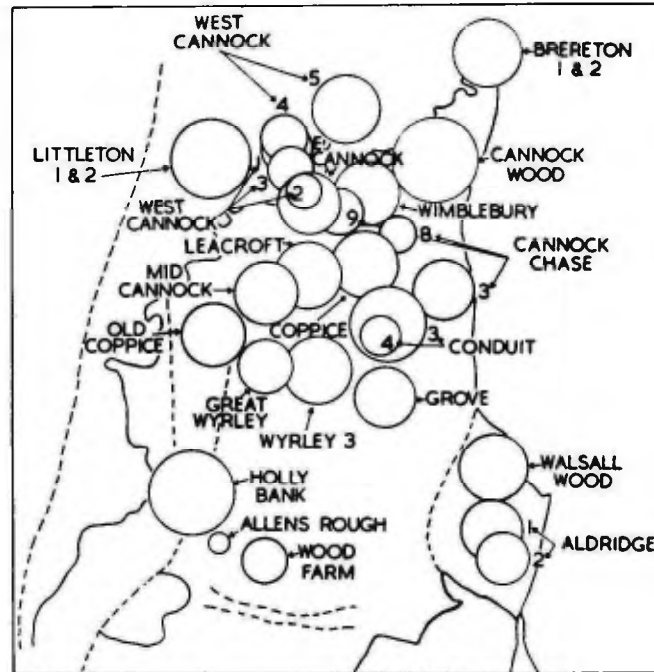
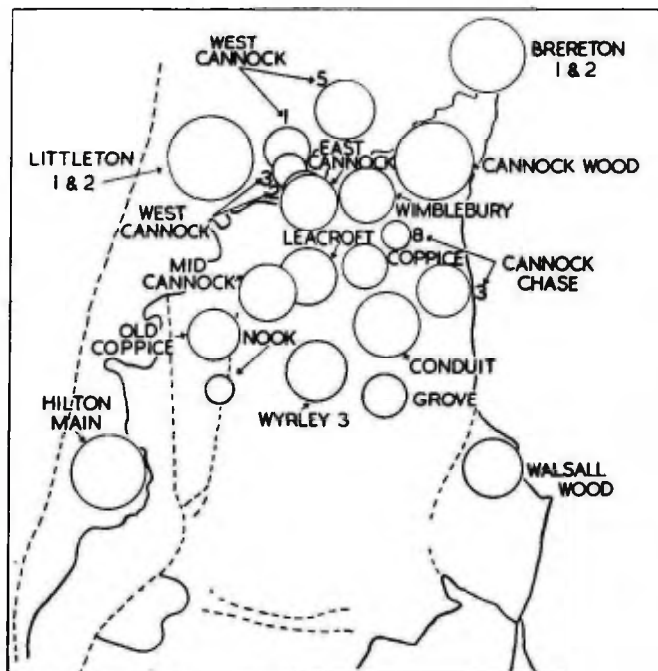
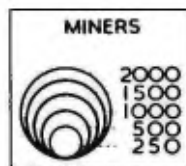


FIGURE 61

**THE CANNOCK CHASE COALFIELD
MINES & WORKERS 1945**



0 1 2 3
SCALE OF MILES



These three maps (Figures 59, 60, 61) show the north-westward movement of mining operations across the Cannock Chase Coalfield during the present century. The Bentley Faults (indicated by broken lines running across the bottom of the maps) mark the southern edge of this coalfield and the northern boundary of the South Staffordshire Coalfield. Mining spread northward across the Bentley Faults in the latter part of the nineteenth century, and followed the dip of the coalfield towards Cannock Chase and beyond. The older, smaller pits in the south have now closed down and the life of the pits in the centre is limited.

All three tendencies—concentration of operations into the coalfield into a few large mines, the movement of active mining north and west, and the cessation of mining in the south, east and centre—create conditions which seriously affect the economic and social life of the area, the maintenance of an adequate number of workers for the mines, the growth, decline or redevelopment of many townships and villages, and the landscape of a large area of open countryside.

than 250 underground. Against this, Aldridge Nos. 1 and 2, typical of the Cannock Chase mines, employed 514 and 568 respectively beneath the surface, while there were at this time no less than 837 employed at Cannock Wood and 870 at Conduit Collieries. By 1913, two-thirds of the entire mining population employed in the southern half of Staffordshire were working in the pits of Cannock Chase.

Mining trends since 1905 are shown on a series of maps (Figs. 59-61),¹ and it will be observed that the progress of mining during this century has seen a virtual extinction of mining in the south of the exposed field. The pits of moderate size in the centre of the field have shown an actual decline in output and in size of labour force and a consequent relative decline in importance. Mining has tended to move to the north-west, where the increase in importance of the now comparatively large Littleton collieries since 1905 is significant, and to the extreme west, where Hilton Main commenced operations in 1924.

PRESENT PRODUCTION AND FUTURE PROSPECTS

South Staffordshire

Activity in the South Staffordshire coalfield is concentrated for the most part in one large and two moderate sized pits, all of which are working the concealed

1. Drawn by Mr. G.S. Johnson to whom thanks are due also for valuable discussion.

An old shaft at Wednesbury. The presence of the steel plant in the background indicates how industry has remained in the area after the raw materials which first brought it there have been worked out.



coalfield (Fig. 58). On the exposed field, a number of mines are still in operation; most, however, are extremely small, eighteen of them together employing a total of only 277 wage earners, and only one colliery, Beech Tree, employs as many as 200. Total output of saleable coal is small and the active life of the majority very limited. They are situated principally in the south-western sector of the field and many of them are principally fireclay producers. One or two mines only may be worked for coal for any length of time, and for all practical purposes the exposed coalfield is dead. The chief planning problem lies in the reclamation and allocation to new uses of land left derelict following either open-cast or shallow-depth coal working or after its use for pit banks.

The three collieries working the concealed field to west and east of the boundary faults, are, in the west, Baggeridge, the largest, and in the east, Hamstead and Sandwell Park in the Tame Valley. Compared with Cannock Chase, mining depths are great, over three-quarters of the output being obtained from a depth greater than 550 yards, whereas on the Chase three-quarters is mined from depths less than 300 yards. Production figures show a gradual decline and it is likely that this decline will be continued. In the east, mining difficulties are increasing, and it is likely that in the not too distant future mining will cease altogether. The total labour

force involved in the two mines working the eastern side of the field is about 1,400, and the redeployment of this number should not be difficult. Mining prospects are brighter in the west of the field, where Baggeridge has a much longer potential life than either of the eastern mines. Reserves here are extensive and the possibility exists of some further extension of mining to the west, up to, perhaps, the line of the Smestow Brook.

In 1946 the total annual production of saleable coal from the coalfield amounted to 924,344 tons, a figure which represented little more than 0.5% of the national output. Production will decline absolutely and relatively.

Coal mined in South Staffordshire is suitable for domestic and industrial use. It is burnt chiefly in the Midlands and South of England.

The number of wage-earners on colliery books in 1945 totalled 4,056, of whom about 3,000 were accounted for by the three collieries on the concealed field.

Cannock Chase

During the eighty or so years of the existence of the Cannock Chase coalfield, its "centre of gravity" has shifted progressively northwards and westwards into areas of deeper seams and more difficult mining conditions (Figs. 59-61).

The present position may be summarised as follows:-

- (1) Deep mining has now practically ceased in the

south centre and south-east of the field, i.e., the area bounded to the south by the Bentley Faults and extending to the area of the present Wyrley Colliery. This area includes a number of towns and villages, e.g., Aldridge, Brownhills, Rushall and Pelsall, which expanded, and in some cases began, as a direct result of the spread of mining north from South Staffordshire. This part of the coalfield is now almost worked out.

- (ii) The boundaries of the area in which deep mining has ceased are likely to spread gradually into the central districts, i.e., Great Wyrley, Norton and Cannock, as these areas become worked out. The cessation of mining here is not an immediate prospect, but will be rather a gradual process.
- (iii) Mining activity will concentrate in the western, north-western and northern districts of the coalfield. Further development is probable to the west, in the area between the exposed coalfield and the Bushbury Fault, while long term possibilities exist for mining west of the Bushbury Fault, where the existence of coal has been proved at a depth of over 2,200 feet. An extension of the coalmining area to the north and north-west is also probable. Numerous boreholes have proved the existence of coal beneath the Triassic rocks

and although geological evidence is at present insufficient, it seems reasonable to anticipate future development of workings into this area, while the sinking of new pits is a long-term possibility.

It should be noted that future mining operations in any of the above areas will encounter increased difficulties owing to the greater depth and, probably, greater dip of the seams. They are likely to be comparatively large-scale undertakings.

A statement by the Chairman of the West Midlands Division of the National Coal Board, published on 17th November, 1947, contains an account of the plans for future development in both South Staffordshire and Cannock Chase Coalfields, and details of the National Coal Board's future policy. The published statement enables us to add some details to the outline of the present position and future prospects given in the preceding paragraphs:-

"Cannock:

"This coalfield has been heavily worked over a long period by a large number of comparatively small mines.

"The seams are believed to extend westward and North-west and the ground will be proved by deep boreholes in order to ascertain the exact location of the seams. If sufficient quantities of coal are found the Littleton and

Hilton Collieries will be completely modernised to work them.

"So far as the existing mines in the centre of the coalfield are concerned, plans are being compiled to show the exact location of remaining unworked coals, and it is hoped shortly to produce a scheme whereby one large colliery will take the place of 10 or 12 of the present pits. Whether a new shaft will have to be sunk for this purpose or whether one of the old collieries will be reconstructed cannot yet be seen. My Production Director holds the view that the Cannock Chase coalfield should consist of four large mines each producing about 1½ million tons per year, thus giving a total output of 6 million tons".

The developments and programme outlined above will necessarily occupy a large number of years before they are complete. As part of the short-term plan to improve production in the immediate future two drift mines, Yewtree and Essington, have been opened up in the Cannock Chase coalfield.

The siting of new pits will be decided after consultation with the Ministry of Town and Country Planning, the Ministry of Agriculture, the Ministry of Health, and Local Authorities. "The reconstructed mines", the statement points out, "will have to have shafts deepened and enlarged, underground roads reconstructed

on a new scale suitable for dealing with modern underground Diesel or electrically-driven locomotive haulage with which mine cars, capable of carrying from 2 tons to 5 tons each, in place of the small pit tubs now in use which carry only from 8 to 14 cwts., could be used".

Reorganisation and reduction in the number of collieries may not necessarily mean the closing of an equal proportion of shafts. Some of the existing shafts will probably be kept working in order to provide access to different parts of reorganised pits.

The reorganising of old collieries and the laying out of new ones provide opportunities for the design of pithead buildings and plant worthy of a great national industry. Many of the new pithead baths designed for the Miners' Welfare Committee point the way to improvement. There is no intrinsic reason why colliery buildings, if properly designed, should be excessively disfiguring to the landscape.

The shifts and possible future trends of coalmining in Cannock Chase raise a number of planning problems.

In the first place, much of the future development above ground is likely to take place on Cannock Chase itself. Disturbance of good agricultural land will thus be small and should be confined to specific areas in the Penk valley. Of more immediate concern is the positive danger to the landscape and amenity value of the Chase that



Littleton Colliery. Two of the four spoil heaps. The conical shape is now usual as being more economical, but tips of this size dominate a large area of landscape. The land on the far side of the ploughed fields beyond the tips is much inferior agriculturally to that on which the tips have been sited.

may result from the development of collieries. It was pointed out earlier that the degree to which collieries can disfigure a landscape is often disproportionate to the extent and value of the workings. The area of Cannock Chase covers about 100 square miles and the amount of land occupied by colliery buildings and tips within it is quite negligible; if the same amount of land were used for almost any other kind of development, little harm would be done to the attractiveness and amenities of the Chase. But collieries, with their tall chimneys dominating the countryside, the huddle of blackened buildings around them and, most of all, their enormous barren heaps of waste, have become almost symbolic of the dehumanised environment of the industrial worker's life which townspeople seek to leave behind them when they enter the countryside. Better architectural design may improve the appearance of shafts and engine house. The problem of the pit bank remains. Not much can be done by re-packing unusable waste below the surface, especially as much of it comes from drifts and passages mined in order to reach the coal seams; a little may be done in certain instances by careful siting of tips; much more depends on carefully planned and fully implemented schemes to ensure orderly tipping and rehabilitation of each section of the heap as tipping is completed. Controlled tipping and rehabilitation should proceed as a continuous process in which the landscape



Lipping at Baggeridge Colliery. The situation and shape of the tips render them comparatively inconspicuous even though the colliery is situated on the edge of Himley Park.

may be altered considerably, but not spoiled.

Secondly, the gradual movement of mining centres has had, and may still have, important repercussions on the disposition of the labour force, on the character and structure of the mining towns and villages, and on the settlement pattern generally. The triangular area lying between Pelsall and Aldridge, with Brownhills as the apex, and fringing the immediate north of the West Midland Conurbation, affords many examples of the type of problem which has followed the northward spread of mining. It is an area with a character of its own which has been held, as it were, in tension between the pull of the coalfield moving to the north and the increasingly stronger pull of the Conurbation to the south, until today it is probably to be considered more an integral part of the Conurbation than of the Cannock Chase coalfield. The problems of the area warrant an extensive survey; some indication of them is all that is possible here. Mining in the area of Aldridge U.D., for example, ceased finally in 1936. There are, however, still many hundreds of adult colliery workers in Aldridge U.D. who travel some miles to other collieries for employment. In other words, the movement of mining out of the district has not been followed by an equivalent movement of colliery workers and their dependents. Again, the gap left by the removal of a primary industry has not been nearly filled, as a full

survey would show, by the entry of new industries. The result is that many of those workers who have forsaken the coal industry following its removal, together with their sons and daughters, have found employment in the workshops and offices of the Conurbation rather more attractive. Tentative studies have shown the extent to which Walsall, for example, draws its labour force from the triangular area of the worked out coalfield to the north, while the pull of Birmingham's industries is felt as far north as Brownhills and the villages near the line of Watling Street. As coalmining activity moves northwards through and out of this area, so Walsall, in particular, has spread its "sphere of influence" northwards, closely following the retreating southern boundary of the coalfield. It may be noted that 'bus services from Walsall now radiate over the whole sector from Cannock to Brownhills and bring in to the Conurbation workers from the districts of the old coalfield. The appearance of the area remains very much the same as at the time of the decline of coalmining. The landscape presents an untidy picture of street villages, dilapidated sub-standard houses, railway junctions and sidings, brickworks belching smoke, old quarries, pit banks and derelict land. The background to all this is agriculture in the north and suburban development outwards from the Conurbation in the south. There has been little reorganisation or reorientation of

industry, such as that which followed the cessation of mining in the Black Country; brickworks still flourish in the Aldridge district, but attempts at the introduction of new industries are few and isolated.

Similar conditions seem likely to arise in the present central area of the coalfield as mining activity shifts north and west, and it seems unlikely at present that movement of mining out of this district will be followed naturally by the large scale entry of new industries. A situation is likely to arise in which the mining population still lives in the ramshackle and unsightly villages and towns of this central area, while finding employment in the newer collieries on the northern and western fringes of the coalfield.

The likelihood of this development raises the whole question of future policy in the housing of mining employees. It would seem, at first sight, desirable to group the mining population as near as possible to its place of employment. This would result in economy of travelling time and would afford an opportunity of abandoning the older, unplanned settlements of the centre of the coalfield, while creating orderly, organised communities in the newer areas. There are, however, fairly substantial arguments against such a policy. First of all, the total area is small; the amount of time spent in travelling from existing settlements to new mines would

not be great, and transport costs inconsiderable compared with the amount which new settlements would cost. New villages on Cannock Chase or in the Penk Valley would probably do more harm to the landscape and the amenities of these areas than the workings themselves, especially if careful siting, good design, and landscape treatment are employed in the development of new mines.

We have to make up our minds whether or not the "mining village" built near the pithead and tied culturally, as well as economically and geographically, to the mining industry, is a really desirable form of settlement. Bad planning and bad conditions apart, such settlements are not likely to improve the appearance of the countryside, but the effect on the miner's social status and on his relationship with the rest of society is much more important. There seems little doubt that the segregation of the mining community in mining villages has produced a sense of isolation and an "isolationist" attitude, and that these are major causes of the recurrent crises in the industry. It is high time that mining took its place as a truly national industry drawing its recruits from among the general community. This can only happen if the miner takes a rightful place as a member of a mixed and not of a segregated or isolated community. It is in the interests not only of the coal industry in particular but of the general public that we adopt and put into effect

the principle of the "residence of colliery employees in the larger and mixed communities presented by normal town and village life", laid down in the Regional Survey Report, Coalfields of the Midland Region,¹

It follows that in the Cannock Chase Coalfield planning policy should be directed towards the fuller development, equipment and organisation of the chief existing centres of population, rather than towards the creation of new ones. The nineteenth century spread of mining has left a legacy of unplanned, ugly, undeveloped street villages which can and must be adapted to meet changed conditions, and rehabilitated to offer a fuller life for the coalfield population. The nature of many of the outstanding problems can be seen in a short journey through the area which includes Walsall Wood, Brownhills, Heath Hayes, and Hednesford, but a full understanding of them can only be achieved by an investigation and planning survey - which in this area is long overdue.

Output of the Coalfield

The output of saleable coal in the Cannock Chase field in 1946 was 4,405,973 tons. This was chiefly domestic and industrial coal for use in the Midlands and south of England. Production at approximately this level (which represents about 2.5% of the national total) is likely to be maintained for some little time, but the coalfield will

1. Ministry of Fuel and Power, (1945), p. 27.

eventually decline both in actual and relative output. Apart from extensions of the field, technical reorganisation of many of the older collieries is to be expected, but repercussions of this from a planning point of view are unlikely to be great.

The total number of wage-earners on colliery books has shown a steady decline since the 1914-1918 war, but despite this, average output has remained reasonably steady.

Persons employed in all mines
of Cannock Chase Coalfield

1920	...	...	...	25,107
1930	...	...	...	22,872
1938	...	...	...	19,892
1940	...	...	...	18,778
1945	...	...	...	18,158

Other Future Extensions

It should be noted finally that further long-term possibilities for coalmining exist beneath the thick covers of Triassic rocks which separate the coalfields of the Conurbation from those of Shropshire and East Warwickshire.

In Shropshire the coals already being mined in the area of Lilleshall (between Newport and Wellington) have been discovered to extend in a north-westerly direction, and the limits of the field are now being proved. Already sufficient coal for a new large mine has been found and surveys are in hand to find the proper position for the proposed shafts. In Warwickshire possibilities for extension

exist towards the north-east and the south-west of the present coalfield, but the principal development here will be in the reconstruction of existing collieries. It is possible that a new shaft may be sunk in the neighbourhood of Coventry, but this will depend on the results from the borings now in progress.

Developments in Shropshire or in hitherto unexploited areas of the Warwickshire coalfield may involve rather different planning problems from those presented by the gradual movement of an existing coalfield. Apart from reducing as far as possible the disturbance of fairly high grade land which would be involved, it would be necessary to plan settlements and services for a mining community which would have to be located in a hitherto wholly rural area.

Such "new" coalfields would lie well outside the present limits of the Conurbation, but it is conceivable that they might have a decided influence on the future growth and extension of the urban fringe.

OPEN-CAST WORKINGS

Coal seams are at present being worked by open cast methods in a number of localities in the Cannock Chase coalfield, while "drift" mining operations, i.e., mining by shallow tunnel or "adit", are also in progress. In both open-cast and drift-mining, operations at any one site will be only temporary, lasting in the case of drift-

Open cast workings, Heath Hayes. Cuts of this depth are made to extract seams of only a few feet in thickness. Government regulations now require top soil to be preserved and returned after working.



mining 5 to 10 years at most. Total coal production by these methods is not and will not become great, relative to that of deep-mined coal.

Planning problems in this connection are twofold:-

- (a) Open-cast workings, especially, result in considerable disfigurement of the landscape. This is not, however, a particularly serious consideration in an area such as the Cannock Chase coalfield where surface mining operations take place against an already badly scarred background and in view of the temporary nature of such workings. Conservation of surface soil and rehabilitation of sites after exploitation are now obligatory.
- (b) Problems of damage to, and restoration of, the soil, though of local importance, are not as immediate or urgent as they are, for example, in the Warwickshire coalfield, by reason of the more restricted extent of the workings, and of the inferior quality of the land disturbed. Much of the affected land consists of heath or woodland while the remainder has been classified as Category II with III in the Land Classification Survey of the rural area around the West Midland Conurbation.

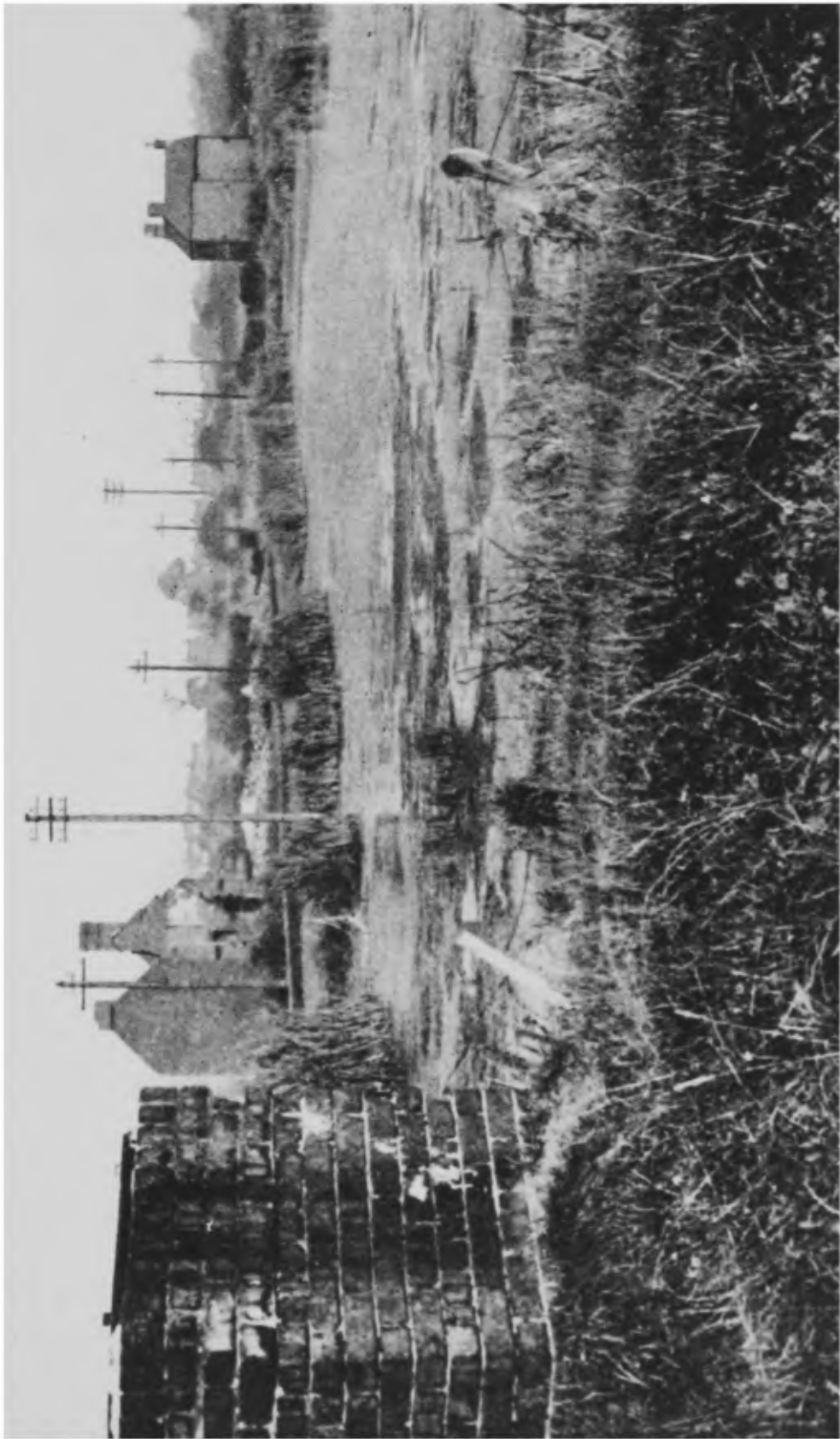
SURFACE SUBSIDENCE

Although generalisations about surface subsidence are notoriously dangerous, the planning difficulties arising from subsidence in the South Staffordshire

and Cannock Chase coalfields do not appear to be as serious as they are elsewhere - in the North Staffordshire coalfield, for example. Much of the derelict land in South Staffordshire has resulted from the subsidence of old, shallow workings and will prove costly and difficult to reclaim. Subsidence has in the past presented serious problems to canal, railway and other civil engineers. In areas worked at present or likely to be worked, the depths of workings are great, generally in the region of 600 yards, seams are only moderately inclined, and the building density on the ground above is not particularly high. The likely degree of subsidence to be expected is small, and building in areas likely to be worked in the future is of low density per acre and usually of modern construction.

In the Cannock Chase area the effects of subsidence are widespread, and the resultant loss and inconvenience has often proved serious as, for example, at Clayhanger near Brownhills. Owing to the relatively low building density over the coalfield as a whole, however, the total amount of damage to building property, though locally severe, has not been unduly great and most buildings liable to be affected are strutted or buttressed in order to withstand the results of surface settlement. Canals have been damaged, and roads have suffered widely, as any traveller along Watling Street

The effects of recent subsidence in the Cannock Chase coalfield. The road has been re-made on a causeway but fields and houses are derelict.



west of Brownhills will know, while many acres of flooded and derelict land near Brownhills, Norton Caves and in other districts mark the areas in which surface subsidence has been most widespread and severe.

Building density is low in those areas which might become important mining districts in the future. Mining depths will be greater than in the older areas of the coalfield and the problem of surface subsidence is unlikely to be of other than local importance in limiting either future mining operations or building activities.

In preparing local planning schemes in the area of the working coalfield, however, every effort should be made to assess accurately the extent to which subsidence is to be expected in the neighbourhood.

CONCLUSIONS

1. Coal mining has played an important part in the growth of the West Midland Conurbation. Future trends in the location and relative importance of the industry should be taken into account when planning for the future development of the Conurbation.
2. The importance of the output of the South Staffordshire and Cannock Chase Coalfields relative to total national production will show a steady decline during the next hundred years.

3. South Staffordshire Coalfield

This coalfield is dying. Possibilities of important future development lie only in the extreme west of the field, at Baggeridge and in the area of Himley and Wombourn. Pits on the eastern side, between Birmingham and West Bromwich, will probably be worked for a few years only. The pithead buildings and waste heaps of these latter pits dominate the landscape of the southern part of the Aldridge-Sandwell wedge, and their rehabilitation should be planned now.

4. Cannock Chase Coalfield

The south and south-east of this field, is, to all intents and purposes, worked out. Coal working in the middle of the field is declining and approaching the end of its life. Planning problems in these "older" areas are associated with the need for rehabilitation of towns and villages such as Walsall Wood, Felsall, Shire Oak, Brownhills, Chasetown, Great Wyrley, Norton Canes and Bridgetown. The distribution and movement of industry need examination and the work-home relationship is often unsatisfactory in these areas. Settlements and settlement pattern need redevelopment and replanning, and services and amenities urgently need improvement. Some derelict land (which has lain outside the scope of previous studies of the Black Country), should be reclaimed.

Mining activity is at present concentrated in

the west, north-west and north of the field around Cannock and Hednesford. Planning and redevelopment of settlements, e.g., Hednesford and Huntington, are an urgent necessity. The probability of shifts north and west of the present "centre of gravity" should be taken into account in future planning, in order to avoid the development here of such a problem area as exists in the southern portion of the coalfield.

Future possibilities for mining development exist to north and west of the existing field. In addition, there are long-term possibilities in parts of the belts of agricultural land which separate the Cannock Chase from the Shropshire and East Warwickshire Coalfields.

Conflicts between mining and planning may arise in areas of landscape and amenity value, e.g., Cannock Chase. Every effort must be made to minimise disfigurement of the landscape by careful siting and good design of pithead buildings. The chief danger to the landscape is likely to arise from the colliery tip. More attention should be given to schemes for reducing the adverse effects of mining on the usefulness and beauty of the countryside. Control of the site, shape and extent of tips, and rehabilitation of waste heaps by systematic planting, are the principal means by which this can be done.

Apart from landscape considerations, disturbance of limited areas of good quality agricultural land is

unavoidable.

The need for providing transport facilities for collieries developing in "new" fields should be recognised. There may also arise the necessity of providing for the founding of new settlements, fully equipped with services and amenities. The development of "new" coalfields may also have a direct influence on the directions of growth of the Conurbation.

Open-cast Workings

Although open-cast workings and "drift" mining will result in considerable disturbance of agricultural land and spoliation of the landscape, the influence of this type of mining, if well controlled, is of local and transient nature.

Surface Subsidence

The effects of surface subsidence have not been as disastrous as in North Staffordshire. Nevertheless, considerable damage to roads, buildings, bridges and canals has been caused. Much of the derelict land of the Black Country has resulted from the subsidence of shallow workings. Local plans in areas of past and present coalmining should be related to a careful assessment of the possible effects of subsidence.

Note

8 April 1951.

Since the preceding survey of coalmining trends was written in 1947, an intensive boring programme has been carried out by the National Coal Board and by the Geological Survey.

In most instances the results of this programme have confirmed the trends and forecasts indicated in the foregoing survey. In particular the discovery of coal at Whittington, near Lichfield, and at Longdon, near Brereton, by the National Coal Board, have confirmed the possibility of the existence of a concealed coalfield between the Cannock Chase and Warwickshire coalfields. At Whittington, workable coal seams lie at depths over 3,000 feet and are unlikely to be worked for many years. At Longdon, however, the seams are much shallowed and a decision has already been taken to sink a new shaft, which will, in time, replace the now uneconomic Brereton colliery. The new sinking raises some interesting planning problems which are at present under study.

It is only fair to state that a new boring programme carried out to the east of the South Staffordshire coalfield has revealed the existence of seams, at considerable depths, in the Queslett area north-east of the present workings of Hamstead colliery. The research programme here is not yet complete, but it is possible that the life of Hamstead colliery, will be, as a result longer than indicated in the survey. These facts were

unknown in 1947.

APPENDIX

THE CANNOCK CHASE COALFIELD AND FUTURE PLANNING

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THE CANNOCK CHASE COALFIELD AND FUTURE PLANNING

LECTURE BY

M. J. WISE, M.C., B.A., F.R.G.S.

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THE CANNOCK CHASE COALFIELD AND FUTURE PLANNING

LECTURE BY M. J. WISE, M.C., B.A., F.R.G.S.,

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THE time is a particularly appropriate one for a discussion of problems jointly affecting coal-mining and town and country planning. Not only is an intensive programme of modernization and reorganization being carried out within the coal-industry but important planning surveys of the West Midlands, including, in particular, the industrial regions of South Staffordshire, have been published by the West Midland Group in addition to those carried out on behalf of the Ministry of Town and Country Planning. It is important to know how far mining has contributed to the present landscape, the growth and pattern of settlement, and perhaps even more important to know the directions and force of present and future mining trends in order that town and country planning may take into account the needs of the industry and of the mining community in general. In this connexion it is, perhaps, regrettable that the term "conflict" has come recently into vogue as a description of the relations existing between mining and planning. It is realized that the demands of coalfield extensions may not, for example, always be easy to reconcile with, say, the allocation of future open space and land of special amenity value. At the same time, an approach to the subject with a preconceived idea of conflict must of necessity be a prejudiced and false one. The importance of coal-mining to the national economy must be appreciated and plans formulated to minimize, if necessary, any harmful effect to the countryside caused by the presence of collieries.

The problems raised by coal-mining can be classified broadly into three groups: firstly, problems of areas formerly important mining centres but in which mining is no longer active; secondly, questions of planning policy in active mining districts; and finally, problems raised by future extensions of the coalfield. It is intended to discuss considerations affecting both mining and planning with special reference to the Cannock Chase Coalfield under these main groups. It will be convenient, however, to summarize first some of the more important geological and topographical factors which have influenced the development of mining and settlement on the coalfield.

The Cannock Chase Coalfield is considered as divided from the South Staffordshire Coalfield by the belt of the Bentley faults which lie in an approximately east to west direction from the north of Walsall to a point north of Wolverhampton. The coalfield lies almost wholly to the north of the Birmingham—Black Country Conurbation as defined in the recent survey of that region by the West Midland Group. The Middle Coal Measures outcrop in a roughly triangular belt extending from the Bentley faults in the south to Brereton at the northern apex. The outcrop is marked, topographically, by a low plateau of generally monotonous and unrelieved topography. Over the whole of the exposed coalfield the coal-seams are at relatively shallow depths, particularly in the south, but are overlain by a thick cover of glacial boulder clay which had an important effect in retarding development north of the Bentley faults. To the north the Coal Measures extend as a concealed coalfield beneath the well-marked southward facing escarpment of Cannock Chase proper, while to east and west of the exposed coalfield the Productive Measures are downthrown to considerable depths by boundary faults.

The coalfield is crossed from east to west by a low col which is traversed by the line of the Watling Street. In the main, however, the active coalfield lies on the plateau north of the Watling Street in what is something of a backwater away from main roads and railways. Although records of mining in the district exist from mediæval times, intensive development of the coalfield was delayed until the latter half of the nineteenth century. At that time the South Staffordshire or Dudley Coalfield was at its peak both as a mining district and as a producer of pig-iron. With the approaching exhaustion of the South Staffordshire seams (including the celebrated Thick or Thirty Foot Coal) and with mining difficulties increasing, due principally to flooding of the shallow pits, attempts were made to sink shafts through the cover of glacial boulder clay to the Coal Measures north of the Bentley faults. Between about 1860 and 1900 mining activity spread quickly through the Essington—Pelsall—Brown-hills areas of the south into the districts round Cannock and Hednesford in the north

of the exposed coalfield. By 1905 all districts of the exposed coalfield were being worked and a commencement of the exploitation of the concealed area to the north-west had been made. Development was extremely rapid. By 1880 the production of coal north of the Bentley faults was already approaching in total that in the South Staffordshire field and by 1900 the totals for Cannock Chase and South Staffordshire were approximately equal. The spread of coal-mining was accompanied by a rapid growth of towns and villages and a marked increase in the population of the whole area which had, previously, been a sparsely populated wholly rural area. Cannock Urban District, for example, increased in population from 2,913 in 1861 to 20,613 in 1891.

Since 1900 the principal developments in this field have been twofold. The district of shallow seams lying in the south of the field between the Bentley faults and Great Wyrley is now completely worked out and mining activity on the exposed coalfield is concentrated in the northern sector and centred principally on Cannock. The second development has been a large-scale extension into the concealed coalfield to the west and north-west particularly following the opening of Hilton Main in 1924 and the development of Littleton Colliery.

It will be seen that the coalfield falls naturally into two sectors. These comprise a southern, in which coal-mining has virtually ceased, and a northern, centred principally on Cannock and Hednesford. Problems raised by mining activities in each of these sectors will be examined in turn.

Prior to 1860 the landscape of the southern sector (that is, south of Great Wyrley and Walsall Wood) presented a wholly rural appearance. The spread of the coalfield northwards from South Staffordshire resulted in the rapid growth of settlement. Long, ribbon-like villages grew northwards along the principal roads of the district, and a sprawling pattern of settlement, which still characterizes much of this sector, developed. Consisting principally of long straight lines of terrace houses, such settlements cannot form the best possible basis for the growth of communities with any social consciousness. The effects of mining on the landscape of this sector have not been confined to the semi-urbanization of the district but are to be seen also in the areas affected by subsidence and by the tipping of waste. Large areas of derelict land remain, particularly in the neighbourhood of Aldridge and north of Pelsall. Unsightly abandoned pit mounds add to the dereliction of the landscape, though some, at least, are now partially hidden under a cover of natural vegetation.

This area did not, for a number of reasons, develop as an industrial district of any importance, as had the Black Country to the south. In the early days of development, around 1860, some blast-furnaces were established in the area, for example near Bloxwich and Pelsall Common, but their lives were short and manufacturing industry was never attracted to the district on any appreciable scale. In the newly-grown townships coal-mining was the principal and, in most, the only occupation. Mining is now extinct in this district and with its extinction the towns and villages lost the reason for their growth and their principal function. Those persons still employed in mining travel some miles to collieries in the South Staffordshire Coalfield or to the Cannock district of the north, but as mining passed out of the area many left the industry to take up work in more "attractive" employment in the factories and offices of the Black Country towns of Walsall, Willenhall, or Wolverhampton. The area has been, as it were, held in tug-of-war between the pull of the active Cannock Chase Coalfield to the north and the increasingly stronger pull of the Black Country Conurbation to the south, and gradually much of the area is being integrated with the Conurbation. Some indication of this is given by the extension through this area of the radius from which the factories of Walsall draw their employees. Omnibus services spread from Walsall northwards into this gathering ground for its labour force. Bloxwich can already be considered as part of the Conurbation; Essington, Rushall, and Aldridge are now on its very fringe.

As a general rule the settlements remain only partially developed. Too many of them are single-street villages; most of the townships have no real centre and are lacking in shopping, recreational and social facilities, and amenities. In appearance they are bleak, unattractive, and undistinguished, characterized in particular by the long monotonous lines of terrace housing which is, incidentally, particularly unsuited to withstand the effects of surface subsidence. In many of the villages a large proportion of the houses are considerably below the minimum standard for modern habitation and should be replaced at the earliest possible moment.

Now that active mining has passed through this area there remains no reason for the maintenance of the ugly, sprawling and inefficient settlement pattern. Overall re-organization of these townships on new lines is undoubtedly necessary. Many of the

old straggling villages, unsightly and unsuited to modern community needs, can be eliminated. By eliminating sprawling settlement and by consolidating future development around some of the best equipped of the existing centres, the whole countryside can be rehabilitated. Patches of derelict land will need reclamation, while the planning of open land must be done on an overall basis. A detailed planning survey to investigate the detail of living and working conditions in all the towns and villages of this district is a necessity.

Without careful planning similar problems seem likely to arise, in the future, in the northern sector of the coalfield, in which mining is at present active. Here a typical coalfield landscape is presented with the straggling lines of settlement overshadowed by the characteristic conical pit mounds. As in the southern sector, little possibilities of employment exist outside mining, which is, to all intents and purposes, the sole occupation of the district. In Brownhills, for example, no less than 5,030 out of an insured male population of only 6,302 (1947) are engaged in the mining industry. The lack of alternative employment, particularly that suited to female labour, has led to a migration particularly of the dependents of colliery workers out of the district. This is reflected in both a total decline of the female population of the region as recorded in the Census Reports and a daily migration into the workshops and offices of Birmingham and some of the Black Country towns.

There remains, too, the question of the future of this district when mining activity finally declines. Present plans include the concentration of production at a small number of reorganized pits. This in itself will largely obviate the necessity for a scattered and sprawling pattern of settlement, such as that which grew in response to the demand for labour from the smaller scattered pits and which exists at present. In time, it is to be expected that even these pits of the centre and north will become worked out and that activity will be concentrated on the concealed coalfield of the western and north-western margins. Are we, under these circumstances, to allow settlement to follow mining once more? Are the, at present, actively engaged districts around Cannock and Hednesford to be allowed to relapse into a semi-derelict state reminiscent, say, of Aldridge and Rushall? The answer surely is that a plan for the social and community life of this coalfield for the next hundred years must be determined in the immediate future. This planning will undoubtedly involve the selection of a small number of towns in this sector for redevelopment. Of these Cannock and Hednesford would undoubtedly be two: others might probably be based on Brownhills and on a combination of Chase Town and Chase Terrace. Others might well be found necessary. Many existing small settlements which are undoubtedly inefficient in providing adequate social and commercial facilities will be eliminated. The new towns will form the basis for the community life of the coalfield providing sufficient amenities and educational, health, and other services for the whole of the coalfield. New industries and trades may need to be introduced to provide employment for the female population and those not engaged in mining. Above all, these towns of the future must not be purely mining towns. Many of the present psychological ills of the mining labour force can be traced to the sense of isolation derived from permanent dwelling in wholly mining villages and townships. The new towns must provide a full background and should be organized as mixed and varied communities in which the mining population would be an important though not, ideally, an overwhelming element. This consideration is all-important if coal-mining is, in the future, to take its rightful place alongside other technical industries and is to recruit its labour force from the industrial population as a whole and not only from that section which has lived formerly, in comparative isolation, in the shadow of the pit-bank. Redevelopment of the northern sector will involve, in addition to this replanning of selected towns, a gradual renovation of the landscape. This will mean the eventual reclamation of land lost to agriculture through its dereliction following mining and the steady restoration of the appearance of the area by levelling or revegetation of the abandoned pit-heaps and colliery sites. One has an eventual picture of the district as consisting of a few fully organized towns set, as it were, against a "green" background provided by the rehabilitated agriculture and developed open space and with the mining section of the population earning its livelihood in the modern pits some few miles away to the west and north.

This leads naturally to the consideration of planning problems raised by future intentions for the development of the coalfield. Future mining activities are likely to include the exploitation of seams in the west of the coalfield out to and, perhaps, beyond the Bushbury Fault and, to the north-west, beneath the Triassic measures of Cannock Chase. In addition, there are possibilities for sinking collieries in new

districts intermediate between the Cannock Chase Coalfield and to the west, the Shropshire and, to the east, the Warwickshire coalfields. Each of these possible trends is likely to be of concern to the future planner, who is naturally interested also in such factors as the future development of agriculture, and in the preservation of sufficient open space in the more attractive parts of the English countryside for its aesthetic value alone and for recreational use by the industrial population of the conurbations and large towns.

The principal dangers to the preservation of amenities and agriculture from a possible spread of mining lie in the three major characteristics of a colliery district—the pithead buildings, the waste-heaps, and the villages that have tended in the past to cluster around the colliery site. Of these, the last, given the principle of residence of colliery employees in redeveloped towns on the existing coalfield, may well be, in the future, minimized, except perhaps in the case of certain developments likely to take place between existing coalfields at distances of, say, up to 15 miles from present centres. Even here, however, it may well prove possible to redevelop existing rural settlements in order to provide a basis for the needs of an influx of miners, and, by so doing, avoid the foundation of new communities on new sites and consequent damage to large areas of good agricultural land. Such cases are likely to prove an exception and in the main it may be that, given adequate transport arrangements, housing may be achieved in the replanned centres on the existing coalfield. Danger remains then from the pithead buildings and pit-heaps. In the case of the Cannock Chase region it is of great importance from a national standpoint that the agricultural land lying to the west of the coalfield, that is, in the valley of the River Penk, should remain as far as possible undisturbed. This land has been recently classified as of high value in the Land Classification Survey carried out by the West Midland Group. If new sinkings prove necessary here some good agricultural land will unavoidably be disturbed. This need not come from pithead buildings which occupy only a relatively small acreage. If geological conditions permit a choice of site to be made, damage from this source may conceivably be avoided altogether. The problem of disposal of waste presents greater difficulties, and if excessive costs are to be avoided then loss of agricultural land may take place. It is important to bear in mind that coalfields of the future will differ from those of the past in that individual pits will be organized on a much larger scale and may work coal up to a distance of some miles from the shaft. This in itself will tend to economize in the area taken up on the surface. Though individual collieries will be larger, distances between them will be considerably greater than in the past and interference with existing surface utilization should be greatly lessened.

From the point of view of the preservation of amenities, it is important to recognize that the heathlands of Cannock Chase to the immediate north of the existing coalfield form an important recreational area for the industrial population of the Birmingham—Black Country Conurbation to the south, and of manufacturing towns, such as Stafford, to the north. It is of vital importance to preserve this area, if at all possible, on account of its very special amenity value. It is understood that much of the future development of the concealed measures beneath the Chase will take place below ground from collieries in the extreme north of the present coalfield and that little damage to the surface of the Chase is envisaged in the next few decades. It is important, however, to state that wherever possible air-shafts, and any other surface building that may in the future be necessary, should be sited with full regard to the scenic value of the landscape. Similarly, efforts should be made to avoid the continued tipping of waste in the immediate vicinity of the Chase itself. Such pit-heaps exercise a damaging influence on the landscape out of all proportion to the area covered. The conical heaps of certain collieries in the north of this coalfield overshadow the district for many miles around. Careful siting of future heaps and choice of methods of tipping, together with the levelling and revegetating of some existing heaps, can do much to overcome this.

Final notes may be made on the problems arising from opencast working and from surface subsidence. Owing to the comparatively low value of much of the agricultural land on the outcrop of the Middle Coal Measures of this coalfield, opencast coal working, though responsible for some locally important losses to agriculture, does not present the same problems as, for example, in the neighbouring coalfield of Warwickshire where considerable acreages of medium and high quality land have been or may be affected. Nor can transient damage to the landscape be considered as of great account in an area already scarred and marked by the consequences and present effects of intensive mining at fairly shallow depths. Subsidence, on the other hand, presents important problems on the exposed coalfield. Most of the existing houses are strutted

or buttressed against its effects, while many acres of flooded land, as for example at Norton, testify to the widespread damage to agriculture and the landscape generally. At Clayhanger, a considerable portion of a village has already suffered demolition as a result of surface settlement from workings at a neighbouring colliery. It is realized that the accurate forecasting of areas likely to be affected by subsidence is not always practicable, but planning authorities must take fully into account the possibilities from subsidence in replanning the towns of the area. Subsidence should not, however, prove an insurmountable obstacle to the attainment of a plan for redevelopment of the towns of the coalfield. In areas likely to be exploited in the future, due to the depth of working and to the absence of urban development on the surface, the effects of subsidence are unlikely to be of great importance from a planning point of view.

I have hoped to show that there is much in common between those interested in the planning of the landscape and the organization of communities and those whose concern is coal-mining and its development. There should be no "conflict" between the two interests. The aim must be the achievement of a cultural landscape of maximum utility and beauty and the advancement of the social life and welfare of the population of the coalfields. The confusion, sprawl, and dereliction resulting from nineteenth century unplanned exploitation must be avoided, and one looks forward to the day in which modernization and reorganization of the technique of our mines is accompanied by a replanned, well-ordered landscape and by redeveloped, fully-equipped towns of which our mining communities can feel proud.
