MEN AND MINING IN WARWICKSHIRE

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MEN AND MINING IN WARWICKSHIRE

A short account of six venturers in coal mining between Coventry and Nuneaton and the market which they sought to exploit during the period 1595 to 1800.

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COVER

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Cover designed by Eric Flitcroft and based upon a photograph, by courtesy of the Science Museum, London, of Henry Beighton's engraving of a Newcomen engine, in 1717.



Plate I. Sir Roger Newdigate, 5th Bart., by Romney c.1791. (By courtesy of the Keeper, the City Museum and Art Gallery, Birmingham.)

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INTRODUCTION

The purpose of this pamphlet is twofold : to describe briefly market conditions in the south-east Midlands and to present six short pen portraits of men closely concerned with Warwickshire coal-mining during the course of two centuries, beginning with Huntingdon Beaumont and ending with Sir Roger Newdigate.

Coal has, for centuries, held a peculiar fascination for the mining adventurer. The lure of hidden wealth in this, one of the most speculative of industries, has rarely been dampened for any length of time by disaster or heavy individual losses. Where a rich market for coal existed, as in E. Warwickshire from the beginning of the seventeenth century onwards, fortunes were sunk by successive bands of adventurers in colliery undertakings of seemingly endless appetite.

A very wide range of persons were willing to chance their luck in this field during the period 1595 to 1800. At one end of the scale stood resident landowners such as the Newdigates of Arbury and the Stratfords of Atherstone. At the other end came the lone miner, possessing but tiny resources. Between the two extremes swept a host of men of varied background whose spell in coal mining was generally short and marked by a desire to "get rich quick".

What was the magnet which attracted yet ruined so many adventurers? The principal one was the valuable Coventry market, followed by the growing industrial area between that city and Nuneaton and, to a lesser extent, the towns and villages to the south and east of the city. Even at the beginning of the seventeenth century Coventry was an important buyer of coal, a fact which the Beaumont families of Coleorton and Stoughton tried to exploit in their attempts to set up a local monopoly between 1601 and 1616.

The adventurers described ranged in social status from yeoman to nobleman. Success and tragedy, however, were, and are, no respecters of persons. One of the principals in this story died in prison, whilst a second ended his days a bankrupt, the third passed away in the midst of family dissension and a fourth fled the field after complete and abject failure. For the remaining two, the fruits of success were tempered by their having no direct heirs to continue the family enterprises.

No industrial dynasties were founded and no great fortunes were made. Nevertheless, important mining developments took place during the latter half of this period and these laid the foundations for the industrial expansion which occurred locally in the nineteenth century.

PART I

THE SPREAD OF THE MARKET

The century of rapid industrial expansion which lasted from 1540 to 1640, and which has been termed the "first" English industrial revolution¹ had important consequences for the Midland coal market. Notwithstanding the vast tracts of woodland² which had come into the hands of private buyers following the dissolution of the monasteries in 1536 and 1539 the requirements of domestic and industrial consumers made serious inroads into readily available supplies of timber. The passage of legislation and grants of monopoly³ from the reign of Queen Elizabeth I onwards, designed to protect the needs of shipbuilding and allied industries,⁴ were an additional force behind the growing substitution of coal for charcoal in brewing, brick and tile making, dyeing, the casting of brass and the making of ironware. Faced by growing shortages of timber, mining costs and restrictive legislation, major consumers in central England therefore looked more and more to the Midland coalfield for supplies of alternative fuel.

Charcoal being so fragile a commodity as to make it virtually non-transportable from more distant areas,⁶ iron manufacturers in the Midlands and southern England were faced with the alternatives of either moving to the nearest sources of coal⁶ or being prepared to transport it over long distances. Where deforestation had proceeded apace since Medieval times, as in parts of Leicestershire⁷ and Warwickshire, these consumers looked increasingly to Shropshire, Staffordshire and Warwickshire⁸ collieries to remedy their shortages. It is for these reasons that the landsale mileages covered by coal from these three counties had in so many cases become spectacular by the mid-seventeenth century. High haulage costs then, and even at the beginning of the eighteenth century, were no effective bar to transportation even in the absence of navigable waterways especially where landlords could easily offset

- ¹ J. U. Nef: Industry and Government in France and England, 1540-1640. Chap. 1.
- ² H. R. Schubert : History of the British Iron and Steel Industry. p.219 et seq.
- ³ English Economic History : Select Documents. Edited and compiled Bland, Brown and Tawney. pp. 441-2 for examples.
- ⁴ H. G. Roepke : Movements of the British Iron and Steel Industry, 1720 to 1951. p. 3.
- ⁵ H. G. Roepke : op. cit. Chap. 1.
- ⁶ The nature of iron manufacturing (i.e. ironware) in any case made the need for charcoal less imperative than for iron-making (pig or bar iron). M. W. Flinn: *Men of Iron*. p.7.
- ⁷ Quoted in W. G. Hoskins: A Short History of Golby and Frisby. Transactions of the Leicestershire Archaeological Society. XXII. p. 203.
- ⁸ H. G. Roepke : loc. cit.

such charges by selling grain or wool in the coal producing areas or shift the burdens involved on to the shoulders of tenants as part of their rents.

Between 1587 and 1606, and again from 1725 to 1732 coal was carted from, "The nearest coal pits to Deene" (Northants), a distance of 46 miles, by tenant farmers as part of their rents.⁹ In 1621 Bedworth coal was used by the Spencer family at Wormleighton (24 miles) whilst Wedgebury (Wednesbury) coal was purchased by Magdalen College, Oxford in 1689 and again in 1694 and 1696.¹⁰ In 1631 Staffordshire and Warwickshire coal was being sold in Leicester¹¹ demonstrating, inter alia, the shortcomings of collieries at that time, in that county.¹² In 1674 coal used at Clifford Iron Mill, near Stratford-upon-Avon, was purchased in Tanworth in Arden.¹³ Other supplies were regularly sold by the "Tun" in Stratford-upon-Avon between 1720 and 1730,14 coming from Warwickshire, Staffordshire and possibly Shropshire coal pits.

The Midland coalfield had therefore become an established source of fuel for the counties of the south and south-east Midlands during the preceding 150 years.

The market for Warwickshire coal was an extensive one during this period, being located within a pentagon-shaped area approximately 60 miles from north to south and 46 miles from east to west, the bulk of the sales taking place within the Nuneaton-Coventry area. Municipal and private business records prove that coal was being sold in places as far apart as Oxford and Leicester,¹⁵ and suggest very strongly that it also found a market in Stratford-upon-Avon and in parts of Northamptonshire. However, the spread of the market was sufficiently noticeable during the late seventeenth century to arrest the attention of travellers and ordinary workpeople.

Witnesses before the Commission of 168416 in Coventry testified to visitors purchasing coal from the local pits for trans-

- Brudenell MSS. ASR/253. I am indebted to Miss J. Wake for notes on the purchases of coal by the Earls of Cardigan.
- J. E. Thorold Rogers : A History of Agriculture and Prices.
- Vol. V. p. 388. H. Stocks (Ed.) : Records of the Borough of Leicester. 11
- 12 V. C. H. Leics. Vol. III. p. 34.
- Archer MSS. An Account of Coals Brought from Tanworth to the Iron Mill at Clifford 1674.
 - N.B.-This was probably Staffordshire coal.

Shakespeare Birthplace Trust, Stratford.

- ¹⁴ Corporation of Stratford Deposits : Chamberlain's Accounts 1720-1730. Ibid.
- 15 Supra.
- Exchequer Depositions by Commission : 16 36 Chas: II. Mich. 43. Public. Record Office.

port to Northamptonshire and Oxfordshire. In 1698 Celia Fiennes,¹⁷ travelling through Wansford, observed local people using :

> "Cow dung or coale which they are supply'd with out of Warwickshire."

The same writer also saw "great Warwickshire coal" being unloaded at the "key" in Gloucester. It appears, therefore, that the market for Warwickshire coal at this time was bounded on the east by Leicester, where it competed with the product of Staffordshire, Leicestershire and Derbyshire¹⁸ pits ; on the south-east by Northamptonshire where it met river-borne supplies of "sea coale";15 to the south by Oxford where "sea coale" was brought up the river Thames from London; and to the south-west by Stratford where it mingled with coal from Staffordshire and, possibly. Shropshire. Occasional sales, nevertheless, were made beyond these bounds, as Celia Fiennes recorded at Gloucester.

The cost of land carriage was high during the seventeenth and early eighteenth centuries. According to J. U. Nef the expense of transporting coal 300 miles by sea from Newcastle to London was ordinarily no greater than that of carrying coal 3-4 miles overland, and the price of coal probably doubled every 2 miles.²⁰ A similar experience appears to have been suffered by buyers in Coventry in 1684. William Benson,²¹ a Coventry baker, testified that Wedgebury²² and Hawkesbury coals sold, in summer, for 7¹/₄d.-8d. per cwt. Coal from Bedworth, nearly 3 miles further away than Hawkesbury, cost 10d.-12d. per cwt. (more in winter), when the latter group of pits were not working. Since the pithead price for large coal at Griff, 6 miles from Coventry, varied between 2.6d. and 4d. per cwt. during main working periods (1687-1730) this made the Coventry market a worthwhile prospect for venturers like Sir Richard Newdigate (II) only when the citizens of that town were willing to pay 12-14d.23 per cwt., which price was occasionally paid during bad weather or when stackloads were, because of severe competition, inflated above their usual size.²⁴

- C. Morris (Ed.): The Journeys of Celia Fiennes. p. 162.
- 18 V. C. H. Leics. Loc. cit.
- 19 Brudenell MSS. A.S.R. 252/M27/8 (1728)
- J. U. Nef: The Rise of the British Coal Industry. Vol. I. p. 103. Exchequer Depositions by Commission :
- 36 Chas. II. Mich. 43.
- ²² Cheap, good quality coal from the Wednesbury (Wedgebury) area was occasionally sold in Coventry and district long before the advent of canals.
- ²³ The price of one load of Griff coal in Coventry during the week ending 31st March, 1687, cost 7/2, including 1/4d. carriage. CR 136/V/130.
- ²⁴ The recognised size of a (stack) load varied according to market conditions. During the first part of the eighteenth century it was commonly 30 cwts. but occasionally rose much higher.

The more distant county areas played a useful but not particularly valuable part in the calculations of local coalowners since it was upon the level of demand in the Coventry-Exhall-Foleshill-Bedworth-Nuneaton area that decisions to produce, or not, were made. The greatest single group to benefit from nearby collieries were the freemen and citizens of Coventry. Local worthies testified²⁵ favourably to the influence on commodity prices of imports of barley, malt and wheat from Northamptonshire and Oxfordshire. Coventry was in fact an important market and focal point for traders bringing grain and wool from the south and east, returning with cloth²⁶ and coal.

Whenever local pits stopped work, which was not infrequently, the loss in trading income to the city was serious.²⁷ Rate levies in the Parish of Sowe occasionally rose from 7d. to 11d. in the pound to accommodate the large number of unemployed "poore"² who had earlier come to work at the pits or act as coal carriers.

Griff, where four of the venturers who are the subject of this booklet operated at different times during the period 1595 to 1795, was a particularly important colliery during the early part of the eighteenth century, supplying considerable tonnages of coal to domestic consumers and industry alike.

Who were the users of Griff coal? Unfortunately it is impossible to quantify specific purchases reliably over a useful period but the names or activities of some of the customers indicate the purposes for which it was used. "Great coal" went to smiths and brick and tile makers in Bedworth²⁹ and Nuneaton (each 11 miles away) and to a lesser extent in Lutterworth (14 miles). Householders and innkeepers bought considerable quantities at the pithead and nearby landowners who possessed no share of the outcrop were glad to send their men to the colliery for supplies. Limeburners, the Chilvers Coton Workhouse³⁰ and poorer local folk purchased large quantities of "sleck". All these sales were effected on a cash or short term credit basis.

Testimony of George Taylor, miner and one-time Overseer of the Poor-ibid.

By far the largest single market in the 1720s, however, lay southwards towards Coventry.³¹ The rise of the Hawkesbury and Bedworth group of collieries from 1727 onwards, together with competition from entrepreneurs in Wyken, was responsible for the diminution of the market for Griff coal by two-thirds. It was also a major factor in the decision of the Newdigate family in 1729/30 not to proceed with their projected new colliery foundation but to await a more propitious moment when the 4th baronet, then a minor, came of age.

Long-distance (over 3-4 miles) operations often bore the aspect of barter deals. "Small coal" was frequently sent to Stretton (9 miles) and "Walsall" in exchange for lime. Greater mileages, however, were not unknown. A shortage of malt at Arbury evidently made it worthwhile to send and sell a load of coal in Warwick (16 miles) in 1708 for 18/51d. to help defray the cost of purchasing eight quarters of malt.³² Twenty-one years earlier the cost of bringing "Deal" boards from London to Oxford and then to Arbury for the floor of the library there was similarly met in part by a load of coal being sold in Oxford by a Griff carrier.³³

Considerable quantities were consumed on the estate, particularly at the colliery from 1720 onwards. Lime burning and brickmaking were large-scale activities for most of the year. Cokemaking for the brewery and domestic usage also made inroads upon production. But these calls paled in comparison with the needs of the early atmospheric engines at work pumping out the coal pits. During the course of one year, from the 14th September, 1728, to the 13th September, 1729, they devoured 14.8% of total production at Griff.³⁴

What active steps were taken by the Newdigates to extend their sales in the period prior to 1729 ? Efforts were concentrated on producing coal more abundantly and more cheaply than their rivals, employing the latest mechanical devices³⁶ in the race to corner the local market. Little was done to extend them geographically by improving roads, linking minor waterways in the vicinity or even building up a stock of broad-wheeled carts to carry coal in bulk along the narrow and tortuous lanes of these

The best example of all was the Newcomen atmospheric engine. successfully introduced into Warwickshire in 1714. The use of this machine, which was in reality a pumping mechanism, was controlled by a consortium of London businessmen, known shortly as : "The Proprietors", who owned the engine patent and imposed strict limitations on its use. See also Appendix A.

Exchequer Depositions by Commission : 36 Chas. II. Mich. 43. (1684).

The manufacture of tammies, shalloons, calimancoes and camlets became prominent in Coventry after 1694, gradually supplanting woollens and broadcloths as the principal textile manufactures. Ribbon manufacturers made "Vast fortunes" during the first 30 years of the Eighteenth Century. (Reader. cited in H. Miles-Thesis p. 3.) Such activity stimulated demand for coal.

²⁷ Estimated at £800-£900 per annum-Exch. Dep. by Comm.

Newdigate MSS. CR136/V/15. 30

Warwick Record Office. Newdigate MSS. CR136/V/144 passim.

CR136/C/12 (C619) CRI36/V/177 31

³³ CR136/V/130

CR136/V/177

times.³⁶ Organised packhorse traffic was light. The needs of the many coalworks strung out between Nuneaton and Coventry plus the requirements of agriculture, both of which reached their annual climax during the late summer and autumn placed a heavy strain upon the limited supply of draught animals. In these circumstances the cost of hiring for long-distance work was prohibitively high except on the rarest occasions. Their policy, therefore, was one of sharp competition³⁷ with nearby rivals, made the more potent by a 50% increase in retail prices during the first quarter of the century.

A major distinction between Warwickshire coalmasters of the first and second halves of the eighteenth century lay in the importance which they attached to more distant markets after 1750. This took the form of helping to finance first turnpikes and later canals. In addition some of the coalmasters, particularly Sir Roger Newdigate and Richard Parrott, embarked on schemes for building private colliery link roads and canals to join their undertakings to public routes.

The growth of the Midland canal network after 1769 accelerated co-operation³⁸ between coalmasters who correctly saw in it a distinct threat to their dominant position in the S.Midlands coming from smaller local producers and from suppliers in Leicestershire and Staffordshire. Paradoxically it was the canal system, so warmly welcomed in earlier years, which was responsible for the declining influence of Warwickshire collieries by the end of the century. The Oxford canal, was opened as far as Banbury on 30th March, 1778, the first cargo of Warwickshire coal (some 200 cauldrons) being ushered into the wharf,³⁹ "amidst the loudest acclamations of a prodigious number of spectators."

By August 1800, however, Staffordshire coal was being sold in Coventry and furthermore it easily dominated the coal traffic southwards to Oxford. The competition which the Warwickshire coalowners collectively feared earlier had already begun to play

- An almost reckless willingness to risk glutting the local market characterised the actions of many proprietors during this period.
 G. E. Mingay: English Landed Society in the Eighteenth Century, pp. 196-7.
- ³⁸ For example :
 - (a) The imposition of minimum size limits (15 tons) on barges using canal locks—except by special permission—eliminated minor entrepreneurs.
 - (b) Opposition to freight rate differentials favouring Staffordshire suppliers.
 - (c) Opposition to the scheme for a rival canal from Ashby Wolds via Griff to Northamptonshire and the south in 1791.
- ³⁹ William A. Potts: History of Banbury. p. 197.

havoc with their ambitions to exploit the rich market in southern England.

There are several reasons why local coalmasters did not actively seek wider markets before 1745. The larger coal pits of the seventeenth and eighteenth centuries rarely lasted more than two years after which lengthy preparations were required for a new set, unless financial resources permitted extensions to be made to the existing coalwork *pari passu* with getting at the old pits. Furthermore they rarely functioned long enough simultaneously to saturate the local market. Business did not become ruinously competitive until the beginning of the second quarter of the century, and then did so with alarming speed as the number and scale of undertakings grew. By this time many operators were financially in no condition to turn their attention to widening the markets or, in the case of the Newdigate family, did not consider it worthwhile.

Few landowners and industrialists possessed the necessary financial resources to invest in new roads and waterways (even if they had wanted to), which latter development was in any case hampered by the absence of large nearby rivers, unlike the Shropshire and Yorkshire mining areas. There was no flow of wealth from landholdings such as the Ravensworths and Lambtons possessed in Durham⁴⁰ passing into coalmining. Finance for Warwickshire mining all too often stemmed from very short-term borrowing. The development of the London Capital Market later in the century, by contrast, facilitated loans over a period of several years.

An additional factor to be taken into account is that many of the operators before 1750 were lessees for whom short-term gain was a major consideration. They therefore possessed little incentive to deepening capital investment and expanding their horizons even when the necessary finance was available.

The interaction of all these forces placed a premium on cornering the nearest market, which was no longer able to absorb the total output of all local collieries after 1728.

From about 1740 onwards coalmasters accelerated their purchases of mineral-bearing land. The result of this activity, aided by the spread of local enclosures, was to concentrate holdings in the hands of a small number of landowners, to increase their incomes from rents and to strengthen the domination of the local coal industry by a small number of powerful entrepreneurs.

J. U. Nef : Op. cit. Pt. IV., Chap. III. passim

³⁶ CR136/V/147 Memorandum of Sir Roger Newdigate. "The Case of Sir R. N."

PART II

ADVENTURERS IN COAL MINES IN WARWICKSHIRE

1595 - 1800

Ι

Huntingdon Beaumont : Pioneer and Mining Adventurer

"He was myne whylst he lyved, now he is yours wherfore I praye give his body, which you have long deteyned her in misery A gentellman's buriall for A Farewell."

This poignant and dramatic appeal to Sir Percival Willoughby, despatched from Nottingham gaol by the widow of Huntingdon Beaumont in 1624, lowered the final curtain on one whose long and varied life combined mining skill, business ruthlessness, financial extravagance, ambition and tragedy to a rare degree.

Born in or about the year 1560, son of a fairly prosperous Leicestershire landowner, Huntingdon Beaumont was brought up in an age of economic opportunity which favoured thrusting individuals. The spirit of those times was undoubtedly present in the Beaumont family, proved by the mining successes of Nicholas, his father, on the family manor of Coleorton. In Huntingdon Beaumont's case, however, this was balanced to some extent by the fact of his being the youngest of four boys,² virtually landless and with an urgent desire to establish himself as a person of substance as quickly as possible. It is within this broad setting that one can begin to appreciate his motives for adventuring into coal mines in Warwickshire, before the end of the century, and later on in Nottinghamshire, Northumberland and Leicestershire,³

The family became associated with the Willoughbys of Wollaton near Nottingham, in 1572 when Sir Francis Willoughby joined Nicholas Beaumont in partnership to operate mines near Coleorton. This arrangement was to have fateful consequences in later years for Huntingdon Beaumont but for the present it worked successfully enough for the senior partner.

- ¹ Correspondence: Mi 3/61, Joan Beaumont to Sir P. Willoughby, 14 March 1623/4. Middleton MSS.
- ² John Nicholls : The History and Antiquities of the County of Leicester, Vol. II., Part II., p. 858.
- ³ Richard S. Smith: Huntingdon Beaumont: Adventurer in Coal Mines. Renaissance and Modern Studies Vol. I. (1957)

Right worshipfull:

It hath pleased God even in this moment of tyme to call my deere husband unto his mercie. I now desyer yow, that as yow weere the first that brought him into this miserabell place soe yow would be pleased to performe this office of humanetie, and christianetie for him; as to procure him Buriall, according unto his christian caryage, though not according to his Byrth and education : it is the last office that now yow can performe for him; and it will and shall make me to conseyve worthelie of yow for it : whose estate is not to performe those duties of my true love to him that he hath deserved and might iustly chalenge at my hande. He was myne whylst he lyved, now he is yours wherfore I praye give his body, which you have long deteyned her in misery A gentellmans buriall for A Farewell.

Nott. Gaole : march :14 1623

Your worships true loving frind Joan Beaumont.

Plate II. Joan Beaumont's Plea to Sir Percival Willoughby to release her husband's body from Nottingham Jail.

In the course of his extensive travels during the last thirty years of the reign of Queen Elizabeth I Camden said of "Cole Overton":

"This place has its surname from the coals dug here like hardened bitumen, which yield such profit to the lords of the manor and supply all the neighbourhood far and near with firing."⁴ Possibly it was the success of this venture which led Huntingdon Beaumont to cast around for means of establishing his own mining interests. Thanks to a lease of Crown lands in Bedworth taken by his father in earlier years he and a brother, Sir Thomas,⁵ quickly obtained a foothold in the Warwickshire coalfield.

The Beaumont brothers were not alone in their dreams. Sir Francis Willoughby had similar ambitions and was already in possession of coal-bearing land within the manors of Foleshill and Sowe,⁶ quite near to Coventry. Huntingdon Beaumont determined to obtain a lease of similar property belonging to the Corporation of Coventry in order to place himself in the most advantageous position to supply the city.

The mayor and aldermen of Coventry evidently had some doubt at this time about the value of their coal possessions for, in the agreement which they made with him on 23rd July, 1595," reference was made to the rental considerations which would follow if :

"Uppon the trial of the said Huntingdon uppon his owne costes and expences (he) shall fynd a sufficient delph within the said manor to serve the country (county)"

The lease was to run for 21 years from Lammas Day next, and the area concerned was described quite shortly as the :

"Colemynes within the manor of Hawkesberie".⁸ Beaumont was, in the first instance, called upon to pay to the Corporation :

"Yerely Rent one hundred lode of coles to be delyvered by hym in such place within this cittie as the maior and his brethren for the time being shall appoynt." He was further bound to supply annually twenty loads of free coal to the poor of the city.

- ⁴ William Camden : Britannia, p. 298.
- ⁵ Sir Thomas Beaumont of Stoughton. John Nicholls, op. cit.
- ⁶ J. U. Nef : *Rise* ... vol. II., p. 13.
- ⁷ Coventry Council Minute Book, A 14 (a), pp. 234-5.
- ⁸ These, together with other property, passed into the hands of the Corporation of Coventry in 1542 following the dissolution of Erdbury Priory (Arbury). (i) Letters and Papers of Henry VIII., vol. XVII., p. 321. (ii) Calendar. S.P.D. 1619-23, p. 453.

In the event of the trial to find coal proving successful the Corporation arranged for the whole basis of rent calculation to be changed, stipulating :

"then and from henceforth (he is) to paye yerely for the same colemyne the yerely Rent of one hundred pounds at Candlemas and Lammas, and then the Rent of one hundred lode of coles to cease and the twenty lode of coles yerely of his own gift to continue . . . ""

In 1598 a further opportunity for expansion presented itself to Huntingdon Beaumont and his brother when their rival, Sir F. Willoughby died. Having invested extensively in industrial undertakings and spent large sums unwisely on the family seat,¹⁰ Wollaton Hall, he left his son, Sir Percival, a heavy burden of unpaid bills and legal problems.

An agreement was drawn up amicably between the ambitious Beaumonts and Sir P. Willoughby in February $1598/9^{11}$ whereby, for the short term of three years, the latter agreed to suspend his mining operations :

"In aine the Lands or Colemynes in Foleshill or elsewhere in the Countie of Coventrie or Warwicke," in exchange for an annual rent of £100, payable in two instalments.

Buying out the opposition was a device favoured then and later on by mining venturers, sometimes to the long term detriment of the owner by allowing one set of coalworkings to become flooded whilst attention was focussed on more convenient spots. This, together with personal convenience, may have been borne in mind by Willoughby for he added an additional clause demanding the delivery of a certain quantity of coal at his Bedworth pits every year between Easter and Michaelmas.

A combination of daring, luck, personal negotiating skill and the misfortunes of the Willoughbys had so far brought the brothers potentially rich rewards. The most valuable parts of the coalfield between Bedworth and Coventry were now under their control, and the next three years (1598-1601) were spent in consolidation and in buying further strips of the outcrop between Bedworth and Nuneaton. One important "island", however, remained for the time being out of their clutches. This consisted of coalworkings in the Potters Coton, Temple and Griff area (Chilvers Coton), a

⁹ Ibid.

¹⁰ "By the time the house was finished it had sunk three lordships." Camden : Britannia, p. 398.

¹¹ Agreement: Sir P. Willoughby to Sir T. and Huntingdon Beaumont, 10 February 1598/9. Middleton MSS. MiX 3/4.

particularly important spot insofar as the pits there, and for a much later period, were shallower and consequently more easily and cheaply worked.

By the end of 1601 these pits came into their hands in not entirely reputable circumstances so that they were by then in control of virtually all the mines for several miles either side of Bedworth. The circumstances surrounding their latest acquisition, however, led directly to lengthy legal proceedings the records of which furnish us with useful, if incomplete, details of their business methods, the state of technological development locally at that time and the extent to which Huntingdon Beaumont himself contributed to the development of mining techniques.

In 1602 a Bill of Complaint¹² was lodged in the Court of Chancery by one, Jeffrey Foxe, lessee of all the mines in Griff and Potters Coton before being thrown into prison for debts allegedly incurred whilst in the service of his late master, Sir Francis Willoughby. In the year 1600 he had been given a lease of these mines, after the Beaumonts had had first refusal, by the brothers Gerard and Walter Gifford for 21 years. Confirmation of the lease was dependent on his draining the then waterlogged pits and restoring them to working condition within a period of twelve months.

Foxe was successful. Large sums of money were spent by him in sinking new gin¹³ and coal pit shafts and in providing timber for them and the working areas. A pond was dug and fed by a stream specially diverted to it for the purpose of working a new and special drainage mill. In his Bill, Foxe claimed that he did :

"there fix and make bothe a watermill and a horsmill with ingens therunto belonging which before weare never invented for the continuall draining of the said colemines about which workes before he could effecte the same, your poor orator did disburse vere neare 800Li." (£800)

Unfortunately for him, Foxe was imprisoned before he could reap the benefits of his enterprise. His (understandable) nonpayment of the rent resulted in the brothers Gifford taking over the property once more and laying hands on his, Foxe's, many personal possessions "to the utter undoing of your orator".

That in fact Foxe did build a horsemill and a watermill and used them successfully was admitted¹⁴ by one of his adversaries, Walter Gifford. Realising their value the Gifford brothers first attempted to use them for their own purposes but later, after quarrelling between themselves, Gerard, being hard-pressed for money, lent important parts of these machines to Sir Thomas Beaumont.

Huntingdon Beaumont's name has for long been associated with early technological achievements in the sphere of mining.¹⁶ It seems, however, that in 1600 the Beaumont brothers were happy to let another local adventurer take the risks involved in experimenting with new devices before they themselves moved in to take over the Griff and Coton mines. Such moves are, of course, a commonplace in industrial history but, as in other instances, Huntingdon Beaumont's later reputation as an engineer and inventor rested heavily upon the efforts of other men, both in this country and in the German states of that period.¹⁶

Following their acquisition of the Griff and Coton mines the Beaumont brothers had by 1601 :

"engrossed into their hands all the Coale Mynes neare thereunto adjoyning six myles compas on every syde because none shall gett coales but themselves to the great Damage of dyvers countys thereunto adjoyning."¹⁷

The creation of a monopoly within so short a time presented opportunities as well as problems. Facing one of several charges by Foxe, Sir Thomas, one of the accused, stated in defence :¹⁸

"as for Rysinge of the price of Coles this Defendant must confesse that for one pt. of one Yere the Defendant increased the price thereof from three shillyng foure pence to Foure shillyng a Rook, Wich was but the price that other men wich had Cole mynes sell for and noe Dearer."

Success for Huntingdon Beaumont appears to have been slow in arriving for within a year the partnership of the brothers broke up. The elder brother continued operations in this county for several more years whilst Huntingdon returned to Nottinghamshire, there to try his luck in the mines at Wollaton and Strelley, and from 1603 appears to have taken no further interest in Warwickshire.

¹² Chancery Proceedings (Series 1). C2/Jas. I F4/53 : Jeffrey Foxe v. Gifford, Beaumont et al. 3 May 1602.

¹³ Gin pit shafts were used exclusively for draining water from the mine.

¹⁴ Answer of Walter Gifford to the Bill of Complaint.

¹⁵ William Gray: Chorographia, reorinted in Harleian Miscellany Vol. III., p. 280. See also Richard S. Smith: England's First Rails: A Reconsideration. Renaissance and Modern Studies, Vol. IV. (1960).

¹⁶ Richard S. Smith : England's First Rails : A Reconsideration, loc. cit., p. 130 et seq.

¹⁷ Replication of Jeffrey Foxe.

¹⁸ Answer of Sir T. Beaumont to the Bill of Complaint.

To understand more fully his nature and the reasons for his eventual fall it is necessary to consider briefly his career as an adventurer in coal mines elsewhere in England.¹⁹

In 1602 a special agreement was drawn between Sir P. Willoughby and Beaumont whereby the latter undertook to work the Wollaton mines near Nottingham, taking one quarter of all net profits. Hardly had the document been signed than the two parties quarrelled, Beaumont being accused, *inter alia*, of attempting to create monopolistic conditions and increase prices, as he and his brother had indeed succeeded in doing in Warwickshire. Nevertheless the agreement stood and Beaumont set out to enlarge his Nottinghamshire interests by leasing mines at nearby Strelley, then in the hands of the hard-dealing Byron family, for the sum of $\pounds4,000$ spread over eight years.

This new and complex scheme ran into trouble within a short time, mainly due to the difficulty of shifting coal down river, and at one period Beaumont declared to Sir Percival, on whose co-operation and approval he set great store, his disenchantment with the whole business of mining. It was one thing to be able to produce coal, using some of the most advanced equipment of the day, but quite another to be able to ensure its delivery to the centres where it was most needed.

The most important of these centres was London and it was with an eye on this, the most valuable of English markets, that Beaumont, still encumbered by his agreements with Willoughby and Byron, turned in 1605 to Blyth in Northumberland and other collieries in the vicinity of Newcastle-upon-Tyne.

Writing 44 years later, William Gray said of adventurers in this area :

"One coal-merchant employeth five hundred, or a thousand, in his works of coal; yet, for all his labour, care and cost, can scarce live of his trade : nay, many of them have consumed and spent great estates and died beggars."²⁰

He might conceivably have had the disastrous career of Beaumont in mind for during the following seven years (1605-1612) the latter invested heavily to win success, spending vast amounts of his own, his brother's and other people's wealth in mining ventures in Northumberland, Nottinghamshire and Leicestershire.²¹ The technical skills, inventiveness and daring

¹⁹ Richard S. Smith : Huntingdon Beaumont : Adventurer in Coal Mines, passim. which had so far stood him in good stead was gradually overtaken by impatience, recklessness and an undoubted fear of what the future had in store for him. The energy which he had always applied to his schemes now served to press him into further difficulties, and the ambition to dominate a large and valuable part of the mining industry in the Midlands and north-eastern England began to diminish. Had he been content with a slower rate of progress from the very beginning of his adventures it is possible that he might have survived. Caution, however, was alien to his nature and his last two ventures, at Measham in Leicestershire in co-operation with his brother, Sir Thomas, and at Strelley, bore the marks of a gambler's last desperate throw.²²

The attentions of creditors pressed more heavily upon him and after a period of delaying tactics, during which he and other members of the family lost considerable sums of money in a vain attempt to stave off defeat, they took over possession of the Nottinghamshire mines. Within a matter of months Beaumont was seized and cast into²³ Nottingham jail for debt, there to remain until 1624 whilst the new proprietors picked over the choicest parts of his mines, in which he had invested so much time, energy and skill, leaving the rest to become waterlogged.

"I now desyer you . . . to procure him Buriall",²⁴ wrote his wife reproachfully to Sir Percival Willougby, one of his creditors, shortly after her husband's death. This sad missive appears to have struck some chord of pity for the body of the adventurer was taken away for burial at Bilborough, away from the "miserabell place" in which he had spent his last years.

²² Historical Manuscripts Commission : Middleton MSS. (1911) p. 176.

²⁰ William Gray : op. cit., p. 279.

²¹ Between £6,000 and £7,000 were lost in the northern venture, whilst the Leicestershire experiment cost the Beaumont family a sum estimated to have been approximately £5,000.

²³ This was not done without a great measure of defiance on his part. "Yesterday being Sunday with great terror and amazement of the poore Colliers was your great adversary Huntingdon Beaumont arrested who very violently doth both threaten yourselfe and mee", wrote Willoughby's agent to his master. Correspondence: MiX3/60, John Martin to Sir P. Willoughby, 19 October 1618. Middleton MSS.

²⁴ See also Plate II. and accompanying transcript.

The Earl of Dover

This short account is about another adventurer in Warwickshire coal mines, a nobleman who came to Coventry during the middle years of the seventeenth century to make his fortune in the city's mines but departed within three years with little to show for his efforts.

A large number of persons obtained or shared leases of coalworks controlled¹ by the Corporation of Coventry in Foleshill, Hawkesbury, Sowe and Wyken between 1609 and 1682, of whom fifteen have been identified as London drapers, haberdashers, joiners, toolmakers, citizens or "Gents". The Earl of Dover was one of their number. The rest included a divine and an ironmaster together with yeomen, drapers, dyers, mercers, aldermen and other worthies of the city of Coventry. Most of these people were little more than speculators who possessed no real knowledge of the coal industry and who came and departed with depressing frequency.

Lord Dover's spell as an unsuccessful adventurer is, however, worth recounting since it indicates the value attached by the Corporation at this early date to the local coal mines, and the difficult conditions in which he was expected to work.

Henry Cary, born in or about the year 1580,² was the son and heir of the third Baron Hunsdon, and served irregularly as Member of Parliament for Hertfordshire between 1601 and 1614. Created Earl of Dover in 1627/8, he married the daughter of the wealthy Master of the Ironmongers Company of London in 1630 and for the next ten years became embroiled, with singular lack of success, in lead-mining activities³ in Derbyshire and in coalmining in Warwickshire.

Lord Dover appears to have become interested in the Corporation's coal mines in 1634. The Council Minute Book⁴ for this year records an agreement drawn on the 30th March, 1635, between the Mayor and Aldermen on the one hand, and the earl himself, a Groom of the Bedchamber and two Esquires on the other. Two of these men, however, had second thoughts about the proposed enterprise and withdrew in good time, leaving the earl and one of the Esquires, Thomas Bradforth of Bond Street, London, as sole partners.

¹ Coventry Corporation coal leases : D Coll 5, passim.

- ² Vicary Gibbs (Ed): The Complete Peerage, Vol. IV. p. 445.
- ³ Calendar, State Papers Domestic, Chas. I., Vols. for 1637-38; 1638-39.
- ⁴ Coventry Council Minute Book : A 14(a), p. 652.

The Mayor and Corporation had good reason to be satisfied with the terms of the lease⁵ which appeared to secure many benefits for the citizens of Coventry. In earlier years the city authorities had been troubled not only by regular shortages of coal but also by the wasteful methods employed by lessees. Under the conditions of the new contract Lord Dover and his colleague bound themselves, *inter alia*, to observe onerous conditions governing the supply of coal, to pay a substantial rent and to take no other mining concession within six miles, without consent.

The agreement was also unique among the large number of similar documents drawn between Warwickshire coalowners and lessees during both the seventeenth and eighteenth centuries in that retail sales, prices and quantities were subject to special regulation. The pill was sweetened, however, by the Corporation waiving all claims to outstanding rent, this being a contribution "towards this charges of the said works," and by embarking on a new round of celebrations⁶ culminating on 15th September with the earl being elected a freeman of the city.⁷

These celebrations afforded little comfort to Thomas Bradforth and an ominous note was struck in December of the same year when, by deed poll, he renounced his interest and left the earl to face the Corporation and the hazards of mining enterprise alone.

The particular mining area leased to Lord Dover, (for there were other, smaller operators working at the same time),⁸ lay in Wood End, in the parishes of Foleshill, Sowe and Wyken, in the then county of the city of Coventry. The largest portion was situated near Dean's Place (Attoxhall), but the agreement also went on to list two crofts called the "Riddings", near Tackford Bridge "betweene the water there running and the high waie leading towards Leicester", small pieces of land called "Dayes Croft" and "Calves Croft", ground named "Heyfall" and "Windmill Waste",

Corporation coal leases passim.

⁵ Lease : Coventry Corporation coal leases, D Coll 5-5a. "Mayor, Bailiffs and Commonalty of the city of Coventry to the Rt. Hon. Henry, Earl of Dover and Thomas Bradforth, Esquire." 31 August 1636.

⁶ Corporation Accounts (Wardens) IC/A7, passim.

⁷ Council Minute Book, A 14(a), p. 655. See also Plate III.

and a furlong in two parts called "Baggotts Waste". Ten ridges of land in the "Ruydings" together with several other patches were also included. The lease clearly did not grant a single large working area as was more commonly the case in early eighteenth century mining agreements⁹ but obliged the lessee to work around and between other operators and local smallholders, paying compensation for disturbance and damage. By its nature such a method of working would adversely affect any economies of scale which might have resulted from managing the property as a single unit.

The agreement granted to the earl and his partner :

"All the coalemyne, Delph and Veynes of Coales commonly called Ston-coale, Sea-cole or pit-cole", with a few minor exceptions. The adventurers were to be permitted to dig and bore holes to find the coal; to get, take and carry it away; to sink coal pits, construct soughs (water channels) and trenches and to "undermine" the ground. They were also allowed to erect "engyn" houses and buildings to add to those already standing on the sites in question, on one of which the Corporation already had its own engine,¹⁰ and to remove them at will.

The operators were also granted full liberty of entry and exit into and from the property, a fact which might be taken for granted but was often made the occasion for special charges.

For all this, Lord Dover and (originally) Thomas Bradforth agreed to pay £300 per annum in rent, in two instalments, at the Mayor's Walk in Cross Cheaping. A period of grace amounting to forty days was allowed for delayed payment of the rent, after which time the Corporation were free to exercise their right to enter and seize coal from the bank (the stockpile). Six months' notice was required to terminate the agreement.

Having secured what was for those days a good income from the mines for the city coffers, and assured itself that Lord Dover would protect them from "spoile hurt or distruction," using "engyneers" to supervise working, the Council went on to obtain extra benefits for the citizens.

Priority in purchases was to be given to the inhabitants of Coventry and its suburbs. Persons refused coal were free to make complaint in writing to the Council who, given that the pits were actually producing fuel and that there was no good reason for their rejection, would determine whether to demand compensation on their behalf. Coal was to be retailed at 6d. the horseload (approximately 3.7 modern hundredweights), ten of which constituted a wain load :

"Which wayne load is to containe in measure being orderly and sufficiently stacked up one full elne¹¹ square in heighth, breadth and length according to the usuall manner heretofore used at other Colemynes within the Countie of Warwick and the Countie of the said Citie".

Why were the Mayor and Corporation so precise in their measurement of coal offered for sale ? The answer is that until the middle of the following century coal was invariably sold by volume rather than by weight, and loads varied arbitrarily not only from decade to decade but frequently from colliery to colliery, depending upon supply and the distance from the principal market. It was not unknown as late as 1734 for loads to be offered for sale nominally at one price for a given quantity but with variations in true weight amounting to as much as 100%.¹² Such practices facilitated fraudulent activities and the Council were evidently keen to prevent them happening as far as possible.

Lord Dover's venture was not a success, for already on 2nd August, 1637, it was recorded in the Council Minute Book :¹³

"Colepitts

At this day it is agreed that there shall be a warrant of attorney made and sealed to Humfrey Burton (Clerk of the Council) on this cities behalf to demand half a yeres rent of the Hawkesbury Coledelph due to this citie at Midsomer last by the Lord of Dover."

He did pay the rent for the first half of the year, having been carefully placed under a bond of £1,000 to do so, but was evidently in difficulties with the remainder. Twelve months later he was £450 in arrears¹⁴ and a further warrant was issued, this time to seize such stocks of coal as existed on the bank (stockpile). Unfortunately, the outcome of this action is not recorded in the Minute Book.

Lord Dover found 1638 to be a particularly vexatious year. Not only were things going badly for him at Hawkesbury but his lead mining interests in Derbyshire had involved him in legal action with a buccaneering rival, Sir Robert Heath, a former Attorney-General. His pride being at stake he determined at least

¹⁴ Council Minute Book : A 14(a), p. 689.

⁹ Compared, for example, with Newdigate coal leases, CR 136 passim, Warwick Record Office.

¹⁰ The Corporation then, and much later, owned mining equipment whic was generally included in a lease. See Trade and Industry No. 7. (1674), City Record Office, Coventry.

¹¹ One elne was equal to a cubic ell. An ell measured 45 inches.

¹² Chancery Depositions : Hand, Morgan MSS. 46, Stafford Record Office.

¹³ Council Minute Book : A 14 (a), p. 675.

to redress appearances and wrote to the Privy Council in 1638, "that he is possessed from the city of Coventry of a Coleworke", which he had brought to perfection at great expenses.¹⁵

The enterprise, however, was very far from being in such a state and the braggart made preparations to withdraw from the scene. The lease which had been sealed less than three years before amidst celebrations, and upon which such high hopes had been pinned, was quietly handed back to the Corporation on May 30th, 1639.

¹⁵ Privy Council Records, Vol. XLIX., p. 355. Quoted in J. U. Nef: Rise... Vol. II., p. 11.

1636. coran Edro Proon ollyng Samuele Marks Rico (lars The Clark C. Roma orasmuth as the sight how Baron & Hunston, Orleownt Dober Some this Dave in Alis House about at flow the's bury, and Derlaring his noble Disposition The Earle & toward this citie this glouse observing how that his to 20 road a leased to house this orhe so fare as to be Dobre affire wan thereof . It was therewyon by the roman affirst of both Houses and and ordered , that the said Earla of Dobry is and Thallo a froman theroof and the house had then clerted and admitted a foreman of Outre no this low shen suppled anot

Plate III. The Earl of Dover elected a Freeman of the City of Coventry in 1636.

Sir Richard Newdigate of Arbury

At the beginning of the eighteenth century Sir Richard Newdigate (second baronet) of Arbury, near Nuneaton, embarked on an ambitious mining scheme as part of his plan for estate development and the revival of family fortunes. Unfortunately for him the high degree of enterprise which he displayed did not live up to expectations and, after his death, his son and heir was obliged to sell parts of the family's widely scattered estates in order to restore solvency.

Like a number of other landed proprietors during the seventeenth and eighteenth¹ centuries, Sir Richard Newdigate² was a gentleman-entrepreneur whose long-term object was the extension of family estates and the building of magnificent mansions.³ Investments in industrial undertakings was to many squires little more than a convenient way of increasing incomes and providing the wherewithal for the conspicuous consumption of their class and age. Sir Richard was no exception to this rule but unlike certain other coalmining venturers in Warwickshire during this period, notably Lord Dover, he possessed distinct advantages : he was a resident landowner possessing valuable mineral rights, he had first-hand knowledge of local market conditions and he was a man of undoubted personal ability. Unfortunately for him, his gifts were more than balanced by personal shortcomings, so much so that the career of landed gentleman which had begun with such promise and goodwill in 1665 ended in the winter of 1709/10 in disappointment, bitterness and family dissension. Sir Richard was neither the first nor the last of a line of would-be industrialists in this county to end his days in frustration and disillusionment.

Sir Richard Newdigate II was born in turbulent times and his long life was frequently punctuated by outbursts against members of society, neighbours, servants and his children. Fortunately for us he was also a keen observer of human foibles, both real and imaginary, and committed many of his findings to paper.⁴ Like so many recorded things in his life, however, these lacked order and system. Thus we find critical observations of the work of

¹ J. D. Chambers : Economic Change in the Vale of Trent, 1700-1800, Renaissance and Modern Studies, Vol. II. (1958).

- ² Richard Newdigate succeeded to the baronetcy in 1678. There having been three successive baronets bearing this name he is for the purposes of this account called Sir Richard Newdigate II.
- ³ In addition to his Arbury building schemes (Plate 1V.) the baronet made plans for building a mansion on the Harefield estate in Middlesex in 1702.

⁴ Newdigate MSS., passim. Warwick Record Office.

servants scattered among pages of estate accounts, expressions of hope or despair tucked between references to debt, calls to Providence to save him from himself or the folly of others interspersed among periodical attempts to put his estate affairs in order. It is from these voluminous and frequently untidy records that one is able to reconstruct an account of Sir Richard Newdigate, squire of Arbury and venturer in coal mines.

Sir Richard's early years as master of Arbury were bright with expectation. His father,⁵ a successful barrister, made over his Warwickshire estates to him on the occasion of his coming of age in 1665, in order to concentrate on his London practice. With these went an annual income of rather more than £1,500 together with special financial provision for his forthcoming marriage to Mary, daughter of Sir Edward Bagot of Blithfield, in Staffordshire. The sums involved were sufficient, with moderate care, to establish the young man in his career as a country gentleman. Moderation, however, was a quality completely alien to the second baronet. In estate administration, financial affairs and in personal relationships he approached life aggressively. During the first twenty years of his tenure at Arbury he spent lavishly on building programmes and tried his hand at politics. The first exercise eventually earned the reproof of his lawyer-father, anxiously watching the dissipation of family wealth; the second brought him little satisfaction for his spell in Parliament in 1680/1, as a Knight of the Shire, lasted only a week.

Sir Richard's first important sortie into industrial enterprise followed the hard winter of 1684 and lasted on and off for five years. Taking a partnership⁶ with Thomas Coventry of Snitterfield, and a lawyer-friend, an agreement was made for the three of them to join forces in getting coal on Nuneaton Common. This arrangement worked badly and, despite financial encouragement to continue, Edward Cookes, the lawyer-friend, decided to withdraw, leaving the baronet eventually to carry the entire burden on his own shoulders. Efforts were made to continue the business but mounting losses,⁷ following a serious flood, obliged him to cease operations, and the mineral rights were leased in 1689 to two other, more sanguine, venturers for a period of ten years.

- ⁵ Richard Newdigate, a Serjeant at Law and onetime Chief Justice of the Upper Bench, under the Commonwealth, was created a baronet in 1677 for services rendered to Royalist supporters during the aftermath of the Civil War.
- ⁶ Partnership : CR136/C695. Thomas Coventry, Edward Cookes and Sir R. Newdigate. 25 November 1685, Newdigate MSS.
- ⁷ Calculated from statistics given in Volume 130, Newdigate MSS., (CR136/V/130).

The failure of this exercise added to the gloomy picture now presented by his finances after a quarter of a century of good living. Estate expenditure, the cost of political adventures and personal extravagance had whittled away much of his inheritance and debts began to assume serious proportions. At long last, in 1692, a solid attempt was made to put the estate on a more businesslike footing.⁸ Unfortunately for Sir Richard, at this very critical period of his fortunes, his wife died. In addition to bearing him fourteen children⁹ she had played an important part in the heavy task of administration, assisting him with his account books and trying to keep some of his worst excesses in check. With her death his extravagance mounted and revealed itself during the following eight years in a growing aptitude for squandering and mortgaging the family property to the extent that serious rifts opened between himself and his children. This was the position in which the family found itself by the year 1700 when, desperately anxious to find fresh sources of income and yet at the same time planning to build a mansion on the family estate at Harefield, in Middlesex. Sir Richard Newdigate decided to become a venturer in coal mines on a big scale.

"... this begins at Lady Day, 1701, which contains the most uncomfortable Part of my Life."

Thus did the baronet inscribe a title page of one of his new account books¹⁰ for this decade.

The truth of this comment was to strike him probably harder than he had originally believed, yet, for the reader, what follows in succeeding pages of this and other early eighteenth century volumes and papers in the Newdigate Collection is of more than usual interest. The reason is that the following twenty-five year period, from 1701 to 1726, represented a watershed in mining developments in this county. The changes which took place at Griff, first under Sir Richard himself, later under the Staffordshire lessees Richard and Stonier Parrott¹¹ and George Sparrow, and finally under his son, Sir Richard Newdigate III, established the colliery as an important and relatively modern undertaking. Some of these changes were adopted by collieries elsewhere in Warwickshire. Taken together they represented substantial steps towards that reorganisation of the coal industry on which broader industrial change in later years was so heavily dependent. They included, successively, the use of new devices for test boring and blasting

- ⁹ Newdigate MSS : CR 136/B/12. Sir Richard himself was the eldest surviving son of eleven children.
- ¹⁰ Newdigate MSS : CR 136/V/23.
- ¹¹ Infra, section IV : Stonier Parrott of the "Fire Engine".

⁸ Newdigate MSS : CR136/V/183.

through hard rock.¹² the construction of deep coal pits, the recruitment of specialist labour from the West Midlands, the multiplication of water, wind and horse powered machinery for a wide range of tasks, the organisation and management of a large force of surface and underground workers and, later, in the field of technological change, the adoption of large, overshot waterwheels and Newcomen engines for mine drainage.

Throughout the late autumn of 1700 estimates and rough plans were drawn up for a new "foundation".¹³ This was to be situated mainly on land leased from Lord Coventry but also included some of the coal seams then owned by the family. In modern terms the working area lay between Griff Lane and the lower canal arm, to the south and north respectively, and was bounded on the west by the former track leading to Bermuda village, and on the east by the Bedworth-Nuneaton railway line.¹⁴ Existing collieries in Nuneaton and Bedworth being almost worked out in that year, Sir Richard hoped to be in a position to dominate the local coal market before their proprietors were able to set up their own coalworks once more on a competitive basis.

The new "Foundation" initially consisted of three adjacent coal pits, each one 42 ells¹⁵ long, measured from east to west, 28 ells wide from north to south, and was linked directly to a second, shallower set on the east side, each measuring 36 ells in length and 28 ells in width. Each pit was served by its own general purposes shaft, sunk to the underside of the principal coal seam to be worked (the "Great Rider") 24 ells deep in the case of the coal pits and 12 ells deep in the case of the "bassett", or shallow pits. Both shafts were linked by a central road to the deepest part of the mine which was served by a channel leading to a series of gin or drainage shafts, lower down the field, 38 ells in depth. Each of these double pits therefore measured 78 ells from the "Rise to the deep",¹⁶ (i.e. from east to west), and 28 ells from north to south, and was linked laterally to its neighbour by a "Main level"

- ¹² "Best gunvowder", bought in Coventry, was used in considerable quantities from 1701 onwards but had been tried out as early as 1687.
- ¹³ The terms "foundation" and "coalworks" were commonly used at this time to refer to a colliery. For preliminary estimates of the cost of building the coalwork, see Plate V.
- ¹⁴ Newdigate MSS : CR 136/C1417.
- An ell measured 45 inches. Each large coal pit therefore measured 52½ yards long by 35 yards wide.
- The coal seams had a gradient of 1 ; 3.

driven horizontally north and south for the length of the entire working area.17

These coal pits were designed to have a working life of nearly two years but plans were laid for a further set to be constructed further up the field, and adjoining the first trio, during the following winter. Following the pattern of working methods at that time a line of coal pits in various stages of exhaustion would stretch side by side for several hundred vards¹⁸ within a few years of working a coal seam.

These were unusually large and deep pits for the county during the early years of the eighteenth century although there was little departure from the fundamental design of coal pits sunk on this estate almost a century earlier.¹⁹ Nevertheless, they were the type for which the Staffordshire operators agreed in 1711 to pay an annual basic rent of £200 to Sir Richard Newdigate III. Most nearby pits were much smaller and this was reflected in their rents. Two colliers, for example, paid £10 a year for a lease of "The Blew Pitt", on Nuneaton common in 1735, whilst as late as 1746 a very large number of pits on land belonging to the Earl of Uxbridge²⁰ in Nuneaton were valued between £13.6.0 and £20 per annum.

It is, however, within the realms of technology, and labour recruitment and management, that radical changes were most apparent during the baronet's period of activity. Like so many other mines between Coventry and Nuneaton, Griff had long been plagued by water intrusion and, paradoxically, by drought. Undershot waterwheels were unable to cope with flood conditions and yet were dependent upon a supply of surface water fed by streams to enable them to work at all. The new pits being deeper than before, an attempt was made to mass all types of existing equipment to solve the problem. A map of the colliery,²¹ drawn in or about the year 1705, illustrates waterwheels, a windmill, a windlass and horse gins, indicating the extent to which the baronet was forced to go in order to keep the mine reasonably dry.

¹⁷ For a detailed description of the building and construction costs ct this foundation see — Warwickshire Coal Mining in the 18th century, published in The Mining Engineer, No. 117 (1970), incorporated in Vol. 129 of Transactions of the Institute of Mining Engineers.

- ¹⁸ Newdigate MSS. (i) CR 136/C614. (ii) CR 136/C651.
- Newdigate MSS.: CR 130/C489.
- Anglesey MSS : Uncatalogued Surveys D(W) 1734 William Salt Library, Stafford.
- ²¹ Newdigate MSS : CR 136/C1417.

These failed to deal adequately with the situation and in 1705 fresh plans were drawn up to construct an overshot wheel²² of very large dimensions, fed by a 2,179 yard long high-level channel, at a cost of $\pounds 2,360.11.0.^{23}$ Had this been done in 1701 when the original coalwork was being built, Sir Richard's initial outlay for the whole undertaking would have exceeded $\pounds 4,000$.

The use of a large waterwheel in conjunction with an atmospheric or steam engine (not introduced until 1714) was a marked feature of winding and drawing operations later in this century and during the early years of the next and constitute a radical departure from the older methods most of which had been in use since Huntingdon Beaumont's day. Nevertheless, for all their shortcomings, the older machines did permit large quantities of coal to be raised, no less than 16,291 tons being got and sold in one year alone.²⁴

Labour itself was also in a period of transition. The underground workers were organised into teams of faceworkers, called "companies", and others termed "wagemen". The former were jealous of their status and the high earnings that went with it, and although they were not exclusively employed in getting coal all the time, were reluctant to accept new entrants into their ranks without adequate compensation. The latter group were general assistants working for a fixed, basic wage paid by the day, and carried out a wide range of underground jobs. Those "companies" which worked in the best pits were hired directly by the estate, Sir Richard himself playing an active role in matters of recruitment, work allocation, discipline and dismissal. Other companies, acting on a sub-contract basis, worked stipulated lengths of particular coal seams in the older pits. These were given a measure of financial aid for subsistence purposes at the beginning of each work period and in return they offered their product for sale to the estate, sharing whatever profit remained between themselves and their own "wagemen".

In a few cases, fully-independent operators hired a pit together with its equipment at an agreed rent, a practice which the baronet viewed with favour but which does not appear to have been used to any great extent.

The advantage of these arrangements was that risks were spread and the owner did not have to provide all the capital and labour to keep most of the field in operation, something which

²² "One of the most important developments of the early part of the century was the substitution of the overshot for the undershot wheel." T. S. Ashton : An Economic History of England : the Eighteenth Century, p. 109.

²⁴ Newdigate MSS : op. cit., p. C-24. (29 Sept. 1704-Sept. 1705).

would have seriously taxed his already depleted resources. It was also the most economical way of increasing his income.

Management of the direct-hire companies and unpaid workers was well organised although the predilection of the baronet for interference at all levels must have caused his senior staff considerable difficulties.²⁵ Two senior bailiffs were appointed to supervise working in both halves of the "coal pit field", assisted in turn by ordinary bailiffs whose job it was to see that the surface and underground employees carried out their duties.

The burden of responsibility borne by the senior bailiffs may be illustrated by a small disaster which occurred in 1706. The principal bailing being away sick, his duties were undertaken by a deputy whose carelessness and lack of diligence caused part of the workings to collapse and much of the colliery to cease operations for eight months. The baronet wrote :²⁶

"It ran in and hindered me from getting coal at the 6th, 7th, 8th, 9th, 10th deep pits"; that the lost pits might have yielded

"300 loads per week", and in thirty weeks: "9,000 loads representing a loss to sales of $\pounds 3,000$." Payments out of purse as a result of this fiasco came to $\pounds 1,200$ making a loss of $\pounds 4,200$ to the estate.

In the search for men skilled in the then latest methods of coal extraction, the Newdigates established an early lead. Throughout the eighteenth century Shropshire supplied an increasing number of miners to English, Welsh and Scottish collieries, the techniques in use in that coalfield being particularly well suited to working thin or sloping seams. From 1703 onwards agents were sent out by Sir Richard to recruit specialist labour for work in his colliery with sufficient success to justify his son repeating the experiment in later years. These recruits were among the local aristocrats of labour since not only were their daily wages extremely high for this period²⁷ but they were also eligible for lodging allowances and bonus payments.

²⁵ Example of a directive :

"I ordered J. Stafford to ... head downhill at the 5th pit in the Old Field at 6 (p.m.) and Bettridge's Co. should go to get coal at their own pit. I gave Stafford a note thereof." Newdigate MSS: CR 136/V/56, p. N-41.

- ²⁶ Newdigate MSS : CR 136/V/23. Entry for 20th November, 1706. p. 520.
- ²⁷ For a discussion of wages and working conditions at this time see— The Condition of Mining Labour on a Warwickshire Estate before the Industrial Revolution, *Transactions of the Birmingham Archaeological Society*, Vol. LXXXIV. (1970).

²³ Newdigate MSS : CR 136/V/56, p. G-31.

Negotiations over pay, conditions of work and production targets took place between the "companies" and an estate official, the proprietor appearing to have played a leading part in this as in most other things.²⁸ As in a later age, however, such efforts were not always crowned with success. Less than a month later the miners were reluctant, for some reason, to carry out their side of the bargain and absented themselves from work.

Difficulties with workmen, then as later on, caused considerable disruption to the baronet's plans to make his mining venture a success. Absenteeism and "mutiny" could be, and were, checked by fines, amounting sometimes to as much as a week's basic wage. Since most miners drew only a subsistence wage every week, receiving the bulk of their earnings in occasional lump sums, it was not too difficult to exercise some degree of control over the more rebellious spirits. Decisions to dismiss labour, showing him at his worst, were in most cases sent by the proprietor himself and communicated via the chief bailiff to the man concerned.²⁹

Paternalism was, however, the keynote of the proprietor's regard for his tenants and workpeople. Perhaps one of the best examples of his concern for their welfare occurred in 1705 when, planning extensions and improvements to his colliery he wrote :

"Times are hard. Tenants unable to pay rents and must be helped out especially at Fedingworth. Therefore 'Tis highly advisable to let those tenants in 2 years earn £800 of this".³⁰

The money problems of Sir Richard were hardly eased during these years for except in unusually good seasons the mine appears to have been an unprofitable concern. Consequently the main source of finance for it was borrowing which made his position worse. Most of this took the form of mortgages (principally from relatives and friends), bonds and petty sums lent by local tradespeople, employees and others, listed as "Driblets". To make things worse again most of the mortgages and bonds were of short duration, often lasting only a few months and rarely more than two years. Consequently a large proportion of this debt had to be renegotiated every year. A preliminary list of debts dated 27 November 1703,³¹ two years after the opening of the colliery,

²⁸ Plate VI.

²⁹ Example for 1st September, 1705 :

"To William Pickering and Tho. Pitts. I do hereby give you positive orders to discharge John Stafford, who shall work no more in my Field. R.N.

"I require this note again tonight."

Newdigate MSS : CR 136/V/56, p. S-6.

- ³⁰ Ibid. Thedingworth estate was in Leicestershire. The sum mentioned here was part of the planned outlay on the overshot waterwheel in 1705. Supra, footnote 23.
- ³¹ Newdigate MSS: CR 136/V/23.

32

named twenty-five creditors, ranging from "My son Dick", with whom he was already on bad terms, for £600, to one of his clerks for £15. These totalled £12,086, a figure raised two days later to £13,936 by the necessity of having to find £1,000, among other things, for the colliery undertaking and other schemes.

The state of Sir Richard's accounts during the years 1702 to 1709 demonstrate his capacity for swinging to temperamental extremes and his reliance upon inspired guesswork to get him out of trouble. Reviewing his list of debts in 1703, at a time when the colliery showed few signs of the anxiously awaited success, he wrote :

"But in case of disappointment if the coalwork should fail, have recourse first to the Divine Majesty by Faith, next to Perkins if that fail mortgage to Sir Benj- Ba- and live close to p.u."

A desperate note completed the picture :

"From debt and Deadly Sin good Lord Deliver me" !

1704 was a year of greater optimism. After listing the latest possible sources of finance, one being for as much as $\pounds7,000$ he noted gaily,

"so if Dick should not marry within 4 year I should be out of Debt."

Unfortunately for him, "Dick" decided to get married again³² within twelve months and this upset all his calculations.

Worse was yet to come. A more critical period in his health and fortunes opened during the last years of his life. Mortgages which had hitherto been the backbone of his system of borrowing became harder to get. As a result, borrowing from small sources and extended credit assumed much greater importance. When his son succeeded him in the winter of 1709/10 he inherited, among other debts, a mass of bills, bonds, notes and unpaid wages³³ amounting to £7,089.

Failing health, disappointment with his coal mining venture and mounting debts were not the only problems facing the baronet during the last sixteen months of his life. His second wife, by whom he probably had three more children,³⁴ appears to have brought him little comfort, and his surviving children were by now bitterly ranged against him. Seeking revenge in his will he drew attention to the gulf which split the family in these words :

³⁴ See footnote 9, supra.

¹² His son was a widower, like himself, at this time.

³³ Wages owing to the "Coal Pit Men" amounted to £557.7.0¹/₄.

"Whereas my son Richard (whom I have lately tryed before divers persons of quality) has been most disobedient and ungrateful, and still continues my inveterate and inplacable enemy, although I have offered to pardon him, and made other offers of great advantage to him; and whereas my daughters and my son Françis have all joined with him in his hellish contrivances, I leave them nothing "³⁵

and went on to give minute instructions for his funeral and burial at Astley, near Arbury.

But even in death enmity was not stilled. The beneficiaries under the will renounced probate and Sir Richard's body was carried far away to Harefield, there to lie not far from the remains of his first wife. Meanwhile the new baronet took over the heavily mortgaged family estates in Warwickshire, Leicestershire and Middlesex and drew up plans to liquidate debts totalling over $\pounds 56,000.^{36}$

³⁵ Lady A. Newdigate—Newdegate : Cavalier and Puritan, p. 355.

³⁶ Newdigate MSS : CR 136/C1978, Debts left by Sir Richard Newdigate who Dec'd cth of Jany. 1709 and pd. by his Son ye lait Sr. Rich'd Newdegate.

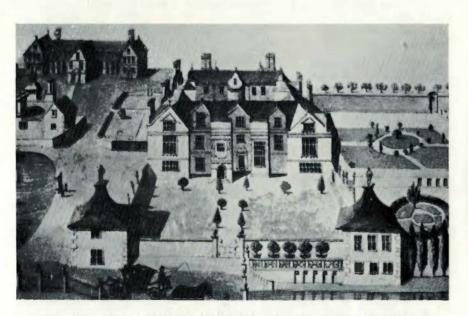


Plate IV. Arbury Hall c.1708. From a copy of an original Beighton drawing in the Aylesford collection. (By courtesy of the City Librarian, Birmingham.)



Plate V. Sir Richard Newdigate's preliminary estimates of the cost of building the first stage of his new colliery in 1700.

Eresale Companys at S. 24 hat 3 men be dranm out of this to pupar Gals in th day in the rest of the form n a Makes That no Gals aff y in y Monny or before & at night be drawn) at those 3 Site Sale tobe a days? Sits Companys prepare foris ~ a night's to tain a days from ford sat night to y athe thorn woby all The Jale as these Par to Re a nights - - -That 200; of Bals & got at all Hope the Pity to day to morrow and to doit So get soo: great Fortnight no Done And: Soo: the 3. Week, Doubt it Chauter for Small Sals 2. 10. Allow 6. to have and From Mond

Plate VI. Negotiations with colliers at Griff in 1702 : an early productivity agreement.

Stonier Parrott of the "Fire Engine"

A small commemorative tablet, tucked away in a dark corner of Foleshill Parish Church, Coventry, records the final resting place of Stonier Parrott, "Gent". The stark inscription thereon gives no hint of the important part he played in industrial history, either locally or elsewhere in this country, nor of the disaster which eventually overtook him, being content to confine itself to the barest personal details. It is only after examination of numerous manuscript collections¹ scattered between Durham and London that one realises the extent and importance of his business enterprises, and the degree of scientific experimentation with which he was connected during the early years of the eighteenth century.

IV

Stonier Parrott was born in or about the year 1686, the eldest son in a family of seven children belonging to Richard Parrott, a minor landowner, then living at Upper Bignall End in Audley, Staffordshire. The family were already comfortably off by this date, for an abstract of the will of Richard's father, Francis, who died in 1680, describes him as a "Yeoman", mentions the disposal of land and goes on to list a number of legacies.²

The family interests, however, were not confined exclusively to farming. Abraham, a younger brother of Richard, became a wealthy mercer in Lichfield, whilst Richard himself, his son Stonier and a neighbour, George Sparrow, in company with various relatives, gradually became more and more involved in a wide range of mining ventures.

By 1711 they were already described as being

"Great Farmers, occupyers and undertakers of mines of Cole Iron Stone and Ironworks and other mineralls an(d) also Brine pitts and Saltworks . . ."³ in Stafford, Warwick and elsewhere in England and Wales. Within the following seven years their joint

¹ The principal sources employed in this account were the Newdigate MSS at Warwick Record Office; the Aqualate MSS at Stafford Record Office; various Hand, Morgan MSS housed at the William Salt Library at Stafford; and Records of Proceedings in Chancery located at the P.R.O. in London. See also bibliography.

² The Midland Antiquary, vol. II. pp. 61-65.

³ Agreement : Aqualate MSS D1788/40/6.

and several interests had spread to ten counties⁴ and as yet this rate of progress showed little sign of slowing down.

What was it that enabled them to achieve so much in so short a time? The answer lies in the fact that the increasing size and depth of coal mines during this period posed technical problems which became more serious with the passage of time. That of draining coal pits and keeping them in working condition was especially acute. The Staffordshire men set out to find solutions, not hesitating to take advantage of legal devices where it suited them, so that their engineering knowledge, presence and goodwill were, for a while, well-nigh indispensable to anxious coalowners in many parts of the country.

Revolutions occur in response to pressing needs and none was more pressing in the Warwickshire coal mining industry during the latter part of the seventeenth century than a solution to the problem of flooding. Attempts at that time, and during the early years of the following century, centred on the use of machines such as the horse and water mills which had been introduced into Chilvers Coton by Jeffrey Foxe and others many years earlier. The growing inadequacy of these devices was met, in part, by increasing the scale upon which they were used. The shortcomings of this policy, however, led inevitably to the closure of several large mines between Chilvers Coton (Nuneaton) and Wyken (Coventry) during the years 1680 and 1689, resulting in widespread distress in Coventry.⁶ No real breakthrough was possible until a new and independent type of power was introduced to the coalfield. This took the form of the Newcomen atmospheric engine, sometimes called a "Fire Engine" but in reality no more than a mechanical pump. It was also the secret of their success.

Richard Parrott and George Sparrow came to Warwickshire in 1710 and on Lady Day, 1711, entered on an eleven year lease⁶ of coal-bearing land at Griff, then owned or controlled by Sir Richard Newdigate (III). Two years later belief that Newcomen's engine might be the answer to their prayers led the partners to conclude a new and more elaborate agreement with the baronet,⁷ and in the following year the first successful experiment took place on this site.

- ⁴ Marie B. Rowlands : Stonier Parrott and the Newcomen Engine. Transactions of the Newcomen Society, vol. XLI. (forthcoming publication).
- ⁵ Exchequer Depositions by Commission: 36 Chas II Mich 43 (1684) and Newdigate MSS, passim.
- ⁶ Lease : CR 136/C3150, Sir R. Newdigate to R. Parrott and G. Sparrow. 5 May 1711. (Newdigate MSS).
- ⁷ Lease: CR 136/C3152, Sir R. Newdigate to R. Parrott and G. Sparrow. 26 December 1713.

An earlier offer to set up an atmospheric engine in the same place in 1711 has been attributed to its inventor⁸ but no documentary evidence has so far been found to support this claim. There is proof, however, that the 1714 engine was the first to be successfully used at Griff and almost certainly the first to be employed on the Warwickshire coalfield.

This proof is provided by the terms of two important documents: the 1713 lease signed between Sir Richard Newdigate, Richard Parrott and George Sparrow,⁹ followed later by a comprehensive agreement (called the engine licence)¹⁰ drawn between the lessees of Griff and the London owners of the engine patent.¹¹

Preliminaries to the main subject of the engine licence established that Thomas Newcomen agreed on 27 April 1714 :

"At his own charge as soon as conveniently might be to sett up upon some Part of the sd. Colework called the Griffe an engin to draw water by the impellant Force of Fire. . . . " The phraseology employed suggests that although one machine at least, of this type, was known in Staffordshire at this date,¹² some doubt was entertained as to its true value. Nevertheless the engine was duly erected and consisted of, "A copper boyler a brass steam barrell and Piston two pitt barrells of pott metall and other the Pypes cisterns and appurtenances thereto belonging. . . ."

In addition to reciting these details the 1715 agreement confirmed the grant of a licence to continue operating the engine and, *inter alia*, guaranteed a monopoly of the use of this invention to Parrott, Parrott and Sparrow within a radius of six miles of the colliery. This effectively excluded, for the time being, the building

⁸ W. H. B. Court: The Rise of the Midland Industries, 1600-1830, p. 162.

- Stonier Parrott was not formally admitted to this partnership until 14 June 1714. Assignment: Aqualate MSS D1788/61/IX, R. Parrott and G. Sparrow to S. Parrott.
- ¹⁰ Engine Licence and Agreement : D 1788/61/IX, The Proprieto's to Richard Parrott, Stonier Parrott and George Sparrow, 7 March 1715. Because of its local importance this document is reproduced in full in Appendix A.
- ¹¹ The members of the "London Committee", known shortly as "The Proprietors of the invention for raising water", were listed on 7 March 1715 as :

Thomas Newcomen of Dartmouth in the County of Devon, Merchant,

John Meres of London, Gentleman,

Edward Elliott of London, Gentleman,

Thomas Beake of the City of Westminster, Esquire,

Henry Robinson, Citizen and Mercer, of London,

William Perkins of the City of Westminster, Tallow Chandler.
 ¹² John S. Allen: The 1712 and other Newcomen Engines of the Earls of Dudley. Transactions of the Newcomen Society, vol. XXXVII (1964-65).

and operating of further atmospheric engines by other entrepreneurs between Coventry and Mancetter.

Important though his local Newcomen engine interests were, Stonier Parrott had his eyes fixed on greater things. Within three years of taking over Griff colliery he and his partners had leased or purchased upwards of 345 acres of coal-bearing land in Chilvers Coton, Bedworth, Exhall and Foleshill. By 1719 he and George Sparrow had extended their interests, sometimes jointly, sometimes separately, further south-eastwards to include lands vested in the Trustees of Sir T. White's Charity in Wyken and Sowe,¹³ thereby dominating a strip of land over six miles in length on which they already had three engines working or being constructed.¹⁴

Not long after joining his father and partner in the Griff venture, and whilst he was consol dating his hold on the local coal industry, Parrott turned his attention to the great collieries of Northumberland and Durham which served not only northeastern England but also the important London market. Following his successful experiments at Griff, and his achievement of a position of "influence"¹⁵ with the London Committee, he believed himself to be favourably placed to bargain with the northern coalmasters. Events were to prove him right—up to a point.

Writing to George Liddell of Ravensworth, an important landowner in April 1715, Parrott offered, jointly with his partners, to, "Set you up an engine"¹⁶

Within a short time they all shared leases in a number of mines on the Tyne and Wear which were supposedly to be restored to prosperity by the atmospheric engine. This was the beginning of a series of adventures that, as in Huntingdon Beaumont's case, eventually led to disaster for Parrott.

Nevertheless, for the time being his contributions to the prosperity of the coal industry were far from being complete. In 1716 he made an ingenious proposal to drain the flooded Park colliery, Gateshead, by driving a sloping tunnel under the bed of

Lease: D1788/61/IX, Henry Greene to George Sparrow,
 3 Sept. 1718. Within a matter of months Parrott took a half share in this lease.

- ¹⁴ Two of these engines were being used at Griff. The subject of Newcomen engines in the Coventry-Nuneaton area is covered in: Early Newcomen Engines on the Warwickshire Coalfield, 1714-1736. Transactions of the Newcomen Society, vol. XLI.
- ¹⁵ Considering their activities in so many parts of England and Wales Sparrow and, particularly, Parrott appear to have been acting in the capacity of agents for the London Committee.
- ¹⁶ E. Hughes : The First Engines in the Durham Coalfield, Archaeologia Aeliana, vol. XXVII (4th Series, 1949).



Plate VII. Tolldish Hall, Hawkesbury. (By courtesy of the owner) the river Tyne.¹⁷ This experience in deep mine drainage was especially useful in latter years when Parrott and Sparrow set out to drain mines in the Bedworth and Hawkesbury areas, north of Coventry. In this way did mining developments in the Midlands and in north-eastern England benefit from the cross-fertilisation of ideas.

The cost of building the earliest engines appears to have been extremely high, particularly as the boilers were made almost entirely from brass or copper. Here Parrott applied his engineering ability to effect useful economies. By 1717 he had completed tests with iron saltpan plates as a replacement.

The following five years marked the zenith of Parrott's successes. He had won the attention of important northern coalmasters and shared leases in a number of their collieries. Further south in Warwickshire he and his father had terminated¹⁸ their lease of Griff, by now thought to be nearly exhausted, and consolidated their interests in the Hawkesbury area, nearer to Coventry.

In 1722 the fortunes of the partners took a turn for the worse. Incensed by the procrastination of the Staffordshire men a furious Liddell wrote to his neighbour, Cotesworth, that he would be willing to conclude an agreement on almost any terms provided they could both get rid of the midlanders.¹⁹ Sensing trouble Parrott tried to play off one coalmaster against another in order to gain time and increase his hold on northern operations. Matters were made worse, however, by Stonier Parrott's and George Sparrow's devious methods of business. When they were not joining forces against an opponent they took issue with each other, the ground usually having been secretly and carefully prepared beforehand with rivals.

Considering their position of influence with the London Committee, however, the co-operation of Parrott and Sparrow²⁰ was indispensable to those northern coalmasters who wished to use the new engines to drain their deep coal pits. Many of the others,

- ¹⁷ E. Hughes : North Country Life in the Eighteenth Century (The North-East, 1700-1750), p. 152.
- "The first proposal for a Tyne tunnell." ¹⁸ Agreement : CR 136/C616, R. Parrott, S. Parrott, G. Sparrow
- and Sir R. Newdigate. 10 November, 1720.
- ¹⁹ Marie B. Rowlands: Stonier Parrott and the Newcomen Engine, loc. cit.
- ²⁰ Sparrow was a particularly powerful adversary in any legal suit. As manager of Mr. Adderley's colliery at Newhall, Staffordshire, it was said that he was: "So conversant in the Court of Equity that Mr. Adderley would willingly avoid any suit in that court." Norton Collection. 24 (1115). Birmingham Reference Library.

disillusioned with the efforts of the midlanders, preferred to wait until 1733 when the patent rights would expire.

By 1725, the relationship of Parrott and Sparrow with the Tynesiders had deteriorated so badly, and the former's financial troubles elsewhere were mounting so seriously, that they both withdrew from the north and concentrated their attention henceforth on their business ventures in Staffordshire and Warwickshire.

The material benefits to Parrott from all this activity were rather smaller than might be expected. Income from coal sales occasionally did run into several thousand pounds per year but the costs involved in conducting mining operations were very heavy. For example, as early as 1714 he and his partners shared a rent of £680 per annum to Sir Richard Newdigate for three large coal pits, a messuage and several nearby closes. Although coalpits in the Hawkesbury and Sowe area were generally cheaper there still remained the problem of the heavy charges payable to the London Committee for the use of the patent. Parrott had, furthermore, to make purchases²¹ of materials for the engines on his own coalwork, and to bear the costs involved in erecting and maintaining them. The charges imposed by the owners of the patent were simply for the right to use the invention within a stipulated area.

Under the terms of the 1715 licence the Staffordshire operators were required to share a basic rent of £420 per annum where Newcomen engines were used at any one colliery within a six mile radius of Griff. This sum doubled where they were employed at any two of their three local collieries. Additional amounts were due whenever total production exceeded 20,000 stacks (30,000 tons) in any one year, a total which seems never to have been reached. Parrott and Sparrow were required to keep account books, allow inspection of the coal pits and pay the wages of an engine "Tender" (i.e. an inspector) specially appointed by the "Proprietors" to check output for purposes of rent calculation. With all these burdens the consequences of prolonged bad weather, rivalry or sabotage could be serious.

Financial gains might be small from his enterprises but in terms of social prestige Parrott appears to have advanced considerably during the short time he was a successful coalmaster. His establishment first at Glasshouse Farm in Foleshill, and soon afterwards at nearby Tolldish Hall,²² his widespread landholdings

²² Plate VII.

 ²¹ (i) Coalbrookdale Company MSS — Stock Book 1 (1718-1727). Shrewsbury Public Library.
 (ii) R. A. Mott : The Newcomen Engine in the Eighteenth Century, Transactions of the Newcomen Society, vol. XXXV. (1963-64).

and leases together with his association with the local church made him a figure of note in the area. However, there was an important distinction between people like him and the traditional squire who tried his hand at industrial ventures. The latter all too often looked to his undertakings to provide himself with income for purposes other than industrial expansion. The former ploughed his profits, whenever he could, back into coalmining and similar enterprises, borrowing wherever possible in order to build up an industrial empire. The genesis of industrial capitalism in Warwickshire and elsewhere is therefore to be found in the efforts of men like Sparrow and Parrott rather than in the work of the relatively rich landed families such as the Newdigates of Arbury.

The rate at which Stonier Parrott's coal interests had grown since 1714 not surprisingly caused considerable strain, both upon persons and finances. From 1717 onwards it became apparent that, contrary to a previous agreement, the partners were increasingly engaged in rivalry, both in this county and elsewhere. The eventual result was a most complex series of legal suits²³ which lasted, on and off, until 1740 and at one time spilled over into virtually open strife upon the field. Desire to dominate the Coventry coal market was the root cause of all this trouble. Unfortunately this market was too small to absorb the full output of three large collieries and success therefore awaited the coalmaster who could produce large quantities of fairly cheap coal first.

The principal suppliers during the 1720s were Griff, Bedworth and Hawkesbury collieries. This arrangement continued as long as the latter two concerns were still of only moderate size. The establishment by Parrott of a more ambitious undertaking in or about the year 1727 spelled ruin for the long term prospects²⁴ of Griff and accordingly the Newdigate family closed their colliery two years later. This left only one rival of note, George Sparrow, who, in company with local men, had been hard at work in Bedworth. In 1728/9 his colliery was reported to be "Just Getting in Working and Selling order". Legal exchanges revealed ugly details of mutual sabotage which took place about this time,²⁵ but

- ²³ John S. Allen : Some Early Newcomen Engines and the Legal Disputes surrounding them. Transactions of the Newcomen Society, vol. XLI.
- ²⁴ Report by Henry Brighton to Lady E. Newdigate : CR 136/C619. This report has been incorrectly endorsed by a later hand as having been made in 1733 or 1734. The proper date is either 1728 or 1729.
- ²⁵ Chancery Proceedings: (i) C11/499/32. Parrott v. Sparrow, Pickard et al.

(iii) C11/501/33. Parrott v. Sparrow & Pickard.

Public Record Office.

the overall consequences were more serious for Parrott than for Sparrow. Creditors²⁸ became restless when the long expected profits of his mines failed to materialise and their fears multiplied when he himself was nowhere to be found.

The last act in this drama took place in Coventry in November 1732 when Parrott attended his examination in bankruptcy.²⁷ As a result his undertaking at Hawkesbury passed into the hands of his chief creditor, a London scrivener, from whom he had recklessly and foolishly borrowed during the previous six years, who in turn attempted but failed to make his mine a working proposition. Finally, in 1735, the colliery came to a complete stand-still as a result of further acts of sabotage²⁸ and extended bouts of wrangling between the creditors.

George Sparrow, his erstwhile friend and wily partner continued his own activities in Bedworth and in parts of Staffordshire for several more years with considerable success. Stonier Parrott, however, hitherto proudly described as "gent" in important documents and now known as an unsuccessful "coal merchant and chapman", retired to his home a few hundred yards away from the scene of earlier triumphs and sadly contemplated the rebuilding of his shattered enterprise.

Sabotage was so rife at this time that special legislation was later passed by Parliament to deal with people who deliberately fired or flooded coalworkings.

(ii) 13 Geo. II C21.

Relations between Sparrow and Parrott had plumbed the depths by 1728. Sparrow was accused of enticing Parrott's men with promises of high wages and plentiful supplies of ale. Both proprietors used bands of unruly workmen to attack each other's pits. Parrott's men added insult to injury after one particularly successful foray at Bedworth by following it up with a "publick rejoycing."

⁽ii) C11/376/32. Sparrow v. Parrott et al.

²⁶ These included, among others, the Collector of the Excise in Coventry.

²⁷ Records of the Court of Bankruptcy : B4/7, 22640. D.B. 1729-33. Public Record Office.

⁽i) 10 Geo. II C32.

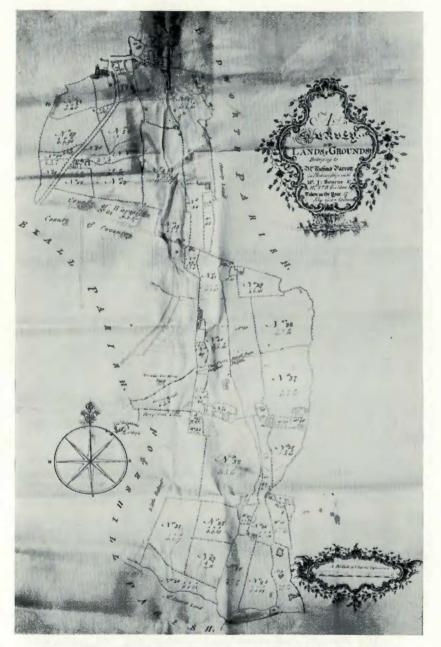


Plate VIII. From failure to success : landholdings belonging to Richard Parrott and his partners in Bedworth, Exhall and Foleshill c.1760.

"A Survey of Lands and Grounds belonging to Richard Parrott Esq. in Partnership with Messrs. J. Bourne and Thos. Whieldon.

in F	artnership	with Messrs. J. Bourne and Thos. Whieldon.	
No.		ames of Closes etc.	A. R. P.
6		Clover Close	5 1 13
7	Mide	ile Ditto	6 2 35
8	Thir	d Ditto Tree Close	5 2 23
9	Oak	Tree Close	6 — 5
10	Boys	Waste Piece	6 - 5 3 - 13
20	Garl	ands Croft	- 2 2
21	Gard	ands Croft lens Brickiln peice	29
22	Garl	ands Garden	29 38
23	Engi	ne Close	1 3 22
24	Corr	ne Close	7 1 19
25	Chet	tles or Broads Meadow	8 2 2
26		Waste Rough Piece	3 - 39
27	You	ng Drakes Meadow	1 3 6
28	New	Clover Piece	6 3 20
29	Seco	nd Ditto	7 - 12
30		Meadow	6 1 14
31		e Oat Close	11 1 7
32	Larg	a new Piece	22 3 23
33	Lang	by Mercers Meadow	4 — 4
34	Drak	e new Piece by Mercers Meadow tes Croft and House	1 1 5
35	Mor	cers Meadow	5 3 13
55			1 2 5
36	(Pich	shmans Yard etc. ardson's, James's, Henson's, Smith's etc.	1 3 13
37	(Rich	Large Meadow behind Smiths	13 1 25
			15 - 13
38 39	Proc	Close next the Hays	15 - 13 4 2 16
39	(The	ds new Levelld Piece Rough Piece	27 2 2
40			1 3 4
40		ks Wilkinsons & Wm. Mercers Gardens etc.	2 - 15
	A	ds Croft	1 3 7
4.1	(Mer	cers with Saml. Shaws House	1 3 7 6 3 32
41	WOO	ds Piece	1 2 3
42		ds Yard	
43		pers Meadow	
46	Rou	sh Close	
		s. Southerns & Readers Houses & Gardens	- 2 25
47		Charity Leasehold (including Lane etc.)	15 2 13
48		ers's Garden (Part of Croxals Close)	$ \begin{array}{r} 2 & 3 & 14 \\ 2 & - & 35 \end{array} $
49		ther part of the same Graized	8 1 12
50		Rye Piece	
51		Lane	- 1 37
52		Piercys Close	1 2 4
53 54		House Garden etc.	1 1 35
54		neys Closes	6 3 14
55)		(0
56		Basnets Meadow and Rushey Meadow	6 - 8
57		of late Robert Bunneys	3 4
58	Cher	ry Orchard	5 1 -
59	Perk	ins Close and Old Lane of Rushey Meadow	8 1 26
60	Part	of Rushey Meadow	1 2 9
61	Basn	ets House and Gardens	- 3 -
62	Littl	e Hillocky (now Clover) Close at Hillocky Close	3 3 14
63	Grea	t Hillocky Close	9 - 15
64		e Meadow	9 3 37
6	Road	1 Close	2 3 1
	Smit	h Rough	6 3 2
	Part	of Little Sidnall	1 2 39
			210
			312 - 1
		ls in Exall Field (according to	21
	Acco	ount Delivered to Mr. Parrott) about	21 — —
			222 1
			333 — 1

Dec : 1761 Memd :1

There hath been Severall Smal purchases made and Some exchanged in Great Sidnal or Exall comon Field lately inclosed Since this Survey Soe that the quantity in Exall Field is above 25 Acres"

¹ Made in a different hand. Source : Hand, Morgan, Bourne MSS, 31 (Stafford Record Office.) Richard Parrott of Hawkesbury¹

"I think the following from Terence is more nearly my character"-

'Such was his life—to bear with and suffer all men easily with whomsoever he was in company to resign himself ; to devote himself to their pursuits, at variance with none and never putting himself before others.'²

'Mens lives are but shadows and dreams.' Thus did Richard Parrott, in his will,³ recommend a suitable inscription for his memorial stone in Foleshill Parish Church.

Parrott was a successful coalmaster, being one of the few men to venture in Warwickshire mines on a large scale during this period and live to reap the benefits. Of shadows and dreams he had an abundance. Being one of the sons of the ill-fated Stonier he had the task of salvaging the remains of the family ambitions in this county and of building up afresh the industrial enterprise which had come to grief in 1732. This he was able to do, aided by friends and good fortune.

Richard Parrott was a rare man among the six who are the subject of this booklet in that he kept his ambitions within limits. When he died, issueless, in 1774, well contented with his efforts, he was "possessed of a good estate at Coventry and its neighbourhood, and also at Oldbury . . . ",⁴ relatively free of serious debt, proof that it was possible for a determined yet careful person during the mid-eighteenth century to rise to a position of affluence and social standing. The Warwickshire estate which he left to his surgeon-brother, Francis, included a fine house and the largest single share in a prosperous colliery undertaking which stretched from Bedworth to Foleshill,⁵ together with important canal and turnpike holdings which spread south-wards to Coventry and beyond.

¹ Grandson of the Richard Parrott who came to Griff in 1710.

² Terence : Andria I. 1. 37.

I am indebted to Mrs. E. A. Gooder (Department of Extra-mural Studies, University of Birmingham) for translations of the above Latin and Greek texts.

³ Caddick and Yates Collection : 55B. A copy.

Birmingham Reference Library.

⁴ Midland Antiquary, vol. II, p. 64.
⁵ Plate VIII.

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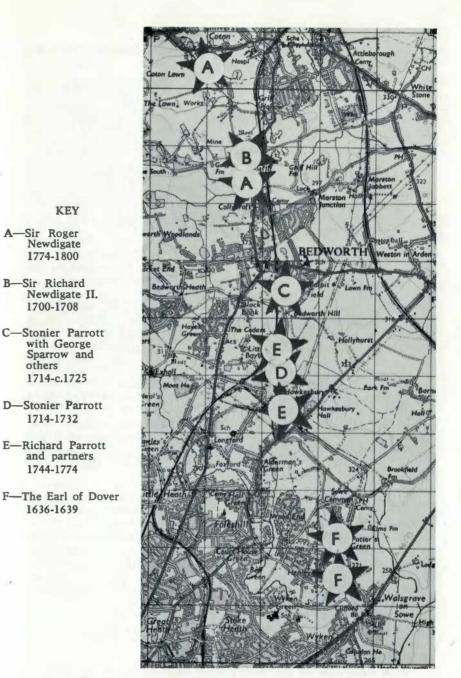
The origins of Parrott's fortunes lay in the efforts which his father made to re-establish himself in the years following his bankruptcy. Buying small strips of coal bearing land⁶ in Great Sydnall Field, Exhall,⁷ from local freeholders, he gradually amalgamated them into a viable holding. It was on these foundations that young Richard was able to build the future Exhall colliery.

Shortly after his father's death in 1744. Parrott signed an important agreement with John Bourne of Newcastle-under-Lyme, an attorney at law and a distant relation by marriage, who had acted as an assignee of the family property in earlier years and who had financed a number of Stonier Parrott's ventures. Under the terms of the agreement Bourne became a partner in the newly established coal mine at Exhall, giving financial support on a large scale to an otherwise struggling young man. The money received was used in part towards the purchase of more strips of land which were offered for sale from time to time by the Trustees of the Bedworth Charity of Nicholas Chamberlaine.⁸ The extent to which family fortunes had recovered by 1748 may be gauged from the fact that Parrott was able to agree to repay his partner, Bourne, £2,000 for the latter's share of landholdings in the Fackleys,⁹ give him £200 for his share of Tolldish Hall and repay the final instalment of the mortgage on nearby Glasshouse Farm where he was then living.

The 1750s appear not to have been so fruitful a period as previous years. Nevertheless Parrott continued to make progress, advantage being taken of the fact that land prices in this area had dropped considerably.¹⁰ leaving a number of speculators only too anxious to recover at least part of the capital which they had invested earlier.

One of the factors which had seriously limited industrial growth in the 1720s and 1730s was the absence of a good system of roads. The importance of this lesson was not ignored by Parrott. During the course of the next few years he and Bourne invested in the Coventry-Bedworth and Coventry-Southam turnpikes. How narrow their margins were at this time may be noted from the fact that in order to buy more cheap land in Exhall in 1755 Parrott was obliged to seek repayment of £400 from the trustees of the tumpikes. This was, however, only a temporary

- Hand, Morgan, Bourne MSS, 31, passim (William Salt Library, Stafford).
- Plate IX.
- Hand, Morgan, Bourne MSS 31, passim.
- The Fackleys was an area centred on the site now occupied by Foleshill power station.
- Hand, Morgan, Bourne MSS 31, passim.



others

Plate IX. The principal mining sites worked by five of the six venturers between Nuneaton and Coventry during the period 1595 to 1800. (Crown Copyright Reserved)

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adjustment. Further sums were invested in the new roads as the colliery began to flourish.

By 1758 Parrott was able to report a definite change for the better in the profitability of his mine. In a letter¹¹ to his partner he revealed that the year's efforts had yielded them £2,000 despite "An uncommonly wet summer" which had adversely affected sales. Part of this sum was used towards reducing existing debt, part towards buying yet more land and £200 was allocated to buying a new engine. A further small sum was set aside for the building of a link road from the colliery at "Exal" to the new Bedworth turnpike, due to be completed that winter. Total cost was estimated at £25, a cheap price considering that it was estimated that weekly sales during the winter as a result of this action would yield precisely double that sum.

By 1761, Richard Parrott, now "Of Hawkesbury, gent.", had become the senior partner in the enterprise. His shares in the Bedworth and Southam turnpikes had also mounted, standing at well over £1,000. The lean days of the 1750s when he lived at Tolldish Hall and "Weathered it out . . . without selling anything"¹² were a thing of the past. The sharp drop in land values between Foleshill and Bedworth which had enabled him to buy cheaply, sometimes at only half the price originally paid by speculators in 1750, now reversed its trend, carrying with it upwards the value of the Parrott-Bourne venture.

The recovery was given a timely boost by the entry, first, of Thomas Whieldon, an "Earthpotter" of Stoke-on-Trent and later by one, the Rev. John Fernyhough, of Newcastle-under-Lyme. The capital which they brought enabled Parrott to add to his possessions and, no doubt, to his great satisfaction, property formerly owned in the Bedworth area by George Sparrow, his father's onetime partner and rival.

Little material has so far been discovered to show how Parrott coped with the upsurge of general business activity which took place in the Coventry area in the 1760s, spurring Sir Roger Newdigate of Arbury to begin work at his own colliery at Griff at enormous expense. Nevertheless the results of some of his efforts are revealed by two documents : his will, and a memorandum book of the colliery compiled by his brother Francis, the new owner, from 1774 onwards.¹³ Jointly these reveal that Parrott Exhall colliery consisted in 1774 of eight coalpits with two more in course of preparation and yielded fortnightly 1,800 to 2,000 tons of coal. That this tonnage was already being raised in 1770 is indicated by the terms of an advertisement for labour in Jopson's *Coventry Mercury*¹⁴, at wage rates very similar to those offered in Chilvers Coton (Griff) in the early years of the century, and probably explains the exuberant tone of one of the codicils to the original will. Francis Parrott, the new proprietor, claimed¹⁵ that the colliery yielded his brother and himself "a handsome income", and that its lands stretched to the Astrills (central Bedworth). Three Newcomen-type engines were employed to drain the mine workings. Francis Parrott was clearly concerned, in the main, with the business side of operations. The contents of the will¹⁶ reveal more of Richard Parrott, the man.

His first concern was, understandably, for his wife to whom he was deeply attached. She received the house at Hawkesbury, the bulk of the contents and an income, for life "to enable her to continue in the same easy and elegant manner to which she has been accustomed with me." This was achieved by granting her the interest on £1,300 which he had invested on the tolls and gates of the Southam turnpike. In addition, bills and cash in the house worth £150 were to be made over to her on his death and his brother was to pay her an extra hundred guineas a year out of estate income. Bequests were also made to his sister, her son, neighbour and nearby friends.

Disposal of his possessions reveal a man who was by no means devoted exclusively to studying business accounts. He possessed a treasured library which he carefully portioned between friends and relatives, a collection of plate, books of drawings and sets of prints and pictures by "my grandfather". The overall impression of Richard Parrott is that of a man of no mean attainments, acquainted with classical authors of antiquity and hardly the easygoing person suggested by his memorial inscription.

The codicils drawn up five years later (in 1774) are interesting not so much for the extra provisions which were made but for the fact that they reveal that business had suddenly become much more lucrative for coalowners. In that space of time over $\pounds1,000$ net profit was made, and he possessed " $\pounds3,000$ in Cash and Securities in my Account Book". The balance in the hands

¹¹ Correspondence : R. Parrott to J. Bourne, 1758 (no month) Hand, Morgan, Bourne MSS, loc. cit.

¹² Ibid.

¹³ A description of this memorandum book was given by W. H. B. Court in: A Warwickshire Colliery in the Eighteenth Century, *Economic History Review*, vol. VII. (No. 1) (1937).

¹⁴ Plate X.

¹⁵ W. H. B. Court : op. cit., p. 222.

¹⁶ Caddick and Yates MSS. loc. cit.

Wanted for Exal-Field Colliery, A Number of Windsmen, Deepsmen, and Getters, to fet on two Deep Ell Coal Pits, which are now in Readiness, and wait only for Hands. The Wages are 18d. to Windfmen, Deepfmen, and Getters, over and above one Shilling a Week in Lieu of Coals.

This Colliery is now in perfect good Order, there being feven Pits in Coal-getting, which turn out at a Medium 150 Tuns a Day, and will to continue all the Summer. Befides these there are three Deep Pits ready funk to the Coal; of which two, as above, are headed, and quite prepared for opening. The Engine Pit alfo at Hawkfbury is funk to its full Depth, and two Deep Pits there funk to the Coal on the new Foundation : So that it is hoped the Public will be no more in Danger of a Want of Coals, efpecially as Bedworth Engine will now keep the Water under whils the new Foundation is complearing, which will be about Michaelmas next.

The Price of Coals are as ufual, Twenty-one Hundred for a Ton for Ten Shillings; and there will be no Diffin tion'niade in the four Sorts of Coal which will be turned. March 36, 1770.

GEO. TAYLOR.

Plate X. Advertisement for labour at Richard Parrott's Colliery at Exhall, Coventry Mercury, March 1770.

of junior partners already exceeded £1,700 by May 1772. Two canals had been "opened to the colliery" and a new "Foundation" (i.e. a further colliery) on which nearly £5,000 had been spent, was almost completed. Debts totalled £2,300 and these were secured by mortgages on land. His brother Francis, for whom the lion's share of the enterprise was being prepared, would, he wrote "be free from this and many other Expences which have lain heavy on me for many years, as purchasing of Coal and Lands, Buildings, lending money to Turnpike Roads and Canals. . . ."

Provision was made for the continuation of Foleshill School. originally purchased in 1766 for £100. The trustees thereof were required to spend, out of estate income, the sum of £7.10.0d. per annum on the teaching of "15 Poor children as I have done for 23 years past." As was so often the case in schools specially endowed by industrialists at this time, emphasis was to be given to teaching the Ten Commandments and the Scriptures.

Of the men who worked in his and other nearby mines little is known as yet beyond the fact that faceworkers and other key

men were offered a daily wage of 18 pence, plus one shilling a week in lieu of free coal. Considering that the wage-rate in question was the same as that which obtained in the Bedworth area during the early years of the century, and that price levels for staples had "isen during this same period, it would appear that the condition of mining labour had deteriorated during the course of half a century.

As has so often been the case in the past, important documents on which to base an account of the lives of ordinary colliers have disappeared into lawyers' and private collections. Fortunately some of these are once more beginning to see the light of day.

VI

Sir Roger Newdigate of Arbury

Modern Arbury, as seen by the casual visitor to one of England's stately homes, is largely the product of one man : Sir Roger Newdigate¹, the last of the Newdigate baronets. This architectural gem grew out of more than half a century's relentless dedication to the task of rebuilding the family's Warwickshire home.

"Those rooms, with their splendid ceilings and their meagre furniture, which tell how all the spare money had been absorbed before personal comfort was thought of \ldots ."² owed much indirectly to the baronet's careful development of his estates, particularly during the last quarter of the eighteenth century, and to his keen support for measures designed to increase local trade and industry. It is no accident, therefore, that the period of greatest building activity at Arbury coincided with a noteworthy increase in his income, to which receipts from his colliery undertaking made a handsome contribution.

Sir Roger Newdigate was born in 1719, the seventh and youngest child of Sir Richard Newdigate, third baronet, by his second wife, Elizabeth Twisden. Succeeding his brother Sir Edward, who died of consumption in 1734, he reigned at Arbury for 72 years, married twice but left no issue. Having completed his education at Westminster and Oxford by going on a "grand tour" of Europe, the customary "finishing" school for the sons of aristocrats in those days, the rest of his life was devoted to a wide range of activities. Member of Parliament for Oxford University for many years, he brought both political and social influence to bear on local industrial and commercial problems, and played a leading role in the building of turnpikes and canals in Warwickshire upon which the success of later industrial development was to depend so heavily.

One of his earliest tasks on assuming control of the family manors in Warwickshire and Middlesex was to review the rather chaotic condition in which estate records existed. One large volume summarising business accounts for the 1720s³ was, in fact, compiled under his direction from day books and other sources used during his father's tenure. One of the most important lessons to be learned from a study of these early eighteenth century records was the degree to which the success of earlier industrial undertakings in Chilvers Coton had been made or marred by the poor transport conditions of the days and by the failure of earlier baronets to appreciate the importance of planning large-scale enterprises in a wider setting.

Both his father and grandfather had tended to think of their collieries as ventures complete in themselves. Little thought was given to fostering consumer demand (and hence their own longterm interests) by supporting measures designed to shift coal in nearly all weather conditions to the centres where it was most needed. In the same way local industrial development appears to have been regarded to a great extent as an unconnected entity. The survival of the Newdigate coal undertakings earlier in the century was compromised by this failure in strategic planning and their decline was the consequence of formulating general policy on a very narrow basis.

These lessons had been well learned when the fifth baronet decided to try his hand as a coalmaster in the latter part of the century, and the success of this new venture was to be reflected in the accelerated re-building of Arbury Hall.

A substantial increase in industrial activity began in the Coventry area in the late 1750s and had repercussions in Bedworth and Nuneaton. This was no doubt due in part to the building of the Coventry-Bedworth turnpike which presented Sir Roger and other coalmasters with an opportunity of breaking profitably into the Coventry market, six miles to the south and hitherto very illserved by roads to Bedworth and Nuneaton.⁴

An extension to this was envisaged in a Bill "depending in Parliament for a Turnpike Road, as I understand it (wrote Lord Coventry to Sir R. Newdigate) leading to the Parish of Griffe".⁵

The importance of this new road to prospects for Griff colliery was demonstrated in protracted correspondence passing between Sir Roger and Lord Coventry from 1759 to 1761. The former wished to purchase Lord Coventry's estate in Chilvers Coton the coalworks of which formed a considerable part of the Griff undertaking and which had been repeatedly leased by the Newdigate family since the seventeenth century. In February 1760 he wrote :

¹ See plate I, frontispiece.

² George Eliot : Mr. Gilfil's Love Story. (Scenes of Clerical Life) Carlton Classics (Long). p. 73.

³ Newdigate MSS : CR 270.

Memorandum: CR 136/ /147, "Case of Sir R. N." Newdigate MSS.
 Correspondence: CR 136/C/18, Lord Coventry to Sir R. Newdigate. Newdigate MSS.

"The Bedworth Colliery the only one now lying between us and the great sale I am told can last but a short Term and the demand for Coals increases daily. If it should rise very big it may tempt the owner of Wyken Colliery, 3 miles nearer Coventry, to set yt on foot again which will never be worth the while if Griffe Colliery is now opened."⁶

After further correspondence the land in question passed into his hands in 1761 for $\pounds7,750$.

The provision of a new road was undoubtedly an important step but instead of reopening the colliery immediately the baronet applied himself to other tasks. From 1764 onwards :

"Sir Roger cut many miles of navigable canal through his own property to join the Coventry canal; this by far the greatest length of canal belonging to an individual in the kingdom.""

The passing of the 1769 Oxford Canal Act owed a great deal to his Parliamentary efforts and during the course of the following seven years he invested over $\pounds 3,000$ in it, thereby hoping to supply "the middle part of the Kingdom with a vital necessary of life."⁸

The expansion of sales to the north and north-west of Nuneaton, as well as southwards to Coventry, had for long been favoured by the earlier baronets. Sir Richard Newdigate (II) considered the desirability of supplying coal to those parts and his son did in fact sell limited quantities there during the 1720s but it fell to his grandson to take realistic steps to ensure a more regular supply. The latter supported schemes for building turnpikes to Mancetter and Hinckley during the 1760s, established himself as a leading trustee⁹ and took out mortgages on the tolls of both roads.¹⁰

From 1770 onwards Sir Roger Newdigate's work on the reconstruction and embellishments of Arbury Hall proceeded equally with work on the new colliery at Griff, involving him in heavy expenditure. The undertaking was regarded as an important additional source of estate income but for a variety of reasons it took several years before Griff could be said to play a full part in his scheme for industrial development.

- ⁷ F. L. Colville : Worthies of Warwickshire, p. 546. N.B.—Work on the estate canals preceded that of linking them by a short arm at Collycroft to the Coventry canal.
- ⁸ Memorandum : loc. cit.
- ⁹ Hand, Morgan, Bourne MSS. 31. William Salt Library, Stafford.
- ¹⁰ Newdigate MSS : CR 136/V/119.

Initial steps to reopen the colliery took place in 1770 at a time when demand for coal in the Coventry area had begun to rise sharply. In the tradition of the earlier baronets, Sir Roger cast his net widely to ensure that the latest advances in mining engineering were available. An experienced engineer from Newcastle was called upon to examine the former workings, on which the family had ceased large-scale operations in 1729/30, and to draw up plans for a new and very large engine. John Smeaton, another leading engineer of the day, was employed to advise on the latest forms of mechanical power and a Cornish engineer was similarly called upon to demonstrate the possibilities of some of the machines then being used in Cornwall to wind minerals to the surface. Such was the importance attached by the baronet to his mine that correspondence between him and his consultant engineers continued over a period of six years, including the time when he was undertaking his second European tour, and by 1779 when the colliery at last came into full production approximately £20,000 had been spent on it.

The new venture was sited initially on the south-eastern edge of the estate, adjoining Collycroft, and represented a particularly heavy investment for those times. In terms of capital outlay it was then comparable to some of the larger collieries in northern England.¹¹ It included a large double "Fire" engine¹² for pumping purposes the parts of which were shipped from the Carron Iron Company of Scotland, and was served by a five mile network of canals and locks.

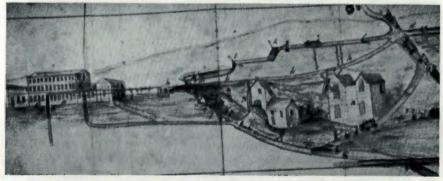


Plate XI. Panorama of Griff Colliery, Colleycroft c.1788.

- ¹¹ A. W. A. White : thesis, Pt. III. (bibliography). See Plate XI.
- ¹² This engine included one cylinder ten feet long and five feet in diameter which, together with base plate and piston, cost £657.19.0d. (See Plate XII). By comparison, the Boulton and Watt steam engine erected three years later at Hawkesbury possessed a cylinder 58 inches (internally) in diameter which appears to have been more economical in the use of fuel.

⁶ Correspondence : loc. cit.

Not even a rich landowning family like the Newdigates, however, could provide all the necessary finance without external assistance. Whereas the earlier baronets and other local operators had relied upon short term loans, sometimes with serious consequences, the banking system had by now developed sufficiently to provide financial assistance over a period of many years. Both Newdigate and his neighbour. Francis Parrott of Hawkesbury.¹³ borrowed heavily on mortgages from Coventry and London bankers.¹⁴ The longest single mortgage (£20,000) recorded by the Newdigates during this century was granted by Robert Child in March 1777 whilst the colliery was being prepared. Whilst no incontrovertible evidence has come to light connecting the loan with the necessary capital outlay, the timing and similarity of the sums involved suggest a very strong link, particularly in view of the commitments at Arbury with which the baronet was concerned. At all events the loan was a valuable one, permitting him to press ahead and by the time it was finally repaid the mine was making a net annual addition of between £3,000 and £4,000 to estate income.

Other local industrial ventures benefitted from the interest of Sir Roger Newdigate. A paper headed "Case of Sir R. N.", detailing some of the developments which took place on the family estate between 1774 and 1789, indicates the way in which the baronet dovetailed his own plans for estate growth with measures for relieving local distress.

"Sir R. having several times been a spectator of the misery in which thousands of his poor neighbours were involved by the fluctuations of the precarious ribbold (sic) manufacture depending on the caprice of fashion"¹⁶

granted a lease of land together with supplies of lime, bricks and timber for the building of the Bedworth worsted mill (Collycroft).¹⁶ The local coal seams being exhausted by 1788 and the colliery being resited on the northern edge of the estate, nearer to Nuneaton, surplus equipment including a large water wheel was also handed over to provide hydraulic power, the operation being supervised by John Smeaton.

- ¹³ Francis Parrott inherited the Hawkesbury undertaking from his brother in 1774.
- ¹⁴ Child's Bank of London was taken over by Glyn, Mills and Company in 1924.

Little and Lowke, later Little and Woodcock, of Coventry amalgamated with the Birmingham Banking Company in 1865 which, in turn, was absorbed by the Midland Bank in 1914.

- ¹⁵ Memorandum : loc. cit.
- ¹⁶ See Plate XIII.

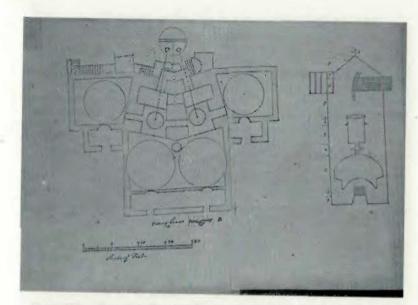


Plate XII. Plan of a "Double Fire Engine, drawn by the Newcastle "viewer" and engineering consultant, J. Barnes for Sir Roger Newdigate.

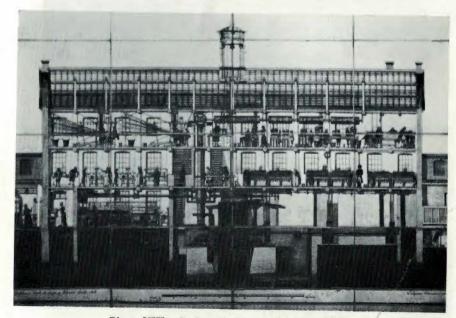


Plate XIII. Bedworth Worsted Mill c.1790. 61

Other examples of public benefactions and industrial activity were a commonplace during Sir Roger Newdigate's long tenure of Arbury but it is evident that in common with many of the gentry of this period his main interest lay in architecture and in the rebuilding of the family mansion. His forays into commerce and industry are reminiscent of the efforts of the greater landowners of an earlier age rather than indicative of that new class of wealthy industrialists which rose to power during, and as a result of, the Industrial Revolution. But in this respect he differed from his forebears in preserving a cool, detached approach to industrial development, organising and directing his resources within carefully marked limits and being content with a steady rate of progress. These were qualities which he shared with his neighbours and collaborators, Richard and Francis Parrott, and go far to explain why these particular venturers succeeded where so many had hitherto failed.



Plate XIV. Bedworth Worsted Mill in 1966, shortly before demolition.

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APPENDIX

THE NEWCOMEN ENGINE LICENCE AND AGREEMENT

(Aqualate MSS: D1788/61/IX)

Following an upsurge of interest within recent months in the employment of early forms of steam power for industrial purposes in England, the important licence and agreement drawn between Thomas Newcomen, his London associates and local coal mining operators in 1715 is reproduced here in full.

This document is a copy of an original deed and is judged to be of particular interest to local historians since it establishes within very narrow limits the date of the building and testing of the first Newcomen engine to be successfully used on the Warwickshire coalfield.

THIS INDENTURE Made the seventh day of March anno Domini one thousand seven hundred & Fifteen and/in the second year of the reigne of our sovereigne Lord George by the grace of God of great Britaine France and Ireland/King defender of the Faith &c. BETWEEN Thomas Newcomen of Dartmouth in the County of Devon Merchant/John Meres of London Gentleman Edward Elliott of London Gentleman Thomas Beake of the cyty of Westminster Esquire Henry/Robinson Citizen and Mercer of London and William Perkins of the City of Westminster Tallow chandler Proprietors of/ the invencion for raising water and occaconing mocion to all sorts of millwork by the impellant force of Fire on/behalf of themselves and the other Proprietors of the said invencion of the one part and Richard Parrott of Bignall hill/in the Parish of Audley in the County of Stafford Gentleman Stonier Parrott of Bignall hill aforesaid in the said County/of Stafford Gentleman Stonier Parrott of Bignall hill aforesaid in the said County/ of Stafford Gentleman and George Sparrow of Chesterton in the said County of Stafford Gentleman of

the other Part/WHEREAS the said Richard Parrott Stonyer Parrott and George Sparrow are now well intitled into all that Colework/ with the Lands Priviledges and appurtenances thereto belonging called Griffe scytuate and being in Chilvers Coton and/ Bedworth or one of them in the County of Warwick for the remainder of a term of twenty nine years now in being by/ virtue of a Lease to them some or one of them thereof made by Sir Richard Newdygate Barronett AND also some or/ one of them is or are Seized in Fee or other good estate of Inheritance to them & their heirs of and in the Colework in/ Hawksbury called Wood Sidnall Pickards Fackley or by what other name the same is called or known lately Purchased/ of Charles Goodwin Esquire with the Lands tenements and hereditaments thereunto belonging and also some or one of them/ is or are intrested for a long term of years yet enduring of and in the Coles arising within the wast called boys wast/adjoyneing to the said last mencioned Colework and the liberty of getting the same with the Priviledges & appurtenances/thereto belonging Purchased of Christopher Jackson of London Gunn Smith or others clayming under John Broom/ Late of London Gentleman deceased and are likewise seized to them and their heirs of and in the Colework or mine/with the appurtences called Lapworth wast and the Liberty of raising and Getting Cole in the wast called Lapworth/ wast also purchased of the said Christopher Jackson and his wife which said last mencioned Coleworks wasts & lands/ are Scytuate lying and being in Exhall Phowhill sow and Lapworth Some or one of them in the County/ or Warwick and the County of the city of Coventry or one of them AND WHEREAS the said Thomas Newcomen by/ certain articles of agreement beareing date the twenty Seventh day of aprill in the year of our Lord one thousand/ seven hundred and Fourteen for the Consideracions therein did agree at his own charge as soon as conveniently/might be to sett up upon some Part of the said Colework called the Griffe an engin to draw water by the impellant/ Force of Fire which should Draw

or cast up Seventy hogsheads of water per hour if so much water should be/ there and not above Forty Seven yards from the sough or Levell at and for the weekly summe of Seven pounds/ Pavable on Saturday in each week and other the covenants and agreements therein Conteyned as in & by the/ said articles of agreement relacion being thereunto had more fully may appeared [sic] AND WHEREAS the said engin/ was accordingly erected consisting of a copper boyler a brass steam barrell and Piston two pitt barrells of pott metall/ and other the Pypes cisterns and appurtenances thereto belonging and hath ever since continued in use AND WHEREAS the said Richard Parrott Stonier Parrott and George Sparrow are desirous not only of containing &/ maintaining the said engin now in being at their own costs and Charges but att their like proper costs & charges/ to erect maintaine and keep in and upon the said coleworks and Lands before mencioned or such of them as they/ shall think Fitt to work and imploy one or more other engin or engins of the said invencion sufficient to draw/ and Discharge the water there ariseing at any Depth and for any quantyty and to have the sole management/ and workeing thereof in themselves the property of the said Present engin and all engins hereafter to be/ erected att their charge with all their appurtenances however to continue and allways remain in the said/ Proprietors Partys to these Presents their Executors Administrators and Assigns for the benefitt of themselves and/ other the said proprietors and the said Proprietors have agreed thereto upon the terms and under the condicions/ Provisoes and agreements herein after mencioned NOW THIS INDENTURE WITNESSETH that the said Proprietors/ Partys to these Presents as well for themselves as for all other proprietors in the said invencion their Executors/ and Administrators for and in consideration of the rents covenants Provisoes and agreements herein after mencioned/ on the parts and behalfs of them the said Richard Parrott Stonier Parrott and George Sparrow their Executors/ Administrators and Assigns to

be paid done and performed HAVE Granted demised sett and to Farm lett and by these / Presents DO grant demise Sett and to Farm Lett unto the said Richard Parrott Stonier Parrott and George Sparrow/ as well the Free use and exercise of the said engin allready made set up and now in work at Griff aforesaid with the/ house pipes and materialls thereto belonging as of all other like engin or engins hereafter to be erected in or/ upon the said Coleworks and lands or any Part thereof with the boylers barrells Pypes ereccions buildings utensills/ and appurtenances thereto belonging TO HAVE AND TO HOLD the said demised Premises unto the said Richard Parrott/ Stonier Parrott and George Sparrow their Executors and Administrators from the Feast day of the annunciacion of the blessed/Virgin Mary now next ensueing for and during the full time and term of ninety nine years if they the said/ Richard Parrott Stonier Parrott and George Sparrow their Executors Administrators and Assigns or any of them or any for/ him or them or his or their benefitt shall so long continue to draw water or raise and gett coles at or in any or / either of the said Coleworks or mines called Griffwood Sidnall and Pickards Fackly or Lapworths wast or by what/ other name or names the same are or may be called or known or the lands thereto belonging YIELDING AND/ PAYING therefore unto the said Proprietors Parties to these presents their Executors Administrators and Assigns for ye/ first half year of the said term the summe of one hundred and Fifty Pounds on the Feast day of St. Michaell/ the Archangell now next ensueing AND yeilding and Paying yearly and every year during so long of the/ residue of the said term as they the said Richard Parrott Stonier Parrott and George Sparrow their Executors Administrators and/ Assigns shall work or raise and gett coles in any one of the said three Coleworks mines or Lands only the rent or/ summe of Four hundred and twenty pounds of Lawfull Brittish money Free of all taxes charges and reprizes by/ quarterly payments on the Four usuall Feast days of Payment in each year (that is to Say) the Feast

of the birth of our Lord God the anunciacion of the blessed Virgin Mary the Nativity of St. John and St. Michaell the Archangell/ by even and equal porcions att or in the now dwelling house of him the said John Mere scytuate in/ Apothecarys hall London AND yielding and Paving unto the said Proprietors their Executors Administrators and Assignes for &/ dureing so long of the said residue of the said term of ninety nine Years as they shall work or raise and gett coles/ att two of the said three Coleworks or mines or the Lands thereto belonging together and att the same time the yearly/ rent or sume of eight hundred and Forty Pounds of like money Free of all taxes charges and reprizes upon the/ Severall days and times and in the manner and att the place herein before limitted and appointed for payment/ of the said Four hundred and twenty pounds as aforesaid AND the said Richard Parrott Stonier Parrott and George/ Sparrow for themselves Joyntly and Severally their Executors Administrators and Assigns DO and each of them DOTH/ covenant and agree to & with the said Proprietors Parties hereto their Executors Administrators & Assigns by these Presents/ That they the said Richard Parrott Stonier Parrott and George Sparrow their Executive Administrators & Assigns shall &/ will from time to time dureing the continuance of this Present Demise well and truly Pay or cause to be paid/ unto the said Proprietors their Executors Administrators and Assigns the said Severall yearly rents of four hundred &/ twenty Pounds and eight hundred and Forty Pounds according to the reservacion aforesaid as the same shall/ happen and grow due upon the Severall Feast days and times and in the manner and att the Place/ herein before Limitted for Payment thereof Free of all taxes charges and reprizes according to the true intent &/ meaning of these Presents AND the said Richard Parrott Stonier Parrott and George Sparrow for themselves/ Joyntly and Severally their Severall Executors Administrators and Assigns DO and each of them DOTH further Covenant/ and agree to and with the said Proprietors

Partys hereto their Executors Administrators and Assigns by these Presents in/ manner and form following (that is to Say) that they the said Proprietors their Executors Administrators and Assigns/ shall and may att the end or Sooner determinacion of this Present demise which shall First happen enter/ into and upon the said Coleworks and Premises before mencioned and have full and free Liberty of/ Passage and repassage for themselves and their Servants and agents with horses carts and carriages att all/ Convenient times for the takeing up and carrying away the said engin hereby demised with the house coppers pypes/ barrells utensills and all other materialls thereto belonging and all other engin and engins at any time/ hereafter to be erected and sett up by them the said Richard Parrott Stonier Parrott and George Sparrow their/ Executors Administrators and Assigns in and upon the said Coleworks and Premises and all the ereccions buildings Pypes/ coppers barrells materialls and utensills thereto belonging or therewith used and the same to take away/ deteyne and convert unto their own uses as their own goods and Chattles without any hinderance Lett Suit/ or contradiccion AND that they the said Richard Parrott Stonier Parrott and George Sparrow their Executors Administrators &/ Assigns shall and will at such end or sooner Determination of this Present Demise which shall first happen/ peaceably and quietly leave and yeild up unto the said Proprietors their Executors Administrators and Assigns all and every/ such engin and engins house and houses and the pypes coppers barrells materialls and utensills thereto/ belonging in good and sufficient repair and shall not sett up imploy or use any such engin or engins once/ erected on the said works in any other work or place whatsoever without the license and consent of the said Proprietors/ their Executors Administrators and Assigns first had in writeing AND also that they the said Richard Parrott Stonier Parrott and/ George Sparrow their Executors Administrators and Assigns shall not at any time during the Continuance of this Present/ Demise and agree-

ment in Force erect or sett up or cause or promise to be erected or sett up any engin or engins/ of the said invencion in or upon any other colework or place within Six miles compas of the said Coleworks and lands or/ any of them save on the said works only AND also that they the said Richard Parrott Stonier Parrott & George/ Sparrow their Executors Administrators and Assigns in case they shall think fitt to Leave of working the said Coleworks and raising and Digging Coles their shall of such their intencion Give or Leave notice or warneing in Writeing at the place/ aforesaid to or for the said Proprietors their Executors Administrators or Assigns and that the rents hereby reserved shall continue and/ be paid untill the end of Six months after such notice AND FURTHER that in case the said Richard Parrott Stonier Parrott [sic]/ their Executors Administrators and Assigns or any of them shall during the Continuance of this Present Demise in any one year/ raise and sell from any or either of the said works or places more than twenty thousand Stacks of Coles then they the said/ Richard Parrott Stonier Parrott and George Sparrow their Executors Administrators and Assigns shall and will for each & every/ such year well and truly pay or Cause to be paid unto the said Proprietors Partys to these presents their Executors Administrators &/ Assigns the Further rent or summe of one hundred Pounds of Lawfull Brittish money for every Five thousand Stacks that/ shall be so raised and sold over and above the said twenty thousand Stacks and so ratably & Proportionably for/ every greater or Lesser number of Stacks than Five thousand to be paid att and upon the Feast day of the birth of our/ Lord God in each such year att the now dwelling house of the said John Meres scytuate in Apothecarys Hall London over &/ above the said Severall rents of Four hundred and twenty Pounds and eight hundred and Forty Pounds reserved as/ aforesaid AND that for the better discovery thereof the said Proprietors their Executors Administrators Assignes and Agents shall/ and may att all reasonable and Convenient times have Free Liberty of access unto & inspeccion

of the books & accounts/ kept for the said works and shall and may from from [sic] time to time nominate and appoint one fitt person to attend one of/ the said engins and take an account of the number of Stacks got and sold weekly and that they the said Richard Parrott/ Stonier Parrott and George Sparrow their Executors Administrators and Assigns shall and will Pay unto such person so/ nominated the summe of seven shillings weekly dureing so long time as he shall be continued by the said Proprietors/ their Executors Administrators or Assigns in the said imployment the said Person Performing such Service as an engin tender/ ought to do for the said wages PROVIDED and these Presents are nevertheless upon this condicion THAT if the said yearly/ rents or summs of four hundred and twenty Pounds and eight hundred and Forty Pounds or either of them as the/ same shall become Payable or any Part of either of them shall be behind and unpaid in Part or in all by the/ Space of thirty Days next over or after any of the said Feast Days and times on which the same ought to be paid/ as aforesaid being lawfully Demanded that then and from thence forth it shall and may be lawfull to and for the/ said Proprietors their Executors Administrators & Assigns to enter into and upon the said works and lands and to take & carry/ away all engin and engins thereon them being with the houses coppers barrells pypes materialls and utensills/ thereunto belonging and the same to retevne and keep as their own Proper goods and Chattles and also in/ case of such non Payment than upon notice given or left in writeing at the said work or works for the said Richard Parrott/ Stonier Parrott and George Sparrow their Executors and Administrators or Assigns/ of the said Proprietors their Executors and Assigns/ intencion to make void the term and Lycence hereby Granted that then and from thence forth these Presents/ and every thing therein conteyned shall Cease & determine and be utterly void any thing herein before to the/ Contrary thereof Notwithstanding PROVIDED also and it is likewise agreed between the said Partys to these/ Presents that if the said

Richard Parrott Stonier Parrott and George Sparrow their Executors Administrators & Assigns/ shall Dureing the said Term think fitt to raise and Gett Coles at the said work in Hawksbury aforesaid or in the said work Called Lapworth wast that then they/ may prepare the said works by sinking of Pitts and makeing a Drift for the Passage of the water from the/ Severall pitts to the engin pitt before they Leave the said work at Griff without Paying the said encrease of rent/ for such time as they shall be so preparing the pitts and Drifts only as aforesaid any thing herein before to/ the Contrary notwithstanding AND the said Proprietors Partys to these Presents for themstlves their Executors Administrators and Assigns do Covenant and agree to and with the said Richard Parrott Stonier Parrott & George/Sparrow their Executors Administrators and Assigns and every of them by these presents in manner and form/ following (that is to Say) that they the said Richard Parrott Stonier Parrott & George Sparrow their Executors / Administrators and Assigns paying the said rents and observing Performing fullfilling and keeping all & Singular/ the covenants and agreements herein Conteyned and which on their Parts are and ought to be observed Performed/ paid and kept shall and may Peaceably and quietly have and enjoy the full and Free use and exercise/ of all engin and engins now being or att any time hereafter to be erected in or upon the said works and/ Lands aforesaid and to remove the same from place to place within the said works as they shall see Convenient/ without any Lett suite trouble molestacion or disturbance of them the said Proprietors or any other Proprietors of the said invencion their Executors Administrators or Assigns AND also that the said Proprietors their Executors Administrators and Assigns shall not at any time dureing the Continuance of this present Demise in Force erect or Cause/ or Lycence to be erected any other engin or engins of the said invencion in or upon any Colework or place within/ Six miles Compass of the said works and lands any or either of them AND LASTLY it is

agreed by & between/ all the said Partys to these Presents that in Case they the said Richard Parrott Stonier Parrott and George/Sparrow their Executors Administrators or Assigns shall at any time during the said term think fitt wholly to Leave/ of the raising or Getting Coles at the said works and places before mencioned and shall thereof give Six/ months notice to the said Proprietors their Executors Administrators or Assigns as herein before Specified that then/ They the said Richard Parrott Stonier Parrott and George Sparrow their heirs Executors Administrators and Assigns shall & will/ upon the request and at the costs and charges of the said Proprietors their Executors Administrators & Assigns/ by such deeds and in Such manner as by Councell learned in the law shall be reasonably advised & required/ Assigne unto the said Proprietors their Executors Administrators and Assigns all their estate term and intrest in the said Colework & Lands called the Griffe for all the remainder of their term then in being and also Grant/ and demise unto the said Proprietors their Executors Administrators and Assigns the said Colework & lands called Wood Sidnall/ Pickards Fackly and Boys wast and the work called Lapworth wast for all the remainder of the said term of ninety/ nine years herein before mencioned at and for the yearly rent of three hundred Pounds Payable quarterly/ with a Covenant for recovering for non Payment of of [sic] the said rent and other usuall Covenants the said/ Proprietors then Sealing and executing Proper Counterparts of such Assignment and Leases AND further/ that they the said Richard Parrott Stonier Parrott and George Sparrow their Executors Administrators & Assigns shall also in/ such Case leave unto the said Proprietors their Executors Administrators & Assigns such and so many water Pitts for every/ engin as shall be then in use in good repair according to their severall depths and shall do no willfull/ Damage to the said works other than by workeing in a Fair manner IN WITTNESS whereof the Partys First/

within named to these Present Indentures have sett their hands and sealls the day and year First within/ written.

THOMAS X NEWCOMEN JOHN X MERES EDWARD X ELLIOTT THO. X BEAKE HENRY X ROBINSON WILLIAM X PERKINS/

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