SUSSEX INDUSTRIAL HISTORY

NUMBER 52 **2022**

Tivoli Mill, St Leonards
Post-Medieval Minepits in Horam
Photographic Portrait Studios in Victorian Brighton
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SUSSEX INDUSTRIAL HISTORY

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Cover illustration: 'Ponds and Windmill, Hastings', by James Stark *(Victoria & Albert Museum)*

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TIVOLI MILL, SILVERHILL, ST LEONARDS
The First Millers—Who Were They?

Bob Wilcock

Introduction

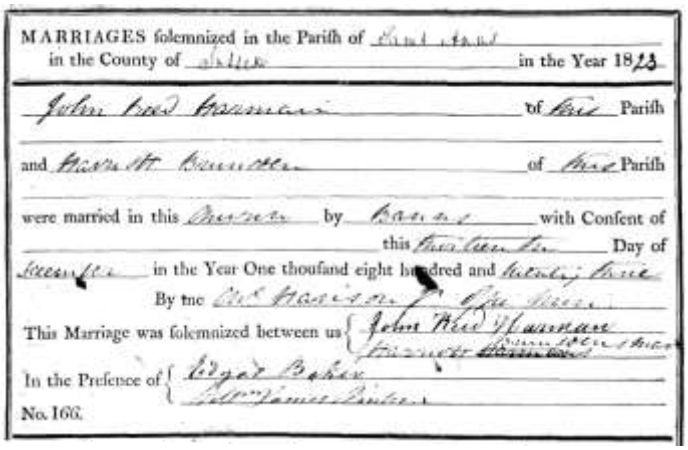
"*Tivoli Mill was removed from West Hill, Hastings … and was re-erected at Silverhill in 1838 by John Reed Harmer, who carried on the business of miller till about 1846, when he was succeeded by C. M. Thorpe. The latter relinquished the business shortly after to take up farming and the mill was acquired by Mr. W. Draper.*"

So wrote H. E. S. Simmons in notes made in 1934, citing W. Draper & Co. The text was in fact a rephrasing from an article in the Hastings Observer of 9 February 1929, anonymous, but clearly from an interview with William Draper, whose father had acquired the mill, and who was then in his 80s. That explanation for the origins of Tivoli Mill has been repeated in whole or in part, by every writer subsequently, even when the succeeding mill on the site was being demolished in 1966. However, it transpires that Mr Draper's memory let him down on the detail and, it turns out, the full story is much more interesting.

To start with, Simmons' notes also include reference to Pigot's directories of 1839 and 1840[1] which give Edgar Baker as miller at St Leonards Green, which includes Silverhill, and make no mention of John Reed Harmer. There is an apparent conflict here, that Simmons did not attempt to resolve. So what is the full story?

John Reed Harman

We start with the man Simmons called John Reed Harmer, and also elsewhere in his notes John Richard Harmer. One piece of evidence not available to Simmons is the 1841 census, like all censuses, closed for 100 years.[2] That identifies the miller as John Reed Harman, not Harmer, quickly putting a question mark against Simmons notes, and the 1929 report on which they are based. The spelling does fluctuate in the various records, so the safest way to resolve the issue is the man's own signature. Fortunately, the marriage register that he signed is available on-line,[3] and he was clearly married as John Reed Harman (see fig. 1).



MARRIAGES solemnized in the Parish of [illegible]
in the County of [illegible] in the Year 1823

John Reed Harman of this Parish
and Harriett Brunsden of this Parish
were married in this Church by Banns with Consent of
this Thirteenth Day of
December in the Year One thousand eight hundred and twenty three
By me [illegible]
This Marriage was solemnized between us { John Reed Harman
Harriett Brunsden
In the Presence of { Edgar Baker
[illegible]
No. 166.

Fig 1. Extract from marriage register of St Ann's church

So, who was he, what was his background, what was his milling experience, and how might he have come to buy and move the mill, and of course acquire the land at Silverhill on which to put it?

John Reed Harman was born in 1803, probably at Brede High Farm, Ewhurst, and was baptised on 11 May, as John Reed Harmer, the clergyman consistently getting the family name wrong, so William Draper and Simmons were in good company! His father was James Reed Harman, who, significantly for our story, as will be seen, married Charlotte Noakes at Westfield, on 5 December 1800. John's father was a troubled man, and when his mother died in 1814 after giving birth to their twelfth child, he went completely to pieces, the family became near-destitute, and James had to rely on the parish for support.[4]

John moved away to assist his elderly uncle John Reed on his farm at Pett.[5] He clearly impressed, because when his uncle died in 1818, aged 73, he left John the farm. John was only 15, so could not claim his inheritance until he was 21, and the uncle's executors let out the farm to tenants. John did not stay, but moved away to Buxted, near Uckfield. Why he moved is unknown, though, as we shall see, he did have a cousin there. That cousin was Edgar Baker.

Edgar Baker – the Noakes sisters, and the Brunsden sisters

Edgar was baptised in Westfield on 19 October 1803, the son of Henry Hyland Baker and Sarah Noakes. Sarah was sister to Charlotte Noakes who had married James Reed Harman, John's father. Hence John and Edgar were cousins.

On 18 October 1823 Edgar married Charlotte Brunsden. Her father, William, held the manor of Totease and worked a large farm at Pound Green, Buxted. John Reed Harman was a witness to his cousin's marriage.

A few weeks later, on 13 December 1823, John himself got married, to Charlotte's sister, Harriett Anna Brunsden. Edgar Baker, now John's brother-in-law as well as his cousin, had of course to be witness to the marriage.

At the time of the marriages, Edgar was a farm labourer. When John and Harriett's first child was baptised in March 1824, three months after the marriage, John was described as a farmer. There is no indication as to whether Edgar was working on the farm with John, on William Brunsden's farm, or elsewhere. By July 1826 when Edgar junior was baptised, he was a miller, no doubt at Buxted Watermill, working for John Catt. John Reed Harman had moved back to Pett, but his sister Sarah Ann came to work in Buxted, and in 1832 had an illegitimate child there. The father is unknown, but in 1841 Sarah Ann was living with John Catt as a female servant.

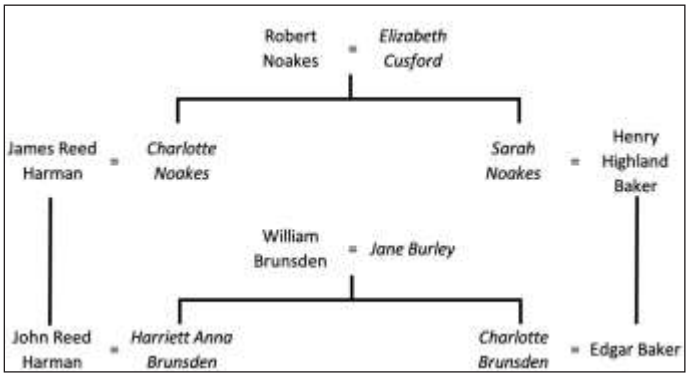


Fig 2. John Reed Harman and Edgar Baker family tree

Edgar Baker was working at the mill in 1828, and may well have still been there in 1838 when he joined John in the venture of acquiring French's Mill, moving it and re-erecting it at Silverhill.

After taking up his inheritance, John Reed Harman only stayed some three years in Pett.[6] In about 1829 he moved to Cowden, Kent, some 40 miles from Pett, between Tunbridge Wells and Crawley, where he farmed from Kent Water House, Edenbridge. What induced him to move there is again unknown. He stayed in Cowden until about 1836 when he took the tenancy of Little Ridge Farm in Ore.[7] While he was there, he became acquainted with his near-neighbour John Hayward, who had Baldslow Mill,

Fig 3. 'Ponds and Windmill, Hastings' by James Stark, painted c.1820-1855 (*Victorian & Albert Museum*)

just a mile from Little Ridge farmhouse. Three years later, he was on the move again.

The Acquisition of French's Mill

The mill known as French's Mill on Hastings' West Hill at the junction of what are now Croft Road and Priory Road (TQ 82412 10169) was commissioned in 1799 by John French from Cornelius Wetherell, millwright of Robertsbridge.[8] It was a smock mill, fully described in the contract. John French died in 1823 and the mill was acquired from his estate by Charles Coleman. Contrary to what has been written on French's Mill, he was not a miller, but a distinguished retired navy man.[9] He employed or granted tenancies to millers, the last one active being William Eldridge Crisford, and when William moved to Fairlight in 1833 the mill fell into disuse. Charles Coleman wanted to develop the site, but the mill took some years to move; he still had it in October 1838.

John Reed Harman saw an opportunity. As we have seen, he was not a miller, but he knew a man who was, his cousin and brother-in-law, Edgar Baker, and he was also well acquainted with John Hayward. They found the site at Silverhill (TQ 79757 10576), John Reed Harman bought the freehold, and acquired the mill. Whether he bought the mill, or whether Charles Coleman paid him to dismantle and remove it, is an interesting speculation. Charles retained the brick base and incorporated it into Tower House, in which he subsequently lived, and which still stands today, though much altered. The 1929 article reported that it was on the site of the Hastings Central School, but it was in fact on the opposite side of Croft Road, next to Mill Hill Lodge. There is no evidence as to how the mill was moved, but it was most likely dismantled and transported by waggons.

The Early Days of Tivoli Mill

The extensive research into the lives and backgrounds of John Reed Harman and Edgar Baker has enabled the apparent contradiction in the evidence to be resolved. John Reed Harman and Edgar Baker went into the venture together, John owning the mill, and Edgar working it initially. Since Edgar was trading in his own name, he no doubt had a lease from his cousin. However, he did not last long. He may have found working with his cousin difficult, or maybe he could not make a go of it. He

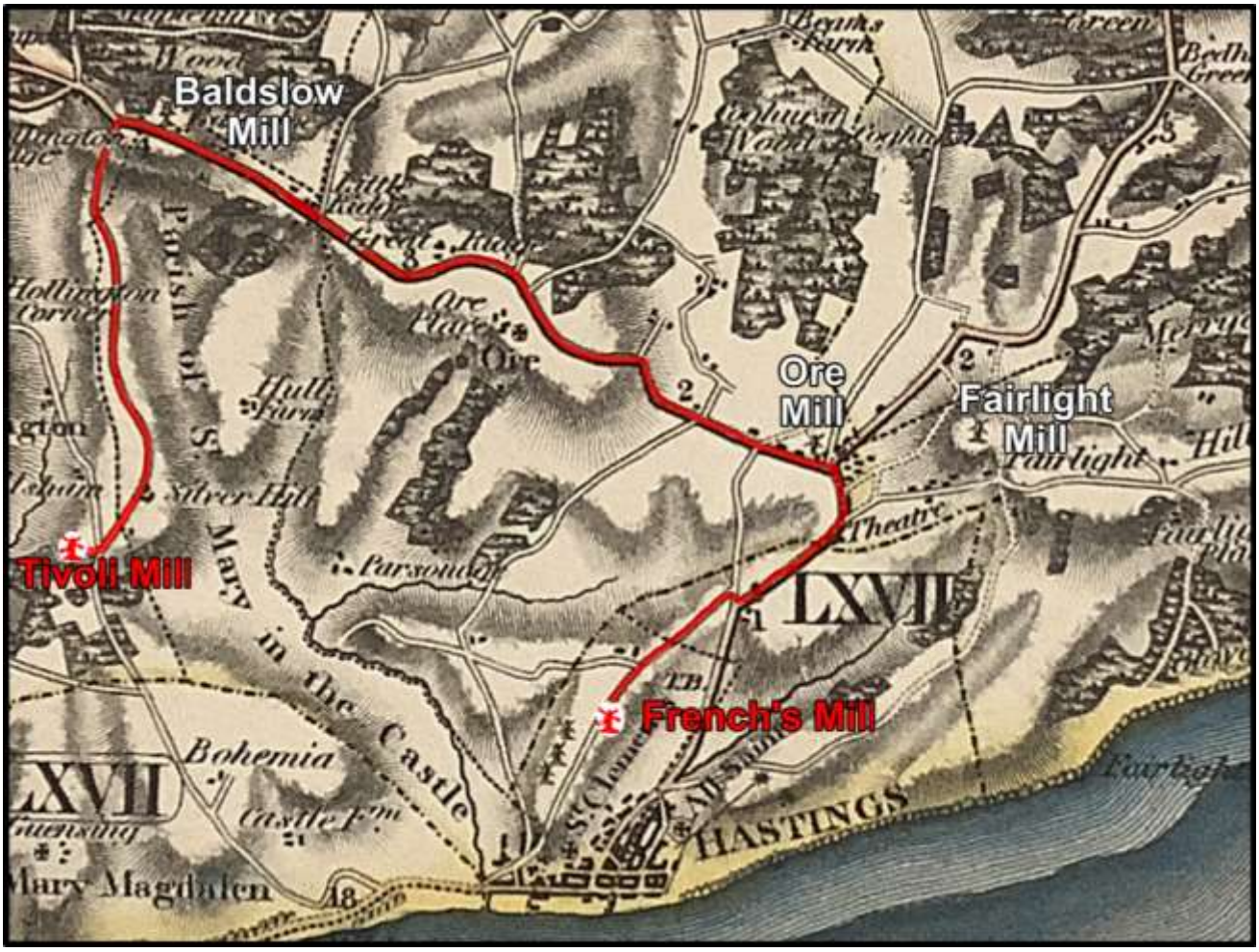


Fig 4. Map showing the likely route along which French's Mill will have been transported, avoiding steep slopes – along Priory Road then the Old London Road, past Ore mill to just beyond Baldslow Mill, then gently down to Silver Hill *(Based on Christopher Greenwood's Map of the County of Sussex, 1825)*

was still listed at Silverhill Green in Pigot's 1840 directory, but by 1841 he was in Eastbourne, where he set up a successful business running the Ocklynge and Parsonage mills.

James Dengate

After Edgar Baker left, John Reed Harman engaged James Dengate as his miller, the 1841 census suggesting it was on journeyman terms. James had been baptised (as James Dungate) on 20 August 1820, son of James, miller at Northiam watermill, so was only 20 when he moved to Tivoli. It may well be that James' older brother Charles, who was living and working at Baldslow Mill for John Hayward, was also involved.

Sale of the business

The business seems to have continued to struggle, and in 1843 John Reed Harman advertised the mill for sale.[10] The advert gives a description of the mill complex with its stable, coach house, pig pounds, substantial brick-built house and bakehouse, and it should be noted that the mill had two shutter-sprung sweeps, and two dead sails. The advert describes business as "*a very fair retail trade*". Since most advertisements refer to "*good trade*", this suggests business was not so good, and there is no mention of wholesale trade. This is perhaps why the business did not sell, and John Reed Harman struggled on. He was still there in August 1845, his daughter Jane proudly proclaiming on the 1881 census that she was born in "*Tivoli Mill Silverhill*". Up until then John still had a freehold house in Pett Street, Pett, which qualified him to vote there; his abode was noted as St Leonard's.

C. M. Thorpe and William Draper

The mill not having sold, by December 1845 John had managed to lease it to C. M. Thorpe.[11] He lasted just three years and in 1849 it passed to William

Draper, who finally was able to build up a successful business. In about 1862 William started a remodelling and renovation of the mill, but it was lost to fire in 1865.[12] A new mill, known as St Leonards Mill, or Draper's Mill, was built in its place, in much the same design, only larger. It continued in use until 1941 and was demolished in 1966.[13]

John Reed Harman had sold the freehold to William Draper in 1853,[14] and set up as a baker until about 1856. It seems that he had to dispose of what remained of the properties he inherited or may have subsequently bought. He was probably in debt when he disposed of the mill, and matters seem only to have got worse. In 1858 insolvency proceedings were taken against his son John Reed Harman, engine stoker.[15] In 1860, court proceedings were taken against either father or son for unpaid rent and possession of the property in question.[16] In October that year his son Anthony got secretly married and gave his father's occupation as miller. It may be John was trying to scrape a living working for the Drapers who were then running Tivoli Mill, or at one of the other Hastings mills, but it did not last: in the 1861 census he is recorded as a labourer.

By then family finances had probably stabilised. The family moved to 44 Stonefield Road, Hastings. John's sons Peter and Anthony had set themselves up as carpenters, his eldest daughter Charlotte was a laundress, and his youngest daughter Jane a dressmaker. Peter, Charlotte and Jane were still working from home in 1871, when John described himself as a retired farmer. He died in January 1877, aged 73. His widow Charlotte continued living with her unmarried children at 44 Stonefield Road until she died in 1895 at the age of 93.

Acknowledgements

This article is an edited and abridged extract from the author's book in preparation, provisionally entitled "The Millers of Hastings, their mills, their lives, and their families" which powerfully combines historical and genealogical research to give comprehensive histories of all the mills in Hastings and environs (Baldslow, Fairlight, Guestling, Hollington, Ore) from the 1600s and before, to the 1960s, through the lives of their millers, who bring a mill to life every bit as effectively as the wind. Going back to original sources, the book will include much information never previously published. The second mill at Silverhill was the last in Hastings, and the book will include the full story up to its demolition in 1966, taking forward this first part. The book is scheduled for publication in late 2022.

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   Pigot's Directory of Sussex 1840, viewed at www.ancestry.co.uk (fee payable, or free access via local libraries).)
2. Information taken from 1841 and subsequent censuses is not individually referenced. The returns not only indicate a person's age and place of occupation, but from 1851 onwards give ages and place of birth of children. This enables a person's movements to be tracked, and for millers indicates at which mill they were working. Census returns may be viewed at www.ancestry.co.uk or www.findmypast.co.uk (fee payable)
3. The numerous references to baptisms, marriages and burials are taken from digital images of the original registers viewed on www.familysearch.com (free) or www.ancestry.co.uk or www.findmypast.co.uk. The numerous references to places mostly come from these records or the census records
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13. HSLO 18 June 1966
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16. Sussex Advertiser 20 March 1860. The newspaper report does not give the address of the property involved, nor any means of identifying whether it is father or son who was sued.

WEALDEN IRON AND THE POST-MEDIEVAL MINEPITS IN HORAM

Simon Stevens

Introduction

Archaeology South-East (ASE, UCL Institute of Archaeology) was commissioned by Bovis Homes to undertake a programme of archaeological work at the Rosemead Place Development, Horebeech Lane, Horam, East Sussex (TQ 58374 17000; Fig. 1). The fieldwork was undertaken as a condition of planning in advance of the construction of a new housing estate.

The current article provides details of the discovery of features at the site relating to the post-medieval Wealden iron industry and is a summary of a paper due for publication in *Wealden Iron.* Full details of the site including descriptions of features and specialist reports on finds are available from ASE upon request.[1]

The site lies on the northern side of Horebeech Lane, to the south-east of the centre of the Wealden village of Horam. It has extensive views over the valley of the Waldron Gill and land to the north. The underlying geology consists of the Wadhurst Clay, with the Ashdown Formation immediately to the north and superficial deposits of alluvium in the valley.[2] Seams of iron ore (the mineral siderite) occur in the Wadhurst Clay and have been utilised by the Wealden ironworking industry for more than two millennia.[3]

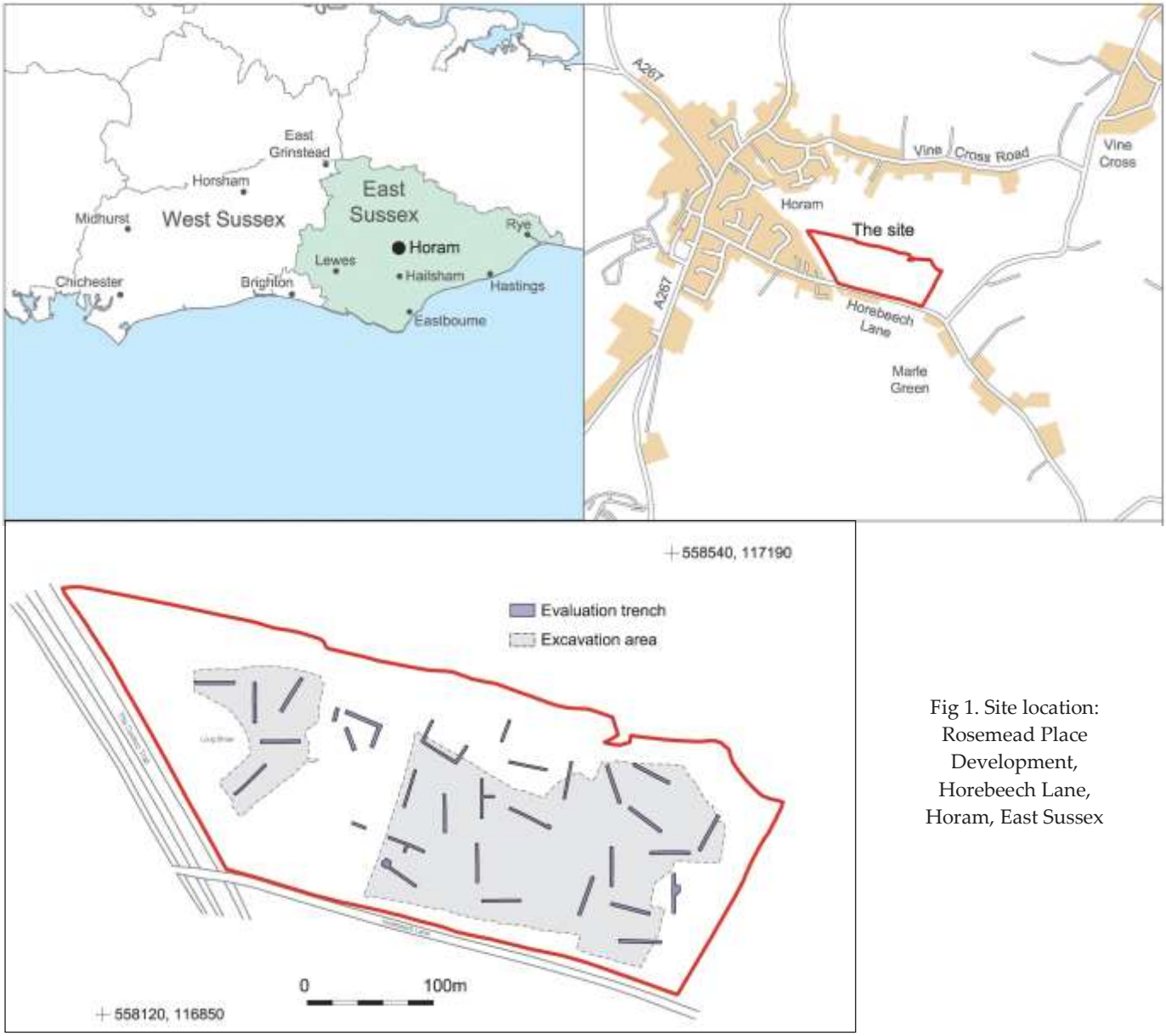

Fig 1. Site location: Rosemead Place Development, Horebeech Lane, Horam, East Sussex

Results

Two portions of the site (Areas A and B) were stripped and excavated between March and July 2019. A range of evidence was encountered and recorded, including a background scatter of prehistoric flintwork, Middle/Late Iron Age features, and a Romano-British enclosure containing debris from a nearby bloomery iron smelting furnace.

The Minepits

The vast majority of the investigated features consisted of near vertical-sided pits, some with a gently tapering cone-shaped profile. More than 1000 of these features were encountered and recorded at the site. The pits had been dug into the underlying geological deposits of grey and orange Wadhurst Clay, which included seams of iron ore, strongly suggesting that the features were 'minepits' (as the traditional Sussex name for iron ore was 'mine'[4]). Such pits were usually backfilled with the up-cast either from the minepit itself, or from the next adjacent pit to be excavated. This technique was described in 1741 as *'throwing in the Clayes'*.[5]

The methodology for the detection of viable seams for use in smelting was also evident at the site, showing an arrangement of larger pits for extraction surrounded by notably smaller pits thought to be for prospection to trace the extent of the highly irregular siderite seams:

> 'The horizons or beds, containing the ore often end abruptly only to reappear again at a short distance away; they do not keep to a definite 'line' in the clay. Such breaks or interruptions in the occurrence of the ore are shown by the repeated remains of old pits and workings found in various parts of East Sussex and Kent. It would seem that early workers on 'losing' the ore at one point would move on about 50 to 100 yards and would begin again with trial holes and pits.'[6]

This juxtaposition of 'trial holes and pits' has been noted in woodland, but was obviously clearer in plan at Horam, where the topsoil was stripped to reveal something of an exaggerated moonscape across most of the investigated areas of the site. The prospection pits were sometimes less than 1m in diameter, but usually between 1m and 1.5m in diameter, and investigated examples were up to 4m deep. The extraction pits were found to be up to 5m in diameter, with a similar maximum depth to the

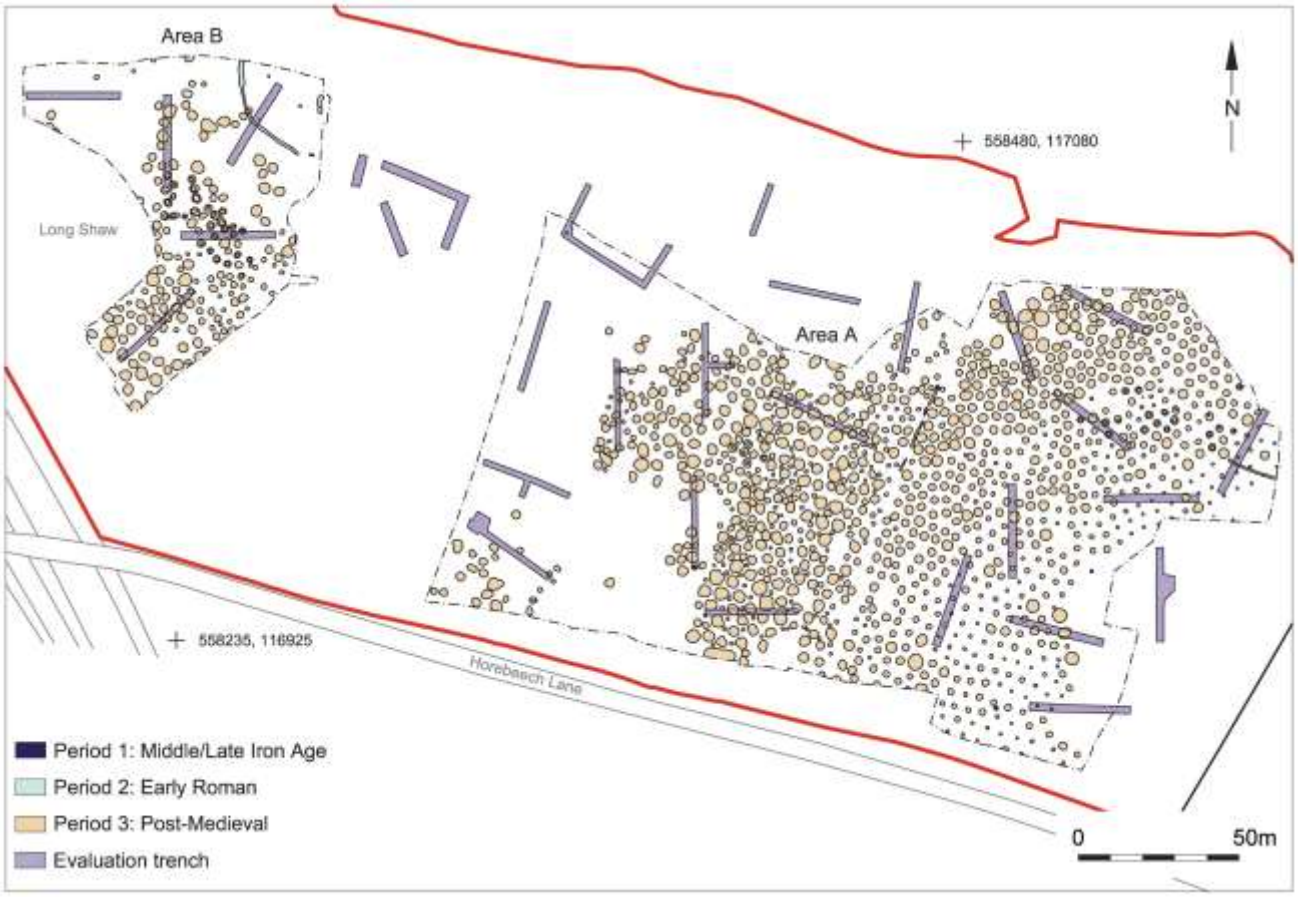

Fig. 2: Site plan showing areas of archaeological intervention and all encountered features

prospection pits. Examination of the surviving edges of the pits showed that there were up to five separate seams of ore per pit, with exposures varying in position from the surface of the natural Wadhurst Clay deposits to a depth of nearly 4m within them. The seams were never more than 0.15m in thickness, suggesting the successful removal of thicker deposits, and cessation of extraction when the seams either became too thin or the quality declined. All excavated minepits showed characteristic layers of backfilling in accordance with John Fuller's 1741 account.

It appeared that the Horam site had been subject to an organised campaign of reinstatement and levelling allowing it to be put to agricultural use, unlike the more stereotypical Wealden minepit concentrations, which left the land too pockmarked with partially waterlogged, roughly-backfilled holes to be of any economic use except as woodland.

Dating

The use of shaft minepits is usually linked to the medieval and post-medieval periods, as it is thought that earlier ironworkers used exposures in stream valleys, and that larger opencast quarries were the norm during the Roman period. However, published examples of later minepits are very restricted in terms of their number and dating. The few examples that have been investigated have revealed that extraction was undertaken by the digging of a near vertical shaft with no evidence of deliberate splaying at the base to form the characteristic bell-shaped profile of other types of mineral extraction pit.

During the archaeological fieldwork a number of the minepits were investigated mechanically and some manually by systematically reducing the surrounding areas with a 360º excavator allowing safe access by ASE personnel (fig. 3). Health and safety concerns were always paramount and issues with flooding reduced the number of features that could be examined in detail.

Timbers were recovered from the backfill of three of the larger minepits but proved unsuitable for scientific dating. The only closely datable artefact recovered from the backfill of the pits was a fragment of early 17th to early 18th century clay pipe stem and two radiocarbon dates obtained from charcoal from a sealed context in one of the minepits; cal. AD 1726 – cal. post AD 1950 (Beta – 543503; 190 ± 30 BP; 95% probability) and cal. AD 1619 – cal. post AD 1950 (Beta – 543504; 260 ± 30 BP;

Fig. 3: Photograph of a Horam minepit during excavation

95% probability). An iron pick head discovered lodged in the natural clay between two minepits may relate to the ore extraction, but this was far from certain. The ores were found to be more suitable for smelting in a blast furnace (a late 15th century introduction to Britain) rather than the earlier bloomery type of furnace. This further supports a post-medieval date for the campaign of extraction.[7]

Possible Destinations for the Ore

Given the broad date range suggested by the limited artefactual and scientific dating and analysis, it is suggested that the journey's end for the ore was either the Heathfield Furnace (in operation *c.* 1693 to *c.* 1793)[8], or the Waldron Furnace (in operation *c.* 1571 to *c.* 1763–5)[9]. Both are within 2km (and broadly equidistant, to the north-east and west respectively) from the site. Three further known blast furnace sites were within a 5km radius (at Cowbeech, Markly (Rushlake) and at Stream Farm near Chiddingly).

The Fuller family, the well-known local ironworking dynasty, had built Heathfield Furnace and owned and ran the complex primarily as a gun foundry during the 18th century. Waldron was leased to Thomas Hussey and John Legas during the 18th century.[10] Extensive documentary sources are available for both furnaces.

Reinstatement and Subsequent Use

In John Fuller's aforementioned letter of 1741, he states that if the backfilling and levelling are carried out correctly, *'then the ground will look as well and be more profitable to the Tenant than it was before the oare was dug'*. Later post-medieval cartographic evidence shows the site in agricultural use, perhaps testament to whoever was in charge of reinstating the mining area being an adherent to Fuller's advice on the completion of campaigns of Wealden ore extraction.

Conclusion

Given the rarity of archaeological investigation of minepits, despite their key place in the iron production process, the site represented an all-too-rare window into an element of Sussex's industrial past. Never before has a Wealden ore extraction site been archaeologically investigated on such a scale.

Acknowledgements

ASE would like to thank Bovis Homes for commissioning the archaeological work and Greg Chuter, and subsequently Neil Griffin (County Archaeologists, East Sussex Council County Council) for guidance and monitoring. Gratitude is also owed to members of the Wealden Iron Research Group, especially Jeremy Hodgkinson and Jonathan Prus for sharing their knowledge and insight during numerous discussions about the site. Alan Davies' work on the ores provided an extra dimension to the study.

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PHOTOGRAPHIC PORTRAIT STUDIOS IN VICTORIAN BRIGHTON

Part One – From Daguerreotype to *Carte-de-visite*, 1841-1871

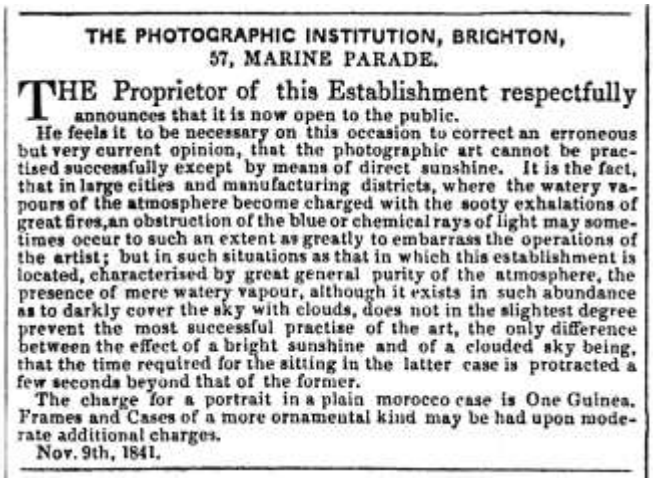
David Simkin

Brighton's First Photographic Portrait Studio

Brighton's first photographic portrait studio opened on Monday 8th November 1841 at 57 Marine Parade, a large four-storey building situated on Brighton's eastern seafront, at the corner of Atlingworth Street. Two days later, a correspondent of the *'Brighton Guardian'* welcomed the opening of the Photographic Institution, which he believed would supply *"what has been long felt to be a great desideratum* in society, - the means of securing a correct likeness without the tedium of sitting for hours to an artist."* [1]

William Constable, Brighton's First Photographer

The Proprietor of the Photographic Institution at 57 Marine Parade was William Constable (1783-1861), a multi-talented man, who, at the age of 58, was entering a new field of enterprise, which would draw upon those inventive skills which he had previously demonstrated in the world of science, art and business.[2] In the 1851 Census, William Constable gave his occupation as *"Flour Manufacturer and Heliographic Artist"***, but this description fails to reflect what had up to then been an extraordinary and colourful career. A man without the benefit of an extended formal education, William Constable had worked at various times as a flour miller, successful high street draper, an inventor of scientific devices, watercolour artist, cartographer, land surveyor, architect, bridge builder, engineer, and the surveyor of a thirty-mile stretch of the London to Brighton Turnpike Road. At an age when most men would be entering the last stage of their working life, William Constable decided to embrace a new technology and embark on a new career as a 'Photographic Artist'.



THE PHOTOGRAPHIC INSTITUTION, BRIGHTON,
57, MARINE PARADE.

THE Proprietor of this Establishment respectfully announces that it is now open to the public.

He feels it to be necessary on this occasion to correct an erroneous but very current opinion, that the photographic art cannot be practised successfully except by means of direct sunshine. It is the fact, that in large cities and manufacturing districts, where the watery vapours of the atmosphere become charged with the sooty exhalations of great fires, an obstruction of the blue or chemical rays of light may sometimes occur to such an extent as greatly to embarrass the operations of the artist; but in such situations as that in which this establishment is located, characterised by great general purity of the atmosphere, the presence of mere watery vapour, although it exists in such abundance as to darkly cover the sky with clouds, does not in the slightest degree prevent the most successful practise of the art, the only difference between the effect of a bright sunshine and of a clouded sky being, that the time required for the sitting in the latter case is protracted a few seconds beyond that of the former.

The charge for a portrait in a plain morocco case is One Guinea. Frames and Cases of a more ornamental kind may be had upon moderate additional charges.

Nov. 9th, 1841.

Fig 1. Advertisement for Constable's Photographic Institution (*Brighton Guardian* 10 November 1841). In this notice, William Constable, the proprietor of The Photographic Institution, makes the point that the ideal location of his studio on Brighton's seafront meant that the clean air ("*great general purity of the atmosphere*") of the unspoilt seaside resort would ensure better results than those obtained in the polluted "*sooty watery vapours*" found in "*large cities and manufacturing districts*".

Fig 2. A recent photograph showing the building at 57 Marine Parade, Brighton, where William Constable established Brighton's first photographic portrait studio in November 1841.

**desideratum* = "a thing wanted or desired"

** "*Heliographic Artist*" was a name for a photographer in the early days of photography – from the Greek "*helios graphein*", a phrase meaning "*sun drawing*".

Fig. 3 A daguerreotype portrait of William Constable (1783-1861), Brighton's first resident photographer. (Photo: courtesy of Philippe Garner)

The Daguerreotype

William Constable's 'Photographic Institution' produced daguerreotype portraits. A daguerreotype was the first practicable method of producing photographic portraits. The daguerreotype process had been invented by Louis Jacques Mande Daguerre (1787-1851), a French theatrical designer and showman, who had perfected the technique of fixing an image on a silver-coated copper plate in the late 1830s.[3] This early form of photograph was given the name daguerreotype by its inventor and the process had been announced to the world in Paris in August 1839.

The Daguerreotype Patent and Licence

Richard Beard (1801-1885), a successful coal merchant and patent speculator, had seen the advantages of securing a monopoly in the production of daguerreotype portraits in England. On 23rd March 1841, Richard Beard had opened England's first photographic portrait studio at the Royal Polytechnic Institution, 309 Regent Street, London. In June 1841, Beard concluded his negotiations with Miles Berry, Louis Daguerre's patent agent in England, and purchased the patent rights to the daguerreotype process.[4]

By the end of July 1841, Beard had become the sole patentee of the daguerreotype process in England and Wales and had a virtual monopoly in the production of photographic portraits using Daguerre's method. Until the patent rights expired on 14th August 1853, any person who wanted to legally carry out the art of daguerreotype portrait photography on a commercial basis had to apply to Richard Beard, to either purchase 'the right of patent' in a prescribed geographical area, or to purchase a licence to work the process in a particular town or city. Reportedly, William Constable had paid £1,000 to Richard Beard for a licence to take daguerreotype portraits in the town of Brighton.[5]

William Constable's Photographic Institution in Brighton

William Constable opened his Photographic Institution to the public on Monday, 8th November 1841. Before the week was over, Constable wrote to his sister Susanna and gave a progress report on his new enterprise:

> *"I opened my concern of business last Monday – for the first day or two I took but very little money indeed . . . I could not help feeling anxious and nervous, although the result was what I reasonably ought to have expected – But I feel every day that I am growing in notice and have no doubt that I am gaining a very fast and respectable foothold here . . . I am crowded with visitors all day – from 11 to 4 . . . there is nothing against me but the lateness of the season."*[6]

When Constable opened his Photographic Institution in Brighton in November 1841, he charged one guinea (£1.05) for a small portrait in a plain 'morocco leather' case. Constable's prices are comparable to those charged by other Beard Licensees of the period. A charge of 'one guinea' was considerably cheaper than commissioning a painted portrait from an established artist. A large portrait in oils was a luxury item. (In 1815, Sir Thomas Lawrence, the foremost portrait painter in England, was charging 400 guineas for a full-length portrait). When William Constable opened his photographic portrait studio in 1841, there were at least half a dozen portrait painters residing in Brighton.[7] The prices these portrait painters would charge would depend on their reputation and the artistic quality of their work, and the medium they used to secure a likeness. A portrait in oils could cost anything between two pounds and three hundred pounds depending on the size of the painting and the reputation of the artist.[7] The price of painted portrait miniature would range from one guinea to thirty guineas. The cheapest form of

portrait was a silhouette profile. A profile artist operating from a booth on Brighton's Chain Pier in the 1830s and 1840s would be offering a portrait bust in silhouette for as little as a one shilling (5p). A very small daguerreotype portrait in the early 1840s would cost one guinea (£1.05) but such a price would be out of the reach of an ordinary working-class person. (A guinea was probably the equivalent of two weeks wages for an unskilled labourer). In the early years of photography, a daguerreotype portrait (as was the case with painted portraits) was really only available to the upper ranks of society (the aristocracy and landed gentry) or the middle-class professions - lawyers, clergymen, bankers, merchants, physicians, and so on.

William Constable had established his exclusive photographic portrait studio in Brighton at a time when the nobility and gentry made regular visits to Brighton. Queen Victoria, her consort Prince Albert, their two young children, Victoria the Princess Royal and Albert Edward, the Prince of Wales and members of Court took up residence at the Royal Pavilion on 10th February 1842. On 25th February, George Anson, Prince Albert's Private Secretary, visited Constable's Photographic Institution on Marine Parade and had his portrait taken. Prince Albert himself called in at the Photographic Institution on the afternoon of 7th March in order to be photographed. According to the journal of Constable's sister, Mrs. Susanna Grece, Prince Albert posed a number of times that afternoon, but with limited success - *"He had eight pictures, not all good"*. The successful daguerreotypes were later photographed, and two carbon print copies have survived. These two small portraits of Prince Albert, dated 1842 and attributed to William Constable, are believed to be the earliest surviving photographs of a member of the Royal Family.[8]

The royal visit would have helped to establish William Constable's reputation as a photographer to the aristocracy and members of the Court. Over the next ten years his aristocratic sitters included the Duke of Devonshire, the Marchioness of Donegal, Lord Cavendish and the Grand Duchess of Parma. As Constable noted in 1848: *"I have had many sitters from the ranks that are called noble"*.[9]

Constable had been fortunate to secure Royal patronage and his aristocratic and noble clients saw him safely through his first two years of business at Marine Parade. However, Constable was an astute

Fig. 4. A Daguerreotype Portrait Studio in 1842. (An illustration by George Cruickshank.)
William Constable's 'Photographic Institution' at 57 Marine Parade, Brighton, would have been similar to the one depicted in George Cruickshank's engraving. A daguerreotype studio was often situated at the very top of a building and had a glass roof to let in as much light as possible. The subject sat on a posing chair placed on a raised platform, which could be rotated to face the light. The sitter's head is held still by a clamp. Early daguerreotype portraits were very small, and in this picture Cruickshank shows customers using a magnifying glass to fully appreciate the fine detail.

businessman and was prepared to take steps to ensure a steady flow of sitters. Constable feared that the prices he charged his exclusive clientele would deter other potential customers. By the end of 1843, he had reduced his price for a cased portrait from £1 1s (£1.05p) to 12s 6d (62p), hoping "*to possess himself of the patronage of the middle classes of the community.*"[9] A daguerreotype portrait was still out of the reach of ordinary working people. However, reducing the price of his daguerreotype portraits meant that his customer base was widened to embrace wealthy visitors and Brighton's expanding middle class. The dukes and earls and the titled lords and ladies who made up Constable's early clientele were joined by prosperous merchants, successful businessmen and professional gentlemen together with their wives and children. The addition of customers drawn from the middle ranks of society ensured that Constable had no shortage of sitters in the late 1840s.

William Constable's Photographic Studio

Constable's business premises at No. 57 Marine Parade was situated on the seafront, where Atlingworth Street joins Marine Parade. The actual photographic studio would have been located at the top of the building to receive as much natural light as possible. The room where Constable took his photographic portraits had a glazed roof and was fronted by plate glass. The proprietor of the Photographic Institution claimed that the glass he employed in his south-facing studio, broke up the prismatic rays of light *"admitting only the blue tint"*. Inside the operating studio, which he named "The Blue Room", Constable set up a revolving platform onto which he placed his subjects. With the aid of this apparatus, Constable was able to turn his sitters to get the required light effects for his portraits.

DAGUERREOTYPE PORTRAIT STUDIOS IN BRIGHTON

Holding an exclusive licence from Richard Beard, William Constable had a virtual monopoly in the production of photographic portraits in Brighton between November 1841 and June 1852. In the Census of 1851, the only other photographer recorded in Brighton was 19-year-old Thomas B. Leffen, who was presumably an assistant to William Constable. The 1851 Census describes William Constable as a "*Flour Manufacturer and Heliographic Artist* ", a widower aged 67, living with two unmarried nieces, Caroline and Eliza Constable, who provided assistance in his photographic business. (After William Constable died in December 1861, a Miss Constable, almost certainly Eliza Constable (1807-1873), continued to run his new studio at 58 King's Road, Brighton).

At least on one occasion, a daguerreotype artist felt confident enough to challenge Constable's monopoly in the production of daguerreotype portraits in the town. In the summer of 1852, a rival to Constable appeared in the form of a French daguerreotype artist, Joseph Meurant, a *"Dealer in Fancy Goods"* who originated from Paris. In July 1852, Meurant announced in the *Brighton Herald* that he had opened a 'Daguerreotype Room' at 13 1/2 East Street, where he offered to take likenesses for as little as 5 shillings. Meurant remained in Brighton for less than nine months before moving on to London.[10] It is possible that Meurant had been threatened with legal action, either from the patent holder, Richard Beard, or from the licensee, William Constable himself.

Daguerreotype Artists in Brighton after 1853

After Beard's Daguerreotype patent expired in August 1853, a number of

Fig 5. A daguerreotype portrait of a man by an unknown photographer (circa 1855). There was no separate negative produced by the daguerreotype process and so each photographic image was unique. A finished daguerreotype portrait was usually surrounded by a gilt or brass mat, covered with a sheet of protective glass, and bound in a metal frame. Top quality daguerreotype portraits were generally presented in a velvet or plush-lined leather case (as in the example on the left) or mounted in a decorative frame.

Brighton trades people, who had already shown an interest in the art of photography, set up their own daguerreotype portrait studios. As early as 1852, William Lane (1818 -1889), proprietor of 'Lane's Cheap Picture Frame Manufactory', established a 'Photographic Depot' at 3 Market Street, Brighton where he supplied "*Daguerreotype Lenses, Camera Apparatus*" and "*every other requisite used in Photography*." A complete set of apparatus for the daguerreotype process cost seven guineas at Lane's Depot. In an advertisement which appeared eight days before Beard's daguerreotype patent was due to expire, William Lane was offering to supply '*Daguerreotype Apparatus*' to operators and amateurs promising *"free instruction in the Photographer's Art to purchasers of materials"*. By November 1853, Lane had set himself up as a photographic artist and was offering to provide "*a first-class daguerreotype portrait in handsome French case for two shillings*" at his new premises at 213 Western Road, Brighton.[11]

Robert Farmer (1823-1859), who had taken over William Passmore's chemist's shop at 59 North Street, Brighton in 1852, transformed part of his new business premises into 'Daguerreotype Rooms' - which included *"a room designed and built expressly with apparatus of very superior construction for the purpose . . . to ensure a fine portrait"*. In newspapers issued in November 1853, Robert Farmer publicized his 'Daguerreotype Rooms' and *"invited the attention of the Ladies, Gentlemen and Visitors to Brighton to his collection of Photographic Portraits, taken plain or in colours, by competent Artists"*. Mr. Farmer offered to take "*fine portraits*" at moderate prices - "*1s 6d in case; or coloured 2s 6d*", considerably lower than those charged by William Constable's Photographic Institution in Marine Parade.[12]

The Growth of Photographic Portrait Studios

In the ten years between November 1841 and November 1851, William Constable, aided by a few assistants, was the only photographic artist operating a portrait studio in Brighton. When W. J. Taylor's '*Original Directory of Brighton*' was compiled for the year 1854, ten photographic studios were listed:

Edward COLLIER, 58 King's Road
Charles and John COMBES, 62 St James's Street
William CONSTABLE, 57 Marine Parade
Lewis DIXEY, 21 King's Road
Robert FARMER, 59 & 114 North Street
GREY & HALL, 13 St James's Street
Jesse HARRIS, 213 Western Road
HENNAH & KENT, 108 King's Road
William LANE, 213 Western Road
Madame Agnes RUGE, 180 Western Road

William Constable, who for 10 years had enjoyed a monopoly in the production of photographic portraits, was now faced with up to a dozen competitors. In the summer of 1854, Constable closed his original studio at 57 Marine Parade and removed his photographic business to the 'Old Custom House' at 58 King's Road, where he entered a partnership with the daguerreotype artist Edward Collier.

The Talbotype - an alternative to the Daguerreotype in Brighton

In 1839, the same year that Daguerre announced his

Fig. 6 Engraving showing a photographer's 'glasshouse' studio (c. 1853). Robert Farmer had opened a 'glasshouse' studio by 1854

LOSE NOT THE PRESENT OPPORTUNITY.

MR. FARMER'S DAGUERREOTYPE ROOMS, 59, NORTH-STREET, BRIGHTON.

Mr F. invites the attention of the Ladies, Gentlemen, and Visitors of Brighton to his Collection of PHOTOGRAPHIC PORTRAITS, taken plain or in colours, by competent Artists.

Portraits taken at this Establishment in all weathers, in a room designed and built expressly for the purpose, and with Apparatus of very superior construction, which enables Mr F. to ensure a fine Portrait, when otherwise it would be impossible to obtain it.

Price 1s. 6d., in case; or coloured, 2s. 6d. Elegant Morocco cases at moderate prices.

Stereoscopic Portrait with Stereoscope, 10s. 6d., complete.

Mr F. is now exhibiting to Amateurs and Ladies and Gentlemen interested in the art, his CALOTYPE views of the Pavilion, the Railway Terminus, &c., taken by Gustave le Gray's new waxed-paper process; also, his DAGUERREOTYPE views of the Pavilion, and of the Old Church previous to its being restored.—Every description of apparatus provided, and practical and theoretical instructions given in the art.

Fig. 7 Advertisement for Mr. Farmer's Daguerreotype Rooms at 59 North Street, Brighton. (*The Brighton Herald,* 26th November 1853)

method of fixing images on a silvered copper plate, William Henry Fox Talbot (1800-1877), an English landowner, scholar and scientist, published '*The Art of Photogenic Drawing*', an account of how he had managed to capture images permanently on paper. Four years earlier, Talbot had produced tiny photographic views of Lacock Abbey, his home in Wiltshire. By treating the small pictures with wax, Talbot was able to use them as negatives and print further copies. Although he had invented a negative/positive photographic process, Talbot's early pictures were small, required very long exposure times and lacked the sharpness of detail and brilliance of the daguerreotype. Talbot continued his experiments and improved the quality of his photographs by coating his paper with silver iodide and developing the images with a gallo-nitrate of silver solution. Talbot patented his new process in February 1841, describing his pictures as 'Calotypes'. Talbot protected his photographic inventions by filing a number of all-embracing patents.[13]

Talbot insisted that all professional photographers who wanted to use his calotype process for taking portraits had to purchase a licence, which usually involved an annual fee of between £100 and £150. In 1852, Thomas Henry Hennah (1826- 1876), a young London artist, together with William Henry Kent (1827-1897), a photographic artist from the Isle of Wight, purchased a licence from William Fox Talbot to make portraits using the calotype process. The photographic prints were called 'Talbotypes' in honour of the inventor. By 1854, Hennah and Kent had established a 'Talbotype Portrait Gallery' in William Henry Mason's Repository of Arts at 108 King's Road, Brighton. An item in the *Brighton Gazette* of 12th October 1854 indicates that the Talbotype Gallery specialised in taking portraits of the nobility and the upper ranks of society. The 'Brighton Gazette' enumerates *"a few of the distinguished persons who have recently honoured these eminently skillful artists with a sitting"*, listing the Duke of Devonshire, Countess Granville, Lord Carnworth, Lady Keats and several other notable visitors to Brighton.[14] Hennah & Kent came into direct competition with William Constable, who in July 1854 formed a partnership with another daguerreotype artist, Edward Collier at 58 Kings Road to form the firm of Constable & Collier.

Fig. 8 An early photograph of the Brighton Talbotype Portrait Gallery at W. H. Mason's Repository of Arts, 108 King's Road, Brighton. (c. 1860). The firm of Hennah & Kent (Thomas Henry Hennah and William Henry Kent) had established a photographic portrait studio in William Henry Mason's print selling business in Brighton's King's Road around 1854. (Photo: courtesy Philippe Garner).

Stephen Grey (1823-1891) and William Hall (born 1826), who established their General Photographic Institution at 13 St James Street in the summer of 1854, also offered to take 'Talbotype portraits' under licence of the patentee. At Grey & Hall's General Photographic Institution, large sized 'Talbotype' portraits mounted in a gilt frame were priced at 15 shillings (75p).[15]

PHOTOGRAPHS ON GLASS AND PAPER

Fig 9. The blind-stamp which was impressed on photographic portraits produced at Hennah & Kent's Talbotype Gallery at 108 King's Road, Brighton. The blind-stamp makes it clear to the public that the 'Talbotype' portraits were made under "*Licence of the Patentee*", i.e., William Henry Fox Talbot. (Thomas Henry Hennah and William Henry Kent had purchased a 'Talbotype' licence from William Henry Fox Talbot in 1852).

The Collodion Process and Photographs on Glass

In March 1851, Frederick Scott Archer (1813-1857), a sculptor and a member of the Calotype Photographic Club, published details of his 'wet collodion process', which involved coating a glass plate with a mixture of potassium iodide and a sticky substance called collodion. Also known as 'gun cotton', collodion was a transparent and adhesive material that was first used in surgery to dress wounds. The coated glass plate was then sensitized in a bath of silver nitrate. The highly sensitive wet plate was then placed inside a camera and exposed by uncapping the lens. Earlier methods using glass plates coated with albumen (egg white) provided exposure times of between five to fifteen minutes and so were unsuitable for portrait photography. Archer's 'wet collodion' process could produce high-quality negatives after exposures of only a few seconds. Unlike Beard with the daguerreotype process and Talbot with the 'calotype' or talbotype, Archer chose not to patent his discovery and offered his invention free to all photographers.[16]

Collodion Positives - Cheap Portraits on Glass

Frederick Scott Archer's collodion 'wet plate' process produced a glass negative which could make an unlimited number of prints on paper. However, most customers were seeking a cheap alternative to the handsome daguerreotype portrait, which came protected under glass in a metal frame and presented in a velvet-lined, leather-bound display case. Scott Archer soon realised that by underexposing the collodion glass negative and placing it on a black background, the image took on the appearance of a positive picture. The resulting image was as sharp and clear as a daguerreotype,

Fig 10. A Talbotype portrait of the artist William Henry Hunt (1790-1864) by Hennah & Kent of 108, King's Road, Brighton. (c.1855). (Photo: courtesy Philippe Garner.)

yet Archer's new process was cheaper and less complicated. Furthermore, the collodion positive process was incredibly quick to perform.

Photographers could see immediately the commercial possibilities of a cheap and speedy method of taking portraits. The "collodion positive" photograph on glass could be backed with black paper, very dark varnish or provided with a background of black velvet or similar dark cloth. Protected by glass, placed in a metal frame and inserted in a presentation case or an elaborate frame, the collodion positive was an inexpensive substitute for the daguerreotype portrait, which in the 1840s had been the preserve of the nobility and the wealthy middle classes of society.

William Lane of Brighton was promoting the new process of making "*portraits and views taken on glass*" as early as September 1852. In an advertisement placed in *The Times*, dated 10th September 1852, Lane claimed that *"any person can produce in a few seconds, at a trifling expense, truly life-like portraits"*. Early in 1853, William Lane's Cheap Photographic Depot was offering a "*complete set of apparatus for the glass or paper process*" for the sum of 4 guineas (£4. 4s / £4.20p). By October 1853, The Royal Chain Pier Photographic Rooms in Brighton were advertising *"Portraits superior to engravings by the new process on glass."*[17]

On 3rd August 1854, Grey & Hall's Photographic

Fig 11. A coloured collodion positive portrait of two identically-dressed girls, probably sisters, produced at Grey & Hall's Photographic Institution around 1855. Stephen Grey & William Hall had established their studio in 1854.

Fig 12. A fragment of an advertising label publicizing Grey & Hall's Photographic Institution at 13 St. James Street and 18 Old Steine, Brighton, pasted on the back of the portrait illustrated on the left.

Institution on St James Street announced they had "*completed arrangements for taking portraits by all the most recent and improved processes, by Licence of the Patentees*". In addition to Talbotype portraits and "*Daguerreotypes warranted to last*," Grey and Hall offered to make "*Coloured Collodion Positives by a new and peculiar process*" for the sum of 15 shillings (75p).[15]

Photography Freed from Legal Restraints

Stephen Grey and William Hall were keen to emphasize that their new methods of taking portraits were "*licensed by the Patentees*". Archer had not patented his invention and Beard's daguerreotype patent had expired the year before, but William Henry Fox Talbot claimed that the "collodion process" was covered by his earlier patent, which had described a negative/positive system of photography.

In 1854, W. H. Fox Talbot took legal action against the studio of Martin Laroche, the professional name of William H. Silvester, a London photographer who had started to use Archer's 'wet collodion' technique in 1853. Laroche went to court to defend his right to use the 'wet plate' process. In December 1854, Laroche was found not guilty of infringing Talbot's patent rights and as a result of this legal judgment all photography was now free from restriction.

In the summer of 1855, James Henderson, a photographic artist who had previously operated portrait studios in London's Strand and Regent Street, opened a photographic studio at No 5, Colonnade in New Road, Brighton. In an advertisement dated 4th August 1855, James Henderson offered to take *" Photographic Portraits, on Paper, Silver, and Glass Plates . . . Prices from 10s 6d and upwards."* In this newspaper advertisement, Henderson *"begs to remind all lovers of Photography that he has been at considerable expense in defending the freedom of this beautiful art against Mr. Fox Talbot, the Patentee of the Talbotype process."*[18] Earlier, in May 1854, Talbot had obtained an injunction which restrained Henderson from making and selling photographic portraits produced by the collodion process. Laroche's successful defence against Talbot's legal action meant that Henderson and other photographers in Brighton were now free to produce portraits using any of the main photographic processes.

THE GROWTH OF PHOTOGRAPHIC STUDIOS IN BRIGHTON (1854-1861)

The introduction of Archer's cheap collodion process, the ending of Beard's Daguerreotype Patent in August 1853, and Talbot's failure to legally prevent the adoption of rival 'negative/positive' methods of photography, all led to a rapid growth in the number of photographic portrait studios in Brighton. Between 1841 and 1851, William Constable's Photographic Institution was the only photographic portrait studio in Brighton. By the end of 1853, there were about half a dozen studios producing photographic portraits. Melville's Directory of 1858 lists at least 16 photographic artists.[19]

The Decline of the Daguerreotype

By the time Melville & Co.'s *Directory of Sussex* was published in 1858, the daguerreotype portrait was on its way out. All the photographers listed in the 'Professional and Trades' section of Folthorp's Brighton Directory appear under the heading 'Photographic and Talbotype Galleries'. 'Farmer's Daguerreotype Rooms' had become 'Farmer's Photographic Institution' and William Lane had

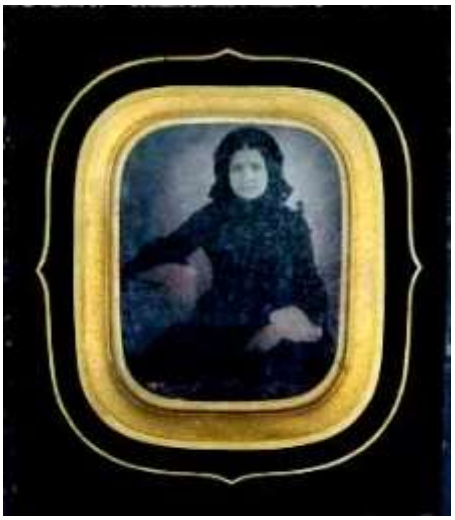


Fig 13. A 'Verreotype Portrait' (i.e., a collodion positive) in a French Frame produced at William Lane's Photographic Gallery at 213 Western Road, Brighton (c1860).

Fig 14. The advertising label pasted on the reverse of the 'Verreotype Portrait' illustrated on the left. By 1860, William Lane was offering cased portraits on glass for as little as 6d (2½p).

abandoned the daguerreotype for his 'Verreotype' process (a version of Archer's 'Collodion Positive' method of photography). In an advertisement dated 3rd January 1856, William Lane promoted his new and improved 'Verreotype' Process, by detailing the advantages the new process had over the daguerreotype. 'Verreotypes', Lane proclaimed, were perfectly free from metallic reflection and could be seen *"in every shade of light"*. Lane's Verreotype portraits took only a short time to produce and could be *"taken in dull, or even rainy weather . . . when it would be quite impossible to operate with the Daguerreotype method."* Lane states confidently in his advertisement that *"these never fading Portraits . . . are now superseding Daguerreotypes."*[20]

PHOTOGRAPHIC STUDIOS IN BRIGHTON: Backgrounds of the Early Photographers

ARTISTS

Many of Brighton's early photographers had an artistic background. The earliest photographer in Brighton, William Constable had, before turning to photography, received some attention for his artistic talent in drawing and painting. George Ruff gave his occupation as "*Painter in Oil and Water Colours*" in the 1851 Census and, as an artist, had exhibited marine and landscape paintings before he set up his photographic studio in Brighton's Queens Road around 1856. The early landscape photographer Edward Fox junior was recorded as a "*decorative painter*" in the census and Jesse Harris, who is described as a daguerreotype artist in 1854, was entered in the 1851 Census as an "*Artist-Painter*". Stephen Grey, who joined with William Hall to form the photographic firm of Grey & Hall in 1854, is listed as a portrait painter in an 1852 directory. Thomas H. Hennah, a partner in the Hennah & Kent photographic studio, gave his profession as "*Artist*" to the census enumerator.

CHEMISTS & OPTICIANS

Photography has its technical as well as artistic aspects. The early photographic processes were complicated and required the agency of chemicals and so it is not surprising that an early Brighton photographer was a chemist, Robert Farmer, who had come to Brighton in 1852 to take over William S. Passmore's chemist's shop at 59 North Street.

Fig 15. A portrait of the Brighton artist and photographer George Ruff (1826-1903), an albumen print photograph taken around 1860. Ruff started his working career as a "*painter in oils & watercolour*".

Fig 16. . The publicity printed on a label affixed to the back of a collodion positive portrait by George Ruff, "*Artist and Photographist*" of 45 Queen's Road, Brighton (c1860). This advertisement emphasised that Mr. Ruff, an "*Artist*", coloured his own photographs.

Fig 17. William Cornish's chemist's shop at 109 King's Road, Brighton (c1860). Cornish's son, William Cornish junior (born 1840) established a photographic portrait studio here in 1862.

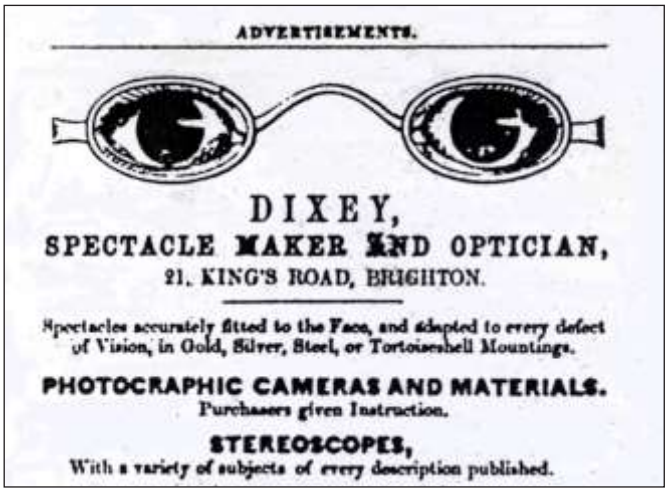


Fig 18. An advertisement for the optician and spectacle maker Lewis Dixey (1814-1895) who sold photographic apparatus and materials at his shop at 21 King's Road, Brighton (1859). By 1862, Lewis Dixey had opened a photographic portrait studio at 23 Ship Street, Brighton.

Another chemist, William Cornish junior, who assisted his father, a dispensing chemist at 109 King's Road, had become a professional photographer by 1862. Photography also involves optics and the employment of lenses and so Lewis Dixey, optician and mathematical instrument maker of Kings Road, Brighton was well placed to provide photographic apparatus. In 1854, Lewis Dixey was also listed as a daguerreotype artist and by 1862 he had established a photographic studio at 23 Ship Street, Brighton.

CARVERS & GILDERS

It was perhaps natural for carvers, gilders and picture frame makers to become involved in the new art of photography. William G. Smith who became a photographic artist in the mid 1850s was a carver and gilder residing in Western Road Brighton at the time of the 1851 Census. William Lane (1818-1889) had owned the 'Cheap Picture Frame Manufactory' at 3 Market Street, near Castle Square, Brighton, where he mounted and framed paintings, engravings and water colour drawings. As early as 1852, Lane had added to his picture framing business a 'Photographic Apparatus Depot'. William Lane was describing himself as a "photographer" in 1852, but he had few artistic pretensions. He took a more practical approach than 'photographic artists' such as Constable, Fox, Harris, Hennah and Ruff. According to William Lane's 1852 advertisement, artistic talent was not a prerequisite for accomplished photography. *"No knowledge of drawing required to produce these wondrous works of art and beauty... By this new process any person can produce in a few seconds (at a trifling expense) truly life-like portraits of their friends, landscapes, views, buildings etc"*. Lane offered to provide *"printed instructions, containing full particulars for practising this fascinating art with ease and certainty"*.[21]

William Lane was happy to supply photographic apparatus and materials to operators or amateurs, providing "instructions in the Photographic Art" free of charge to all purchasers of photographic equipment. From 1854, William Lane was operating "*Photographic Portrait Rooms*" at his picture-framing business at 213 Western Road, Brighton. By 1863, William Samuel Antill (1825-1894), a 'carver & gilder' at 57 Preston Street, Brighton, was taking photographic portraits at his business premises.

TRADESMEN

By the late 1850s, tradesmen with no previous interest in art or photography had set themselves up as photographic artists. Possibly armed with apparatus and instructions from Wiliam Lane's Photographic Depot or some other local supplier, two brothers Charles and John Combes, established themselves as "daguerreotypers" at 62 St James Street, Brighton in 1854. In 1851, Charles Combes had been employed as a warehouseman and his younger brother John was learning shoemaking from his cordwainer father. The Combes brothers obviously believed they could improve their

fortunes by entering a potentially lucrative business.

James Waggett was earning a living manufacturing and tuning pianofortes, when around 1856 he decided to offer the additional service of taking photographic portraits. After 3 years or so, James Waggett was removed from the list of Brighton photographic artists and appeared once more under the heading 'pianoforte tuners' in the local 'trades directory'.

The chosen trade of James R. Bates was that of fruiterer and seedsman. As a 23-year-old in 1850, Bates was running a fruiterer's shop in Brighton and forty years later he was still in the same business. Yet, for at least a year from 1858 to 1859, James R. Bates tried his hand at photography. When the expected profits did not materialize, Bates abandoned photography and returned to selling fruit, seeds and flowers.

Shopkeepers and former tradesmen are well represented in the ranks of photographers active in the late 1850s and early 1860s. Cox & Burnell operated a cigar and tobacco depot as well as a 'photographic glasshouse' in 1858. The photographer John Atkins Jones worked previously as a painter and carpenter and Thomas Cowdrey managed a wine merchant's shop before turning to photography.

Entrepreneurs

Joseph Langridge was a true entrepreneur. Langridge was prepared to invest in any sort of scheme and ready to carry out any trade to make money, and he eventually realised that taking photographic portraits was as good a way as any. In his twenties, Joseph Langridge, the son of a pawnbroker and second-hand clothes dealer, borrowed heavily to purchase railway shares, and invest in a jewellery business. He carried on as a jeweller in Brighton until the late 1840s when he started a bakery business in London. Langridge was an insolvent debtor in 1842 and nine years later, after his bakery venture failed, he was again declared insolvent and sentenced to 10 months' imprisonment for not paying off his debts. On his release from prison, Langridge tried his hand at manufacturing soda water and, by 1853, he was selling smoked and salted herrings which he described as 'Brighton bloaters'. Listed as a photographer at 43 Clarence Square, Brighton in 1858, Joseph Langridge had operated a photographic firm under the name of Merrick & Co. at 186 Western Road in 1856. Using the pseudonym of 'Joseph Merrick', Langridge continued as a photographic artist at 33 Western Road, Brighton for another sixteen years.[22]

Thomas Cowdrey was another enterprising businessman. Before he established a photographic studio in Brighton's Queen's Road around 1861, Cowdrey was in business as a commission agent, tobacconist, a dealer in dried fish and shellfish, a beer retailer and a wine & spirit merchant.

Emigres, Exiles and Foreign Professors

Joseph Meurant (born c1810, France), formerly a dealer in French fancy goods in Dover, Kent, was originally from Paris. In July 1852, Meurant opened a 'Daguerreotype Room' in East Street, Brighton.

Mrs. Agnes Ruge has the distinction of being the first woman to be recorded as a photographer in Brighton. Madame Ruge is listed at 180 Western Road under the heading of 'Daguerreotype Artists' in W. J. Taylor's 1854 Directory of Brighton. Agnes Ruge, who was born in Dresden, Saxony in 1814, arrived in England in 1850 and was one of several emigres who practised photography in Brighton. Agnes Ruge was the wife of Professor Arnold Ruge (1802-1880), an associate of Karl Marx and a political radical, who had been driven into exile after the failure of the 1848 Revolution in Germany. Mrs Ruge worked as a daguerreotype artist for only a short period of time. By 1857, Agnes Ruge was earning a living as a teacher of the German language.

Fig. 19 A *carte-de-visite* portrait of Madame Agnes Ruge (1814-1899), a German-born daguerreotype artist who was active as a photographer in the mid 1850s.

Anton Schell was born in Frankfurt-on-the Main, Germany, around 1832. Originally a portrait painter, Schell was brought to England in 1853 to work as a photographer's artist. Schell was employed to colour photographic portraits and other monochrome photographs. By 1867, Anton Schell was working as a photographer and portrait painter in Brighton. Local trade directories list Anton Schell as a professional photographer at 17 West Hill Road, Brighton between 1867 and 1870.

In the 1860s and 1870s, Brighton continued to attract foreign-born artists and photographers. The Brighton-based photographers Camile Langlois, Louis Dolibo, Albert Boucher and Louis Bertin originated from France. The Italian-born Antonio Martinucci employed Italian photographic artists at the 'Lombardi' studio at 113 King's Road. Two brothers, George Cassinello and Nicola Cassinello, the sons of Domenico Cassinello, an Italian from Genoa, were both active as photographers in Brighton during the 1860s.

Fig. 20. A portrait of the French artist Albert Adolphe Boucher (1840-1875). Boucher was born in Ferrières-La-Verrerie, France, in December 1840. After training as a teacher, Boucher moved to England in 1865, settling in Bristol, where he established himself as a portrait artist. By 1870, Albert Boucher was the proprietor of a photographic studio at 23 Ship Street, Brighton.

THE CARTE DE VISITE CRAZE (1862-1871)

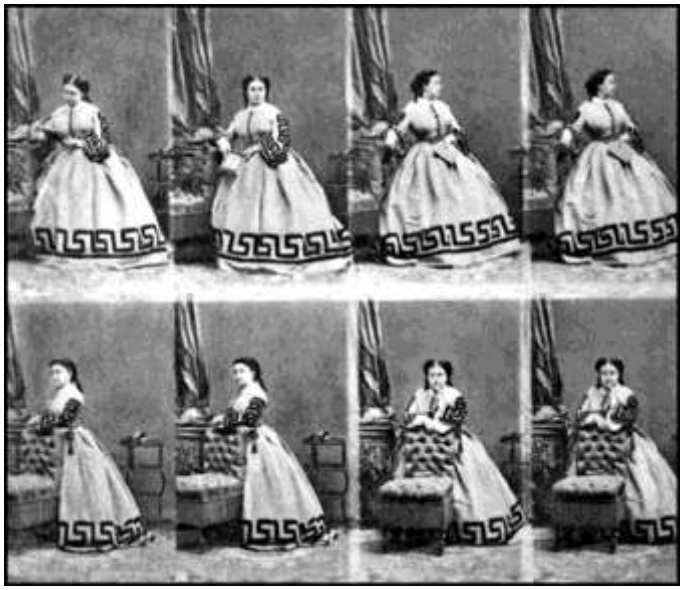


Fig. 21. An uncut contact sheet of 8 *carte de visite* portraits by Andre Adolphe Disderi (1819-1889), the Parisian photographer who devised the multi-lens *carte-de-visite* camera. The above photograph, dating from around 1862, features eight photographic portraits of a young woman in a variety of poses.

The 'Carte de Visite' Format

In the early 1850s, a number of French photographers put forward the idea of mounting a small photographic portrait on a card the same size as the customary calling card. In 1854, a Parisian photographer named Andre Adolphe Disderi (1819-1889) devised a multi-lens camera with a collodion-coated glass plate that could be moved to capture between four and twelve small portraits on a single glass negative. This meant that a photographer equipped with a camera with four lenses could take a total of eight portraits, in a variety of poses, all on one camera plate. From the resulting negative, the photographer could produce a set of contact prints on albumenized paper, which could then be cut up and pasted onto small cards. The card mounts were the same size as conventional visiting cards (roughly 2½ inches by 4¼ inches or 6.3 cm by 10.5 cm) and so this new format of photograph came to be known as '*carte de visite*' - the French term for visiting card.

In 1857, Marion and Co, a French firm of photographic dealers and publishers, introduced the *carte de visite* (*cdv*) format to England. By 1859, the *cdv* portrait was fashionable in Paris, but the new format was not immediately popular in this country.

Royal Portraits and Celebrity Cartes

In May 1860, John Jabez Edwin Mayall, who was later to open a photographic studio in Brighton, made a number of portraits of the Royal Family. Mayall was given permission to publish the portraits of the Royal Family as a set of *cartes de visite*. In August 1860, a 'Royal Album' was produced which could hold the small *cdv* portraits of Queen Victoria, Prince Albert and their children. Because the public could now collect portraits of Queen Victoria and her family, the 'Royal Album' was an immediate commercial success, and the Royal-themed cartes sold in their hundreds of thousands.

The publication of a set of royal portraits started a fashion in Britain for collecting *carte-de-visite* portraits of famous people. Another series of royal portraits by Mayall was published in 1861. In the December of that year, Queen Victoria's husband Prince Albert succumbed to typhoid fever and his death created an enormous demand for his portrait. *The Photographic News* later reported that within one week of his death *"no less than 70,000 of his cartes de visite were ordered from Marion & Co."* By the end of the decade, Marion & Co, had paid Mayall £35,000 for his portraits of the Royal Family.

Leading photographers made portraits of the famous personalities of the day, which were then issued in *cdv* format and sold through retail outlets such as print-sellers, stationers, booksellers and fancy goods shops. The retail trade sold *cdv* portraits of statesmen, politicians, actors, authors, artists, entertainers and other famous people. The *cdv* format also allowed the photographic portrait to be mounted in a specially designed photograph album. By 1861, Thomas Hill, who sold all manner of fancy goods at his shop at 66 East Street, Brighton, was selling "*Albums for the Cartes de Visite*" and had in stock a "*great variety*" of these celebrity portraits.[23]

Local Celebrity Cartes

In the early 1860s, Brighton studios were advertising *cartes de visite* of local celebrities. William Hall, a former partner in the photographic firm of Grey & Hall and now the sole proprietor of the studio at 13 St James Street, was one of the first photographers in Brighton to promote celebrity cartes. In a newspaper advertisement dated 27th February 1862, Hall offered to the public *cdv* portraits of *"Eminent Ministers - taken from life."* Hall listed 20 church ministers who were featured in his *cdv* portraits, including the Reverend James Vaughan of Christ Church and the Reverend Thomas Trocke of Chapel Royal, Brighton.[24]

In September 1862, the photographic firm Merrick & Co, of 33 Western Road, Brighton, was offering for sale, at 1s 6d a copy, a *cdv* portrait of Sarah Forbes Bonetta, who was then known as '*The African Princess*'. In 1850, when still a young girl, Sarah had been rescued from slavery in Dahomey and brought to England where she became a celebrated figure. On 14 August 1862, Sarah, who had recently moved to Brighton, married Mr. James Labula Davies, a West African merchant, at Brighton's St Nicholas Church. Joseph Langridge, the proprietor of the Merrick photographic studio in Western Road, became quickly aware of the commercial potential of selling portraits of Sarah Forbes Bonetta and within a month of her marriage to Mr Davies, he was selling *cdv* portraits of '*The African Princess'* to the inhabitants of Brighton.[25]

Portraits for the Masses

Fig. 22. The interior of a typical *carte-de-visite* portrait studio in the 1860s. The photographer is using a special multi-lens camera which could take between four to a dozen small portraits on a single glass negative. The camera in the middle foreground shows four apertures which correspond to the four lenses of the *carte-de-visite* camera. A woman poses in front of a mock-up of a drawing room in a grand house, complete with a cardboard fireplace and a fake ancestral portrait on the painted backdrop. On the far right of the illustration is an alternative studio portrait setting - an artificial balustrade in front of a magnificent countryside view featuring trees and a church spire. In front of this illusory view are two posing stands, complete with head clamps, which were used to keep a subject still during lengthy exposure times. The large windows and skylight provide the photographer with the required amount of

A portrait made by either the daguerreotype or collodion positive process was unique and further copies could only be made by re-photographing the original. Disderi's *carte-de-visite* method meant that one photographic whole-plate could hold up to eight individual images. This eight-picture negative could then be used repeatedly to produce multiple copies. A photographer could therefore take eight small portraits at one sitting and from a single negative produce a large number of prints, thereby greatly reducing the cost of each portrait.

Carte de Visite Prices

When William Hall was in partnership with Stephen Grey at 13 St James Street in 1854, a small daguerreotype portrait could be had for 6 shillings (30p). In 1862, at the same studio, William Hall was offering to provide a dozen *cdv* portraits at a price of 12 shillings (60p). When the 'high class' photographer John Jabez Edwin Mayall opened his new photographic portrait studio at 90-91 King's Road, Brighton in July 1864, he priced a set of twelve *cdv* portraits at £1.1s (£1.05p). Hennah & Kent, another high-quality portrait studio in Brighton, *"got 21/- a dozen for cartes"* according to Allen Hastings Fry, who worked for the studio in the early 1860s. At the other end of the scale, The West-End Photographic Company, based at 109 Western Road, Brighton was charging 5s (25p) for 12 *cartes de visite* in 1864. At the same studio, a single *cdv* portrait would cost 1 shilling (5p), three copies could be had for 2 shillings (10p), while six copies could be purchased for 3s (15p).[26]

"Cartomania"

During the 1860s, every High Street photographer in Brighton recognized the fact that *cdv* was the most popular of the portrait formats. The *cdv* also generated the most income. It is reported that J. J. E. Mayall produced over half a million cartes a year, which helped him secure an annual income of £12,000. In December 1861, *The Photographic News* declared *"At the present time, we believe cartes de visite are the most remunerative class of portraits produced by professional photographers."* The *'Photographic News'* pointed out that the *cdv*'s profitability stemmed from the fact they were *"generally ordered in quantities."* The *cdv* itself became an advertisement and generated business. As *The Photographic News* explained: *"each one sent out is a recommendation and almost certainly brings fresh customers. Thus a sitter orders a dozen copies; in giving these to his friends, he places each one, to a certain extent under the obligation of giving a portrait in return; and thus, it happens that every portrait taken becomes, as it were, the nucleus of a fresh order."*

With the growing popularity of the *cdv* portrait, High Street photographers experienced an increased demand for their services. A top London studio could expect, on average, around 30 sitters a day, although in the summer months the figure could be higher. In May 1861, Camille Silvy's London studio recorded 806 customers for that month alone. A provincial photographer reported that *"fifteen in a morning was considered a good day's work, although in the summer it often rose to twenty-five."*[27]

Benjamin Botham (1824-1877) arrived in Brighton to set up a photographic portrait studio around 1861. When he decided to sell his studio seven years later in order to begin a new career as the proprietor of the Oxford Theatre of Varieties, he passed on nearly 10,000 negatives to his successor.[28]

The demand for *cdv* portraits led to a further growth in the number of photographic portrait studios in Brighton. In 1858, there were around 16 photographic studios in Brighton. By 1862, when the *carte de visite* craze was taking off, the number of portrait studios in Brighton had risen to 21. Lane's Photographic Portrait Rooms at 213 Western Road, Brighton became the photographic studio of The Carte de Visite Co., with William Lane acting as manager. At the height of the *cdv* craze in 1867, there

Fig. 23 (L) A *carte-de-visite* portrait of a man holding a top hat and leaning on a plinth, photographed by Benjamin William Botham of 59 North Street, Brighton (c1862). By 1862, Benjamin Botham had established a new studio at No. 43 Western Road, Brighton.
(R) Botham's trade plate printed on the reverse of his *cdv* portraits.

were a total of 37 studios in Brighton, most of which were supplying *cdv* portraits.[29]

High Street Photographers from London

The 1860s saw the arrival of large London firms, intent on establishing branch studios in Brighton. Dickinson Brothers was a leading firm of printers and publishers based at 114 New Bond Street, London. The company had achieved national recognition for a set of 55 large, coloured lithographs, entitled *'Comprehensive Pictures of the Great Exhibition of 1851'*, which illustrated the various display areas at the Crystal Palace. By 1855, Dickinson Brothers had become interested in photography and had established two photographic portrait studios in London, one at their premises in New Bond Street and the other at 174 Regent Street. Dickinson Brothers established a branch studio at the prime site of 70-71 Kings Road, Brighton around 1862. Lowes and Gilbert Dickinson carried on their photographic portrait business in Brighton until 1868, when the demand for *cdv* portraits had begun to decline.

1864 saw the arrival of two companies which had already established a reputation for high class portrait photography in London's fashionable Regent Street - Lock & Whitfield and J. J. E. Mayall.

Lock & Whitfield, Photographers and Miniature Painters of 178 Regent Street, London established a branch studio at 109 Kings Road, Brighton in 1864, a few months after John J. E. Mayall had opened his studio on the same fashionable highway. Samuel Robert Lock (1822-1881) was an artist who in the early 1850s was converting talbotype portraits into painted miniatures. In September 1856, he joined forces with George C. Whitfield (born c.1833) who had recently built a photographic portrait studio in London's Regent Street. In an advertisement placed in a Brighton newspaper, dated 20th September 1864, Lock & Whitfield's studio at 109 King's Road offered to take "*carte de visite and every description of photograph, colored or uncolored (sic), on paper, ivory or porcelain*."[30]

Lock & Whitfield was in direct competition with the other firms from London, Mayall and the Dickinson Brothers, which also had their studios on Brighton's Kings Road. By 1867, Lock & Whitfield had fixed the price of 20 *cdv* portraits at £1.1s.6d (roughly £1.06p).

The firm of Lock & Whitfield probably employed a manager to run their Brighton studio in the 1860s, but by the time of the 1871 Census, George C Whitfield was living at Upper Rock Gardens, Brighton with his wife and five children. Later, Whitfield's business partner Samuel Lock also took up residence in Brighton.

John Jabez Edwin Mayall – Brighton's most famous studio photographer

Lancashire born John Jabez Edwin Mayall (1813-1901), the son of a manufacturing chemist and dye works proprietor in Oldham, had begun his working life near Huddersfield, West Yorkshire, but around 1842 he travelled to America to study the art and science of photography under the tutelage of two scientists attached to the University of Pennsylvania. In 1844, Mayall entered into a business partnership with the American photographer Samuel Van Loan and together they operated a daguerreotype portrait studio in Philadelphia. A few years later, Mayall returned to England and by April 1847 he had established a Daguerreotype Institution at 433, West Strand, London. By 1852, J. J. E. Mayall had opened a second studio at 224 Regent Street in the West End of London

As previously mentioned, Mayall had secured the patronage of Queen Victoria and the Royal Family and, between 1860 and 1862, he published sets of royal portraits in the *cdv* format, which triggered a craze for collecting *cdv* portraits. Mayall achieved fame and fortune. In the year 1861 alone, he reportedly made £12,000 from his *cdv* portraits.

Leaving his eldest son Edwin to run his London studios, John J. E. Mayall moved down to Brighton with his wife and two younger sons and on 18th July 1864, he opened his new photographic portrait studio at 90-91 Kings Road, close to the recently built Grand Hotel. In an announcement placed in the pages of the Brighton Examiner, Mayall declared that

Fig. 24. The Brighton-based photographer John Jabez Edwin Mayall (1813-1901) photographed in 1877 when, as an alderman in local government, he was elected Mayor of Brighton. In July 1864, John J. E. Mayall had opened a photographic portrait studio at 90-91 King's Road, Brighton. Mayall's photographic studio operated in Brighton for over 40 years.

Fig. 25 A 19th century photograph showing, on the right, the entrance to Mayall's photographic studio at 90-91 King's Road, Brighton, alongside the huge Grand Hotel at 97-99 King's Road. The hotel was built in the same year that Mayall opened his studio.

he had *"spared neither pains nor expertise in preparing, for the accommodation of the nobility and gentry resident at or visiting Brighton, one of the most efficient studios ever built."* Although he addressed his comments particularly to the "*nobility and gentry*", Mayall admitted that he was *"not unmindful of the fact . . . that moderate charges are as necessary as general excellence to ensure extensive public patronage."*[31]. Mayall charged £1 1s (£1.05) for a set of 12 *cdv* portraits and £5 5s (£5.25) for his "highly finished" coloured portrait photographs. More modest establishments in Brighton were offering a dozen *cdv* portraits for 5 shillings (25p) in 1864.

Mayall made the guarantee that his new Brighton studio would be *"as successful in operation as it is complete in design"*. Mayall's name remained on the Kings Road Studio until 1908, seven years after his death. Mayall, who lived in the Brighton area until he died in Southwick on 6th March 1901, involved himself fully in the life of the town and became active in local politics and in 1877 he was made Mayor of Brighton.[32]

Overview: The Growing Number of Photographic Portrait Studios in Brighton between 1841 and 1871

When the census was taken in Brighton on the night of Sunday, 6th June 1841, some 21 months after Louis Daguerre announced details of his photographic process, not a single photographer was recorded in the town. On 8th November 1841, William Constable opened Brighton's first photographic portrait studio. At the time of the 1851 census of Brighton, only 67-year-old William Constable and 19-year-old Thomas Bray Leffen were recorded as photographers. By 1856, there were around a dozen photographic artists active in Brighton.

When the 1861 census was taken five years later, 56 individuals residing in Brighton were recorded as being associated with professional photography, and two dozen of these were studio proprietors or running their own photography businesses. Two photographers (one from Birmingham, the other from London) were visiting the seaside resort when the census was carried out in April 1861. The remaining thirty people were employed as camera operators, photographers' assistants, photographic colourists, etc.

A decade later, when the 1871 census was taken, 102 individuals living in Brighton were engaged in the business of photography. Thirty-two out of this total were either studio proprietors or master photographers who employed staff (e.g., photographic printers, assistants, apprentices, colourists). A dozen of those employed in photography were female. Brighton trade directories published in 1871 and 1872 indicate that there were at least 28 photographic portrait studios in business at the time of the 1871 census. The number of photographic studios in Brighton had reached its peak in 1867, at the height of '*cartomania*', when 37 different studios were listed in local trade directories. Commercial portrait photography

continued in popularity throughout the Victorian period. When Queen Victoria's reign came to an end in January 1901, over 50 photographic studios were recorded in Brighton and Hove.[33]

Notes and References

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2. Philippe Garner, *'William Constable, Brighton's First Photographer'* in History of Photography, Vol 15, Issue No 3, Autumn 1991, pp 236-239; Claire Constable, *'The Constables of Brighton and Reigate'*, Book Guild Publishing Ltd (2005). For more details about William Constable see https://spartacus-educational.com/DSconstable.htm
3. See website https://www.photohistory-sussex.co.uk/dagprocess.htm
4. Bernard V. & Pauline F. Heathcote, *'Richard Beard: An Ingenious and Enterprising Patentee'* in History of Photography,Vol 3, Issue No.4, October 1979, pp 313-329.
5. A photographic copy of a 'Commemorative Plaque to William Constable' (dated 20th January 1858) records that Constable "*in 1841 took a Licence under Beard's Patent for taking Daguerreotype portraits, for which he paid One Thousand Pound*."
6. Garner, *'William Constable, Brighton's First Photographer', op. cit.*; Claire Constable, *'The Constables of Brighton and Reigate'*, op. cit.; Claire Constable, *'The Constables of Horley Mill'*, Surrey Mills Publishing (2001).
7. Lists of portrait artists resident in Brighton during Victorian times can be found in the 'Professions and Trades' sections of local directories such as Pigot & Co.'s *'Directory of Brighton'* (editions 1828-1834) and Leppard & Co.'s *'Brighton Directory for 1839-1840'*. Further details about prices charged for painted portraits can be found in *'The Dictionary of Portrait Painters in Britain up to 1920'* by Brian Stewart and Mervyn Cutten (Antique Collectors' Club, 1997).
8. Frances Dimond and Roger Taylor, '*Crown & Camera: The Royal Family and Photography 1842-1910*', Penguin Books (1987).
9. Philippe Garner. '*William Constable, Brighton's First Photographer'*, op. cit.
10. *Brighton Herald*, 31 July, 7 August & 14 August 1852. After less than a year in Brighton, Meurant moved on to London. Joseph Meurant worked as a daguerreotypist and photographic artist at 6 Cumberland Place, Newington Butts, South London, from 1855 until 1861. There is no further trace of Joseph Meurant in English records, so he presumably returned to France.
11. *The Times*, 10 September 1852; *Sussex Advertiser*, 12 November 1853. For more details about William Lane's early ventures in photography see *Sussex PhotoHistory* website http://photohistory-sussex.co.uk/BTN-LaneWm.htm
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23. *Brighton Guardian*, 30 October 1861.
24. *Brighton Gazette*, 27 February 1862.
25. *Brighton Gazette*, 25 September 1862.
26. See advertisements by William Hall of St James's Street (*Brighton Gazette*, 27th February 1862); J. J. E. Mayall of King's Road (*Brighton Examiner*, 12th July 1864); West-End Photographic Company of Western Road (*Brighton Examiner*, 20th September 1864).
27. See *'Camille Silvy: Photographer of Modern Life*' by Mark Haworth-Booth (NPG, 2010) and *'Henry Peach Robinson'* by Margaret F. Harker (Basil Blackwell, 1988). See also 'The Victorians: Photographic Portraits' by Audrey Linkman (Tauris Parke Books, 1993).
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29. The 'Trade' sections of local directories provide lists of 'Photographic Artist' and 'Photographers' active in the town of Brighton in any given year.
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THE CHALK PIT FURLONG: A LOST PART OF WORKING BRIGHTON

Part One - the 19th century

Geoffrey Mead

Industrial archaeology, as opposed to industrial history, concerns itself with a study of tangible objects such as railway systems, manufactories, mile posts by roadsides, mills and seaside piers.[1] Industrial history looks at all these tangible items, but in a wider sphere, taking their context in a social system and in relationship to other sectors of industry. This article is concerned with an area that has no remaining industrial artefacts whatsoever and thus IA is on thin ice here! Rather, it has an intriguing industrial history, testified to by the archival records, some of which in the black & white photographic collection of the late James Gray show the area from the 1920s to the 1970s. These show not only a large brewery complex with its myriad departments and work areas, but also smaller industries, smithies, workshops and warehousing plus a tavern, alongside what would appear to be workers' housing. But the principal clue to the area's industrial past is its name, The Chalk Pit Furlong.

Located in central Brighton this is an area, that until development in the 1970s, contained a now lost section of the city's work history, here in the Chalk Pit Furlong. What is the meaning of the term 'furlong'? Not a measurement of distance in this case, it was a division of the ancient field system of the parish of Brighton. Historically the parish landscape was a combination of three elements: the Town, the area roughly of the present Lanes; the high sheep down on the periphery of the parish; and sand-wiched between sheep and town were the 'Laines', the large open fields of individual field strips, locally termed 'paul-pieces'. Each of the five Laines — West, North, Little, Hilly and East — had their strips arranged in largely parallel bundles, the furlongs. The Chalk Pit Furlong was in the West Laine north of *'the footway to Hove'*, the present-day Western Road. This is located in one of the busiest parts of the city's central business district and adjacent to the large Churchill Square enclosed shopping centre. It is a highly accessible and relatively confined area, with its boundaries delineated in the present-day street pattern. As in much of Brighton the ancient field system dictates the 21st century street pattern.[2]

A good start to locating the Chalk Pit Furlong is to start at the entrance of the large Marks & Spencer (M&S) store in Western Road and walk west to the corner of Regent Hill; turn and climb the steep slope

Fig 1. St Nicholas Church and Chalk Pit c1820 (Royal Pavilion & Museum, Brighton)

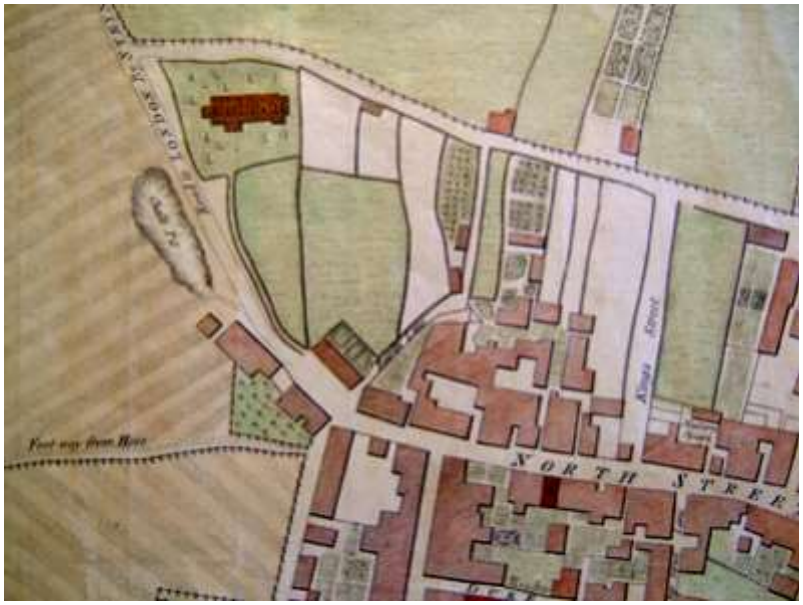

Fig 2. 1788 map showing the location of the Chalk Pit adjacent to the old London Road

northwards, where near the bottom of the street on the west side is a small gated entry giving access to a flint-walled twitten; not a part of the Chalk Pit but a feature that when located on period maps shows it opposite the site of Regent Row which was the principal thoroughfare through the Chalk Pit. Turn around and look across the street immediately opposite the twitten; no obvious roadway here, but a period map shows that spot to be the west end of Regent Row, an almost lost Brighton street. If it is not too busy, walk into the loading bay area of M&S and on the south side are a series of walkways giving access to the rear of the other Western Road stores, with a series of narrow bridges crossing, what is termed in this retail hinterland, 'The Sunken Road', all that remains of Regent Row. Continue up Regent Hill; on the west side is a gated entry to Marlborough Mews, a late-20th-century redevelopment of a brownfield site, the former North Street Brewery bottling yard. The narrow bow-fronted cottages on the west side here are all that remains of this 19th century housing area. At the top of the street is a pub, formerly The Princess Victoria, now T*he Craft Beer Co* and opposite a slab-fronted 1960s former office complex, now renovated into high value student accommodation.

Here at the junction of Regent Hill and Upper North Street, a positive wind tunnel, is a good point to consult a 19th-century large-scale map as it will show a narrow street that ran east from near the top of Regent Hill. This was Regent Court, six cottages in a small square with a twitten (a narrow urban lane in Sussex terminology) running off south-east from the rear of the Court down to Regent Row.[3] Walk along Upper North Street eastwards towards the green space of St. Nicholas church; somewhere along here, a short distance from the pub, was Upper North Street Cottages, a short cul-de-sac courtyard. This may be the site of a 'lost' community, Pentecost Buildings, which had three domestic properties somewhere here according to 19th century census returns.[4] At the junction with Dyke Road, drop down the steeply inclined road to the next corner; this is an interesting spot as it is a piece of old Brighton generally ignored by most of the city populace and is the old entrance to the eponymous Chalk Pit. On large-scale period OS maps this curiously twisting street plan is the east end of Regent Row, the 'sunken road' we encountered in the M&S loading bay.[5] We will return here later in this account, but to continue our perambulation of the furlong it is necessary to walk on to the corner of Western Road and Dyke Road, passing the entrance to the Imperial Arcade, the site of the North Street Brewery, before turning back west to the M&S store entrance. Having established the outline of the furlong, its historic boundaries and noted some of the internal streets and courts, now virtually extinguished, it is pertinent to note that the stretch of what is now termed Dyke Rd, from Upper North Street to Western Road was for much of the period until WWII named and numbered in the various street directories as a continuation of North Street.

There is some secondary source material that indicates the Chalk Pit was in use from c1660 and the same source notes that in 1744 *'the quarry was SW of the Church'*. The reference simply states *'based on research using freehold and manorial records'* and also *'based on research using contemporary archives'* but with no other definitive source reference.[6] The Chalk Pit would appear to have developed mainly in the 18th century, possibly as a source of agricultural lime for spreading on the acidic sandy clays of the nearby area of Woolwich & Reading Beds, lying atop the downland ridge just north of the Chalk Pit. Probably its main function was as a source of chalk to burn in lime kilns whose usage was increasing rapidly in the expanding resort community of 18th century Brighton.[7] Its location, close to and just west of the old Brighton parish church of St. Nicholas ensured

that this area outside the borders of the Old Town is recorded on a number of period maps, and its importance is attributed to by the fact that the furlong takes its name from the chalk extraction.

The earliest documentary evidence for the Chalk Pit so far examined is contained in the 1739 Brighton Terrier, a small, slim volume of maps and abstracts that delineates the ownership of land in the parish of Brighton; here the block of land is first named and mapped and as its name is already there as a place name it would indicate a much earlier origin. In 1739 the furlong had been in the ownership of several owners, Thomas Friend, Thomas Western and the Duke of Dorset, all major Brighton landowners, but a later copy of the map and abstract in 1792 shows the actual Chalk Pit area of the Furlong to be, as was virtually all of the West Laine, in the possession of the Lord of the Manor of Brighton, Thomas Read Kemp.[8]

There is a highly detailed map of the town in 1773, hand drawn by a military cartographer, which shows an indication of the chalk pit in the correct location, but un-named.[9] Between the 1739 initial record of the name and the 1773 map Brighton had seen a dramatic expansion in population and buildings. In 1739 Brighton was in the very early stages of becoming a seaside resort and its old role as a major fishing town, with coal and timber importing as a large component of its economic life, was being subsumed in the burgeoning resort economy and the Chalk Pit was to grow in extent, supplying the lime and flint needed in domestic and commercial building. A map of 1779 has the area of the Chalk Pit large enough to have the name within the mapped area and showing the route way into the pit from the road. In 1788 Budgen's map gives more clarity, showing buildings to the south along the NW comer of North Street, showing them as three discrete blocks and the Chalk Pit as an extensive area with a path shown running from the '*Road to London by Steyning*' into the Chalk Pit. Smith Hannington's map of 1802 shows a sizeable hollow at that spot with *'Chalk Pit'* emblazoned across it and a detached dwelling with a line of line of buildings south-east along the south side of North Street's western extension. Marchant's map of 1808 shows an even bigger area for the Chalk Pit, again big enough for the name of the feature to be contained within its mapped curtilage, but with two detached buildings within the Pit, and while the 1802 map shows the Old Town street pattern in some detail there is nothing of detail in the adjacent Laines. This 1808

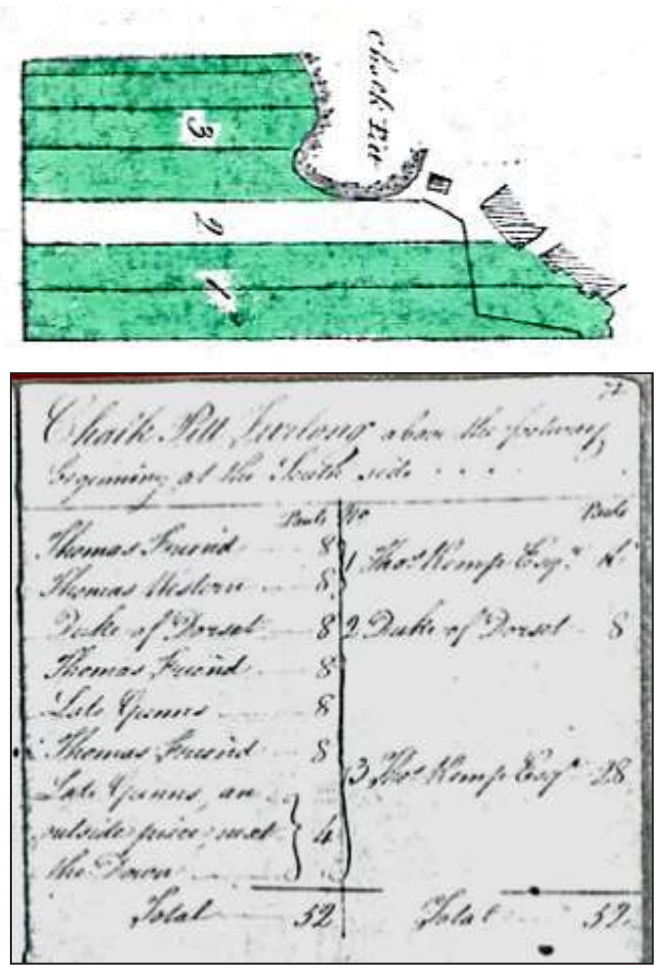

Fig 3. Brighton Terrier map 1792, with a list of owners and occupiers

map does however show field boundaries around the area outside the Old Town and here shows the Chalk Pit Furlong split in two, with the east-west field boundary seeming to indicate the route of the later Regent Row. This map also shows the Pit as extending beyond the Furlong's north side, now the present Upper North Street, and extending for a short distance north along the present Dyke Road.

By an 1815 map the pit has the route way into the Pit extending north-west across the open ground of the *Sheep Down* or *Church Hill West Side*. The Chalk Pit has indication of, in addition to the established building line to its south-east, buildings along the southern edge of the furlong, a stretch of buildings here named Regent Place. What today is named Western Road takes that name from an earlier landowner, Thomas Callis Western, the one-time major landowner in west Brighton and Lord of the Manor of Preston.[10] The '*Footway to Hove'* was named differently in relatively short stretches and it is only in the 20th century that the Western Road as named will stretch from the Clock Tower at the west end of

Fig 4. 1876 map showing Regent Row

North Street, westward to Palmeira Square, Hove. Regent Place developed in the 1820s with substantial houses facing south, down the slope to the Channel. Later development of smaller north-facing property on the south side of the road obscured the view, and the development of suburban housing in Hove later in the 19th century gradually drew the fashionable crowd away from this area westward.[11]

19th-century street directories show the development of industry in the Chalk Pit; Baxter's 1822 has a cabinet-maker, baker and stable keeper in Regent Hill with *'R. Mitchell lime burner'* in the east section at North Street, our first name link to the basic industry here. As was noted earlier the internal streets of the Chalk Pit were a working-class 'rookery' and thus are not recorded in earlier directories; often these types of streets were listed simply as *'mean dwellings'*, if noted at all. The poverty of the area continued into the 20th century, with Brighton Gazette in January 1912 noting that there were three soup-kitchens in Brighton, one being in Regent Row. The 1833 Brighton Directory shows a chimney sweep in North Street and RA Miles as a retailer of beer at a beer house with the wholly industrial name- *'The Lath Cleavers Arms'* ; this came into existence soon after the Beer Shop Act 1830.[12] Kelly 1845 shows the first listing of a major employment here as 84 North Street, home to Smithers & Isaacson, brewers and coal merchants. In the same block of buildings are James Potter, a plumber, painter & glazier, John Ellis a carpenter and Thomas Cooper builder; the building trade would continue as a component here for a very long time until post-WWII.

A year later and a leatherworker, Thomas Fuller a currier, is located next to the brewers. In 1848 the North Street area has the above, plus a boot & shoemaker, as well as a timber merchant with the appropriate surname, Sawyer… nominative determinism at work! For the first time Regent Row is included, and 15 years after the initial entry, a Mr Miles is still *'retailer of beer'* alongside a wheelwright and a blacksmith. Smithies feature prominently in all the later entries of Regent Row and a 1934 magazine contains an advert which states that the Forge was here for 200 years.[13] Folthorp 1850 has a chimney sweep and wheelwright in Regent Row, with Regent Hill listing a range of trades: a dairyman, baker and laundress, alongside *'small tenements'*. The trades have increased four years later to include a tailor, grocer & baker, laundress and fly proprietor. This poorer area also has *'Henry Mills, Marine Store Dealer'*; although relatively close to the seashore marine stores dealers were, in fact, scrap dealers. By 1856 Regent Row lists H. Philips, general smith, with, three doors along, J. Satcher coach builder & smith, and E. Hounsell general smith at #17. The block along North Street #90-113 has, apart from the brewer, the usual range of working class trades, shoemaker, chimney sweep, bricklayer, tailor, furniture broker, plumber, painter & glazier, with the Sawyers' timber merchant in two locations.[14]

Other than the chalk extraction work undertaken in the Pit, other industrial employments developed here. The 1841 census shows little detail other than a few occupations, mainly labourers and fishermen; this latter job title is a sure indication that by that date this area was low-value housing, as fishermen were concentrated in the extensive 'rookeries' that surrounded the commercial core in the Old Town.[15] The Chalk Pit was not an isolated area of poor housing; close by its on its east flank was 'Durham & Petty France', a notoriously criminal area and one of Brighton's biggest areas of slum housing. One area of dwellings that is intriguing is that named in the 1841 census as Chalk Pit Island. There are conflicting later secondary reports of its location, but both place it on the north side of the Furlong, but either side of the present Upper North Street. The Poor Rate Book 1844 lists a group of seven properties between Regent Row and Regent Hill which would seem to be the Chalk Pit Island.[16] The 1851 Census gives much more detail including the names of two small

courts, each of three properties, Pentecost Building and Walls Court. The exact location of these cannot be discerned, but their inclusion in the census sheets between Regent Row and nearby Wykeham Terrace suggests they are in the heart of the Chalk Pit.

Pentecost's residents' employments were a builders' labourer, an engineer, an upholsterer and an errand boy; Walls Court with a similar three properties, housed a butcher, two plasterers, two fish sellers, a fisherman and a builders' labourer. There were female occupations listed here, with a laundress, charwoman, a general servant and a part of the resort economy, with a 'bather'. The 16 properties recorded in Regent Row give a more extensive range of occupations, both manufacturing and services, as would be expected in a central urban location, but rather curiously also two farm labourers. The manufacturing sector was seen in a baker, sawyer, shoe binder, blacksmith, whitesmith, plasterer, cabinet maker, chair maker, blind maker and a coffin maker. These mainly metal- and wood-based trades were alongside the construction industry trades of two builders' labourers, a plasterer and a painter; the female industries were of a seamstress, two dressmakers, cook and undercook, two washers, and two ironers. In a resort town the service industries loom large and here in this poor quarter near the heart of the town are a carman, beer retailer, chair carrier, two general servants and two chimney cleaners. In nearby Regent Court with its six properties the populace had a similar economic base, but with more involved in primary industry, which in Brighton's case was still the fishing industry. As with Regent Row there was the curiously located single agricultural labourer at #1, with three fishermen, two builders' labourers, a sawyer and errand boy. The female occupations were the usual ones of two laundresses, washer, ironer and two house servants.

The west side of the Chalk Pit Furlong is the field boundary with *'The Second furlong from The Chalk Pit'*; it is now Regent Hill, but although the west side is not in the Furlong it is included here as it is an integral part of the industrial history of the east side.[17] Possibly, as it was not as enclosed as the east side, Regent Hill had more variety in its employments. The 21 properties do contain some practitioners of primary industry with a milkman, dairyman and gardener, but it is in the secondary phase, that of manufacturing, that sees those associated with the building trades; four builders' labourers, two bricklayers, two painters, plasterer, sawyer, three

Fig 5. Regent Court c1890, painted by Clem Lambert

carpenters and a '*plumer*' (*sic*). A cabinet maker, boot maker, and baker, add to the manufacturing and the female aspect is covered by two needlewomen, a seamstress and, two dressmakers.

Brighton's increasing dependence on service trades, even in the mid 19th century can be noted by reference to its tertiary or service economy, with the principal component, and one that would be so until post WWI, the laundry trade, with eight employees here and a strong retail component of a cheesemonger (retired), fishmonger, shop woman and the ever-present errand boys, three in this street. Transport work was in the form of two coachmen, a stableman, a fly master, two carters and two watermen. As part of the latter category there is a ship's officer, noted as part of the *Internal Reserve*, so presumably a Navy man. With no National Health Service for nearly a century to come, there is a monthly nurse, and a midwife, who would also deal with laying out of the deceased.[18]

As the century progressed there is more information to be gleaned from the increasing range of street directories and these show a more ordered pattern of industrial history where single properties can be traced almost annually. The 1861 Folthorp shows for the first time the name of the tavern, one with a good industrial name, The Lath Cleavers Arms. Although this is shown here listed in Regent Hill, in fact it was until demolition in 1963 in Regent Row. Regent Hill also lists *'Smithers brewers & maltsters'* and this is the bottling yard and stables on the street's west side. One account has that site as being previously a slaughter yard. The same address at #22 is named in 1864 as the Brighton Brewing Company. Henry Smithers was born in 1807 from a local family of brewers, he joined Thomas Isaacson, his son-in-law, in 1839 to run the brewery, but was on his own from 1846 on the death of Isaacson, although the name of the latter continues in the directories for many years

after, possibly not the same Isaacson. From 1855-1874 Smithers was elected to the Brighton Corporation having being a Town Commissioner, before in 1861 he was made Mayor of Brighton. A highly successful man he lived for a while at Montpellier (*sic*) Hall in the resort's fashionable Montpelier district and later in Montpelier Villas, currently in 2022 the most expensive street in central Brighton. The North Street Brewery at 89-90 North Street on the east flank of the Chalk Pit was founded by R&C Chandler prior to 1822 when it was first listed, but the Brighton Rate Book of two years later simply lists R. Chandler, with Eliza Chandler listed from 1828-3. It then passes to Smithers who is first noted, with Isaacson, in 1839.[19]

By the 1850s there is an initial record of coach building which stays in the area in a variety of forms well into the 20th century, with the long-standing Brigden's coach building business appearing in 1864. Between 1861-67 J. Reynolds, builders is at #6 Regent Row and H. Philips general smith at #8 with a variety of proprietors at #11 but all described as 'coachbuilder & smith', with E Hounsell general smith also there at #17. This is a concentrated smiths locale, reflecting its location near to, but not within, the crowded confines of the Old Town. Noxious trades such as smithies were some of the first businesses to move out of the Old Town into the surrounding Laines. Mr W. Bishop, chairmaker is variously at #14 & #15 during the period, and Mrs Kent dressmaker at #16. Pages 1867 brings in a name that was to resonate through The Chalk Pit history until the 1930s, that of W. Haselgrove, locksmith & bellhanger, at #13 Regent Row, an address that does not figure in earlier directories.[20] A note in the Brighton & Hove Herald for 1933 records H. Haselgrove, 86, as being at '*The Old Forge*' in Regent Row noting its closing in 1932, but also that it started in 1745. The Sussex County Magazine (SCM) in volume VII, August 1933 contained a 'small ad' for The Forge, Centurion Road, Brighton *'makers of Fine Art metalwork established 200 years.*' This was the successor to Haselgrove in Regent Row, Centurion Rd being a hundred yards north-east from the Chalk Pit. The same SCM had another small ad for *'A. Haselgrove scientific boot & shoe repairer & chiropodist 67 Upper North Street'*; this is also a very short distance from the Chalk Pit, making this particular area the homeland of the Haselgrove family; they were also publicans in the North Laine district similarly nearby. In June 1955 SCM contained a *'Written by Readers*' item by GH Champion, stating that the sign for the Greyhound Inn in East Street, Brighton had been made by him at the Old Forge in the *'late 1920's,the forge is now demolished'*.[21] Throughout the period of the mid-19th century directories they all list the domestic properties here as either *'small tenements* 'or *'small houses'*; the cul-de-sac, Regent Court *('small houses')* running off the east side of Regent Hill, has its first listing here also.

In this same period the properties lying on the east side of the Chalk Pit, in the upper end of North Street displayed a similar diverse range of employments, with some key industries that continued well into the 20th century. As noted above, the North Street Brewery at #90 North St was the largest enterprise here and runs throughout the rest of the century, but another long term business was the timber merchants aptly named Sawyer, with John and George Sawyer a few doors apart and the timber yard itself at #99. The building construction trades were well represented here with bricklayers and paperhangers, alongside the biblically named Jabez Reynolds at #107. The Reynolds, senior and junior became one of the most prolific of the local building firms and went on to build some major developments in the area; Jabez Reynolds junior's great-granddaughter recalls that he built many major local developments including Palmeira Mansions and Palmeira Avenue, the Brighton Workhouse, later Brighton General Hospital, and the fine St. Martin's church in Lewes Road.[22]

By the end of the 1860s and running into the 1870s this eastern side of the Chalk Pit furlong developed into a different economic landscape to the near neighbours in Regent Row to the west; #84 North Street was the business of George & Thomas Fowler 'oil & colourmen', a firm that was so well established that long into the 20th century their site on the junction of North Street and Western Road was known as '*Fowler's Corner*'. A few doors north at #91 North Street is the Victorian Gothic structure built in 1868 for Swan Downer's Charity as a school for poor girls, the charity moving there from their original location in Gardner Street.[23] This was an establishment that undoubtedly had a 'clientele 'of poor girls in the immediate neighbourhood, but it was part of a wider social reforming landscape, as opposite Swan Downer's lay *'St Mary's Home for Penitent Women*' in Wykeham Terrace established in the 1850s to care for the women working in the adjacent *'Durham & Petty France*' red-light rookery. The 1870s directories show a continuation of the more socially upmarket aspect to this side of the Chalk Pit as a 'teacher of dancing'

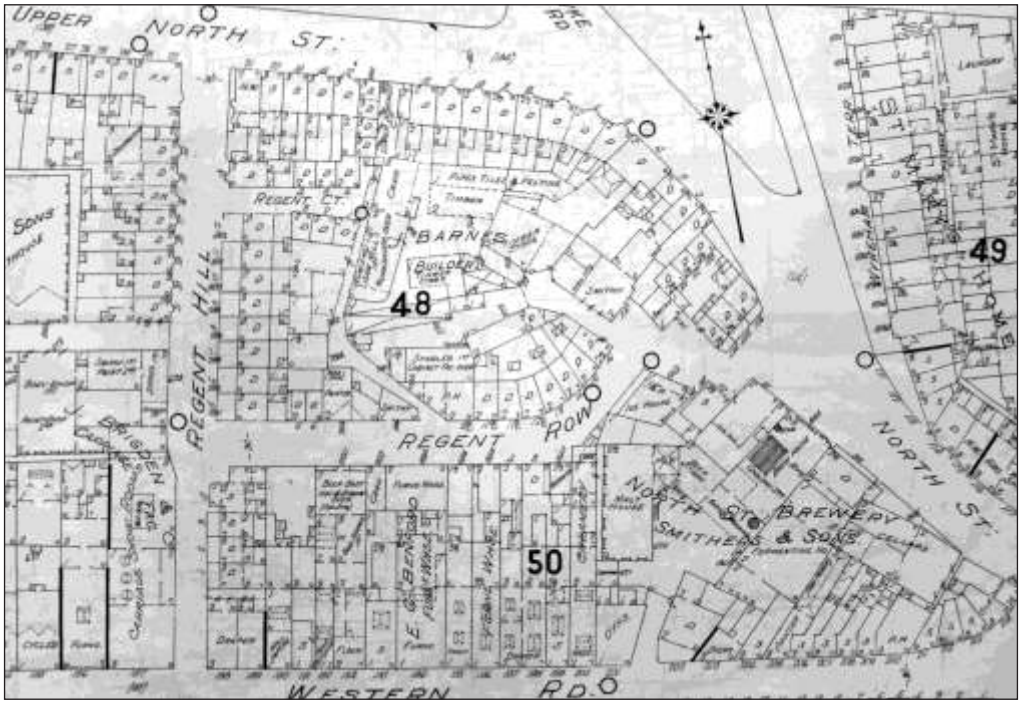

Fig 6. 1898 Goad insurance map showing Upper North Street and Regent Row

appears, with addresses showing residents with no occupation listed; crucially, the suffix to all the western areas of the Chalk Pit *'and small tenements'* was missing. Regent Row carried on its small scale manufacturing role with a whitesmith, locksmith & bellhanger, chair mender and dressmaker listed. '*Pocock's Ice Store'* is noted as being here in 1874. Regent Hill meanwhile was a more varied economy with a baker, two dressmakers, milliner, French polisher, cabinet maker, Brigden's the coach maker and George Grover, keeper of The Beehive Tavern. A similar pattern carried on through the 1880s, Pocock's Ice store was now '*The Kent & Sussex Pure Ice Company'*, there is more mention of 'small workshops' and as ever, the Haselgroves, as general smiths in North Street and as gas fitters round the corner in Regent Row.

By the 1880s it is possible there had been 150 years of industrial activity on the steep south-facing slope that was the Chalk Pit Furlong; a detailed Goad map of 1897 shows a scene of industrial activity that would have been familiar to the Chalk Pit workforce over many previous decades. Smithers Brewery still dominated the east side of the furlong, three smithies are mapped, along with builders' yards, stables, a furniture workshop, the ice store and a saw-mill; a range of small workshops is comingled with the cottages. That activity would carry on for several decades into the 20th century until urban development in the 1960s all but obliterated the imprint of the past.

That next chapter in the economic life of the area will be considered in the subsequent article in the next Sussex Industrial History.

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BARROW MILLS

Sussex Bronze Age Barrows used as Windmill-Steads

Alex Vincent

A number of Bronze Age barrows were later re-used as mill mounds or windmill-steads mainly in the medieval period. The roundness of barrows was adequate for a windmill to be placed upon them. There are a number of examples throughout Britain, but the Bronze Age barrows at Mill Barrows at Beauworth in Hampshire may not have been associated with a windmill. The name could have derived either from the Anglo-Saxon "mylen beorh" (mill barrow) or an Anglo-Saxon name Maegla. It seems that only the bowl barrows (the most numerous of their types) were used as windmill-steads. These windmills would have been open trestle and sunken post mills.

In the 18th and 19th centuries during excavations of some barrows, stone foundations and timber structure remains of post mills were found. These were not identified as mill remains until the early 20th century. Charles Monkman was one of the first to discuss some of these cruciform structures found in East Yorkshire. L.V. Grinsell studied about 10,000 barrows during the 20th century and has stated which ones were later re-used as windmill-steads and some possible cases.

Some examples of mill barrows in Sussex are at Houghton, Bury Hill, Parham, Glynde (2), Firle (3), Beddingham (2), Summer Down in Newtimber, Piddinghoe, Stoke Down at West Stoke, Plumpton and on Rookery Hill at Bishopstone. There is little information about most of these windmills as most of them came out of use centuries ago, but some of the later 18th century mills may have been built on the same site. Below are a few of the Sussex Bronze Age barrows, which later became windmill-steads.

Beddingham Hill. (OS Grid Ref TQ 453 060)

Two of the Bronze Age barrows on Beddingham Hill later became windmill-steads. A windmill was marked on the Spanish Armada map of 1587 as "Beringham mille" and also on John Norden's map of 1595, John Speed's map of 1610 and Richard Budgeon's map of 1724, and the OS map of 1813. The windmill was situated on the hill just north of the South Downs Way.

There are no records of the mill after 1813 and it probably fell out of use by then. A mound where it once stood marks the site today. This is marked on the modern OS Explorer maps as "Mill Mound". This may have been one of the windmills, which used a Bronze Age barrow for its base. If this is the case, then Mill Mound would also have been a Bronze Age barrow.

Bishopstone (OS Grid Ref TQ 467 008)

A group of five bowl barrows exist on Rookery Hill, which date from about 1600 BC. They form a south-east to north-west alignment. The south-eastern barrow is the largest of them, measuring 18 metres in diameter and one metre in height. A ditch surrounds it. The second barrow going northwards was used as a windmill-stead in the Middle Ages. There is a wide hollow in the centre of the barrow where the windmill once stood. The medieval windmill at Bishopstone is one of the earliest recorded in Sussex. This is probably the mill, which was erected on the barrow.

Fig 1. Bishopstone - Rookery Hill (photo: Alex Vincent)

Bury Hill (OS Grid Ref TQ 002 122)

A Bronze Age barrow on Bury Hill later became a windmill-stead, but this has since been completely ploughed out. It is situated on the hill west of the A29 and north of the South Downs Way. Medieval pottery was found on the site, which may be associated with the windmill. There is a very slight dip on the site today. A watermill and windmill are entered under Bury in Schedule 2 of the 1801 Defence Schedules.

Fig 2. Firle Beacon (photo: Alex Vincent)

Firle (OS Grid Ref TQ 486 059)

There were three Bronze Age barrows on the South Downs at Firle, which later became windmill-steads. The largest of these barrows where one of the windmills stood is situated on the summit of the hill at Firle Beacon. The windmill is marked on maps from pre 1587 to 1783. It is marked on Richard Budgeon's map of 1724 as "Firle Windmill". This was also the site of a beacon for the Spanish Armada in 1588. The barrow on the South Downs west of Firle Beacon may have been the site of one of the other windmills. This barrow has a hollow at its centre.

Glynde (OS Grid Ref TQ 447 097)

On Glynde Hill north of Mount Caburn are the sites of five barrows. These have been ploughed out, but one is much disturbed with a hollow. The latter barrow later became a windmill-stead in medieval times. A windmill was mentioned at Glynde in the Archbishop of Canterbury's custumals of the Manor of South Malling 1285 to Roger atte Wyke Miller.

During investigations of these barrows in the 1980s, pottery dating from the 13th to 15th centuries and French Burr millstone fragments had been found. This revealed the site of the windmill referred to in a lease of 1576. A windmill was marked on John Norden's map of 1595 and John Speed's map of 1610. It was gone by the 18th century and stood on the hill to the north-east of Mount Caburn.

Houghton, The Mill Ball (OS Grid Ref TQ 002 114)

The Mill Ball at Houghton near Arundel in West Sussex was once a Bronze Age bowl barrow, which dates from the Middle to Late Bronze Age period. It is situated on the crest of the South Downs just south of Bury Hill, east of a footpath and west of the A29 main road. The site is represented by a slight mound and is a scheduled ancient monument. This bowl barrow was later re-used as a mound for a windmill.

Bronze Age, Roman and medieval pottery was found on the site. The latter may have been associated with the windmill. In SAC Vol 75 states, "upon which it is stated a windmill once stood, but no field name confirms it". Simmons states "a likely spot upon which a mill would have been built". The site today is marked on some maps as "The Mill Ball".

Fig 3. Houghton - the Mill Ball (photo: Alex Vincent)

Stoke Down, West Stoke (OS Grid Ref SU 831 096)

The bowl barrow on Stoke down is situated on the hill to the west of the Neolithic flint mines. It is 18 metres in diameter and 0.8 metres in height. It has a large hollow at its centre and traces of a surrounding ditch were visible in the 1930s. This barrow was later used as a windmill-stead in the Middle Ages. It has been reported that the windmill was a three-legged one.

Fig 4. Stoke Down, West Stoke (photo: Alex Vincent)

Fig 5. Summer Down, Newtimber - north-eastern barrow (photo: Alex Vincent)

Summer Down, Newtimber (OS Grid Ref TQ 269 110)

There are three Bronze Age barrows on Summer Down running in a north-east to south-west alignment. The north-eastern and central barrows show cross-shaped excavations, which were expressed as the sites of foundations of windmills. The Knights Templars built a windmill at nearby Saddlescombe in the early 14th century. The location of this mill is unknown and it could well have been one of the barrow mills, possibly the central one.

Fig. 6. Highdown Hill - windmill site on possible barrow (photo: Alex Vincent)

Possible sites

There could be other windmills in Sussex, which may have used Bronze Age barrows for their bases. Medieval windmills, which were erected on top of hills, may well have been built on barrows. In a number of cases the barrow as well as the windmill may have been totally ploughed out and only excavations on the sites will reveal if these hilltop windmills once stood on barrows.

One such case could be on Highdown, north-west of Worthing, where the mill mound looks as if it may have once been a barrow. The windmill, which dates from the 16th century, is marked on the Spanish Armada map of 1587 as "highe downe mille". A windmill was built by Bishop Seffrid II on Ecclesden Down (Highdown Hill) in the 12th century and may have been on the same site as the later 16th century mill.

Another case may have been at Broadwater whose site is in woodland at the north-western end of Hill Barn Golf Course where a slight mound still marks it. This windmill dates from 1780, but it could be standing on the site of the earlier Greenwood Mill in Broadwater Manor dating to 1300 and the later one mentioned in Offington Manor in 1418. The slight mound may well have been a Bronze Age barrow.

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A SUSSEX INDUSTRIAL VILLAGE: The Story of South Heighton

Will Pilfold

Introduction

The development of villages, towns and even cities has often been tied to individual industries and/or the coming of canals, railways, roads, or the development of harbours. However, in a largely rural county such as Sussex the rapid growth of a settlement associated with an extractive industry is unusual. The village of South Heighton, near Newhaven in East Sussex, owes much of its present structure to the nineteenth-century cement manufacturing industry established there. The cement works built by the Sussex Portland Cement Company Ltd from 1884 has been described in a recent article in this journal.[1] In this further article the wider effects of the coming of the cement works are described and discussed.

The small village of South Heighton is located on the eastern side of the Ouse valley just north of Newhaven. Today, it is effectively a suburb of the port town and abuts the village of Denton, which is now politically part of Newhaven. South Heighton maintains its independence, having its own parish council.

Apart from the large chalk pit excavated during the work's operation there are very few physical remains of the industrial activity that took place there. The track bed of the tramway linking the works to the main line is still extant, the stable block survives, and a small amount of masonry can be seen in the industrial estate that now occupies part of the site. However, the housing and ancillary buildings built to serve the workforce are still very much in evidence. It is the story of these buildings and the people who lived and worked here that this article is concerned with.

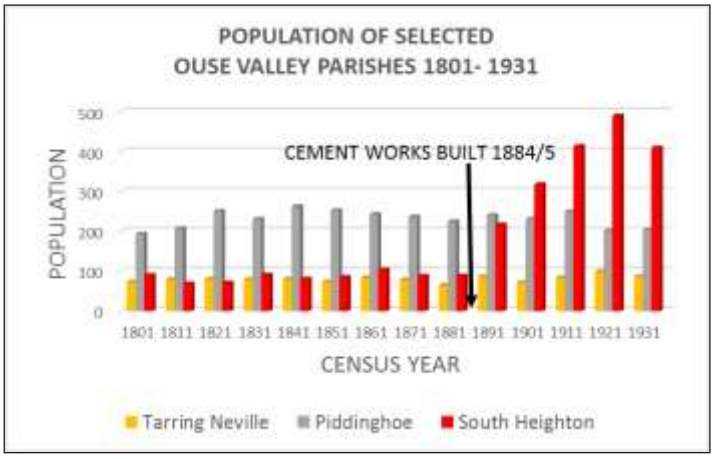

Fig 1. Comparative population data of three Ouse valley parishes 1801 - 1931

The parish of South Heighton was bought by the Trevor family of Glynde Place in 1768 and has remained part of the Glynde Estate ever since. In 1884, Viscount Hampden, H.B.W. (Speaker) Brand, then owner of the Glynde Estate, was instrumental in establishing the Sussex Portland Cement Company Ltd and its works in the village.[2]

Population and community

Prior to 1884 South Heighton parish was largely agricultural with a static population level, a similar pattern to its adjacent Ouse valley parishes of Piddinghoe (to the west) and Tarring Neville (to the north). (See figure 1, based on data from the national decennial census.)

A dramatic rise in the population of South Heighton between the 1881 and 1891 censuses, is clearly related to the coming of the works. Piddinghoe and Tarring Neville show remarkably static population size throughout the period 1801 to 1931. South Heighton saw an increase of 143%, from 89 in 1881 to 217 in 1891, with further rises at each census, until in 1921 there were 490 people recorded. There was a small decline in 1931 after the closure of the works in 1924.

Before describing the housing that was built to accommodate this influx of workers and their families, it is worth looking at an analysis of the census data. This can tell us much about the community of workers and their families that the establishment of the works created. There are obvious limitations to such an analysis – for example, the nineteenth-century census returns only show place of birth and not previous place(s) of residence for individuals. However, the place of birth of children can show where families have moved to and from. Another drawback is that many occupation descriptions are not related to a particular industry. For example, people have 'labourer' as their occupation without indicating if this is in agriculture or another industry. The South Heighton returns do seem to differentiate, with agricultural labourers specifically identified, but we cannot be sure there is consistency in this. It should also be noted that the works employed circa 150 people (almost certainly all, or nearly all men).[3]

	1881			1891		
	Total	Male	Female	Total	Male	Female
Total Population	89	49	40	217	107	110
Birthplace – in Sussex	76 (85%)			149 (69%)		
Birthplace – out of Sussex -	13 (15%)			68 (31%)		
Total workforce (see table 2)	38	32	6	80	73	7
Workforce associated with cement works	0			47	47	0
Retired/annuitants	2			0		
Non-workers (i.e., dependants including scholars)	49			137		
Dependants per worker	1.3			1.7		

Table 1. Analysis of South Heighton 1881 and 1891 national decennial census data

Many employees must have resided outside of South Heighton, as only 47 (tables 1 and 3) have been identified as living in the parish. Commuting from Newhaven or other local towns and villages would have been easy on foot or bicycle. Within these limitations tables 1 to 3 show summaries of the census data for 1881 and 1891.

Table 2 reveals that agriculture provided 55% of jobs in 1881 with 21 people in direct farming employment. In 1891 there were still 19 people working in agriculture, but this was only 24% of the workforce. It appears that the opening of the works did not significantly impact farming employment in the parish. Possibly there was little in the way of wage differences to tempt farm labourers to move into employment in the cement works.

The increase in the workforce from 38 to 80 was entirely due to opportunities in the cement works. Many specialist occupations are noted (table 3), including cement millers, furnace stokers and an (explosive) charge layer. Of the 1891 workforce some 59% were working in the cement works, indicating that South Heighton was now largely a 'works village' (albeit grafted on to a pre-existing agricultural settlement). The specialist nature of some of the employment generated by the works is reflected in an analysis of place of birth (table 3). It clearly illustrates that skills were brought into the area whilst the

Occupation	1881	1891
Farmers, agricultural labourers, shepherds	21 (55%)	19 (24%)
General labourers	1	1
Housekeeper, servant etc.	5	3
Teacher and assistant teacher	1	2
Associated with cement works (see table 3)	0	47 (59%)
Other occupations	10	8
Total workforce	**38**	**80**
Scholars	12	55

Table 2. Analysis of workforce, scholars etc. South Heighton 1881 and 1891 by occupation

Occupation	Born in Sussex	Born out of Sussex
Cement works foreman		1 Gloucestershire
Cement miller		2 Kent 1 Gloucestershire 1 Essex
Charge layer		1 Wales
Engine driver/fitter	1	1 Middlesex 1 Scotland
Storekeeper		1 Hampshire
Carter/Ostler		1 Oxford 1 Northamptonshire
Furnace stoker	1	
Barrel maker	1	
General labourer	25	1 Essex 1 Hampshire 2 Kent 2 Norfolk 1 Somerset
Total 47	29	18

Table 3. Analysis of 1891 workforce associated with cement works by place of birth

unskilled (labouring) workforce were predominantly born in Sussex. In 1881, 85% of the population had been born in Sussex; in 1891 this had dropped to 69% (table 1). Conversely 15% were non-Sussex born in 1881 compared with 31% in 1891. In terms of numbers (workers and dependants) this represents 13 'immigrants' in 1881 compared to 68 in 1891. Of these 68 some 82% were employees of the works or their dependants. It is interesting to note that the 1891 household consisting of George Bardoe, a 64-year-old cement miller, his wife, granddaughter and nephew were all born in Northfleet in Kent, a major centre of cement manufacture; as were all four children, aged from 16 to 6, of another miller, Essex born James Osbourne. The increase in the number of dependants per worker from 1.3 to 1.7 reflects the fact that many families with school age children had made the move to South Heighton. This also necessitated the employment of an assistant for the teacher at the village school, which, as we shall see, had to be enlarged to meet the increased demand.

Housing

Some 200 workers were employed in constructing the cement works but it is not known where they were accommodated. It is probable that many were housed in temporary huts on or adjacent to the site, and others may have lived in Newhaven or other local villages. The production workforce, many with families, needed more permanent accommodation.[4] The Glynde Estate took a leading role in building houses, and it also leased land to a local speculative builder. The growth of housing can be seen by examining large-scale Ordnance Survey maps, and detail can be found in the Glynde archives and the Valuation Office records from 1912.[5] From a field survey, the post 1884 houses are all still in use and collectively make the largest surviving part of the work's infrastructure.

The Glynde Estate's domination of land ownership in the parish of South Heighton can be seen in the archives related to the Valuation Office survey carried out in November 1912 under Lloyd George's 1909-10 Finance Act.[6] In total, 98.7% of the area of the parish and 36 of the 77 dwellings belonged to Admiral T.S. Brand, owner of the Estate. These included the 12 three-bedroom houses of Hampden Terrace, built to the south of the works, alongside the present day A26 main road (figure 3). They bear a plaque showing the

Fig 2. South Heighton chalk pit and village 1993, showing the location of housing built in association with the cement works

Fig 3. Hampden Gardens, South Heighton in 1993

Hampden crest and the date 1888. Detailed specifications for the building of these properties dated July and November 1887 (revised January 1888) survive.[7] They include the instruction that all cement used must be purchased from the Sussex Portland Cement Company Ltd. Each property was allocated a large, five-acre garden area adjacent to the terrace – in this and in general appearance they are similar to houses built in the village of Glynde to house workers in the pits there, used for the production of lime. The South Heighton houses were substantially built to a high specification, and from the 1891 census it can be seen that all were occupied by employees of the works. In the 1912 survey it is noted that all 12 are rented by the cement company, although individual occupiers' names are also given. Rents in 1912 were 5/6d (27.5p) per week, the lowest in the village for this size of property, suggesting a company subsidy to its workers. Similar arrangements relate to the terrace of four Works Cottages and two semi-detached Stable Cottages built near the entance to the chalk pit (figure 4). The Glynde Estate also built five properties (two semi-detached pairs and one detached house) occupied by works employees at Downs Villas, possibly for more senior employees. These were located behind the works and it appears that noise from the plant was a problem. A note in the 1912 survey field book states that one property was occupied rent free because of the noise from the crushing plant.[8] A total of 23 houses were built by the Glynde Estate specifically for works employees. The Estate also owned 13 other properties in the village, such as farm cottages and the more substantial farm houses.

Other dwellings were owned by a local builder and property developer, Mark Woolgar. He owned a total of 23 cottages: seven, each two-bedroom plus attic with dormer window, in South View Terrace, (freehold) of unknown date but late nineteenth-century; and 16, each two-bedroom plus a 'slip' bedroom, in the aptly named Portland Terrace (on land leased from Brand) built about 1892. These properties were not as well built as those of the Glynde Estate. In the 1912 survey field book the South View properties (six houses and one shop and post office with accommodation over) are described as "decrepit, jerry built". The end property (the shop) had a crack in the flank wall. However, today they are desirable houses, although the shop/post office has closed and is now living accommodation.

West View Terrace, consisting of 12 two-bedroom plus slip bedroom cottages, were owned in 1912 in three blocks of four. A note in the 1912 survey book implies that the owners may be the heirs of the original developer/builder. Each property had the benefit of a large garden.

In total 58 properties have been identified as being built in the 1880s or 1890s in connection with housing employees of the cement works. The Glynde Estate, working with the Sussex Portland Cement Company Ltd, was the main facilitator of this development. It invested a considerable amount of capital in directly building houses, or leased land to speculative builders to make it possible. However,

Fig 4. Works Cottages to the left and Stable Cottages to the right in 1993. The long low building extreme right is the work's stable block. The building behind the stables is an industrial unit no longer (2022) in existence.

it should be noted that there was a time lag between the opening of the works in 1885 and the construction of houses. It is not known where the workforce and their families were living in the early years of the works. Possibly, there was temporary, hut-like, housing during the building phase of the works and/or workers were travelling into work from Newhaven or elsewhere. There is no doubt that South Heighton village was dramatically changed by this influx of residents.

Community Infrastructure

To support the enlarged community the cement company and the Glynde Estate worked together to provide the necessary facilities needed. The parish church of St. Martins had been irreparably damaged by lighting in 1769 and the funds could not be found to rebuild it. South Heighton remains today a parish with no church. The parish churches of Tarring Neville and Denton are both close to the village and presumably catered to the needs of the South Heighton residents after the demise of St. Martins. A brick-built Congregational Chapel seating 250 was built in 1891 on land at the top of The Hollow.[9] The Glynde Estate leased a half-acre plot of land for this building. By 1946 it had ceased to be a place of worship and the lease had reverted to the Estate. The Estate put the building and its plot of land up for auction and it was sold for £810.[10] The chapel was converted and is now a house, and further houses have been built on the plot. This was not the only provision for the spiritual needs of the expanded community: on the site of the former St Martin's church an iron mission hut seating 200 was erected, presumably by the Church of England, in 1894.[11] With a parish population of 217 in 1891 and 318 in 1901, there was now an excess of capacity available for worship; perhaps there was an element of competition between the different Christian churches that prompted the building of these two places of worship. It is not known when the iron mission hut ceased being used but a house now occupies the site.

As we have seen, there was a major influx of children into the village school following the opening of the works. This necessitated an extension to the school building to a capacity of 130 at a cost of £400. Average attendance was noted as 81 in 1895.[12] Although now closed as a school the building survives as the Village Hall. The attached house for the teacher is now a private residence.

Besides the worthy religious and educational facilities, the social life of the population was not neglected. The village pub, the Blacksmith's Arms, located in a relatively small cottage-like building, was closed and replaced in 1899 by the larger and significantly named Hampden Arms a few doors away. A substantial building, it is listed in 1912 as belonging to Towners, the Newhaven brewers.[13] It continues to serve the local community as a traditional village pub (figure 5).

A brick-built club room was erected on land owned by the Estate between Hampden Gardens and Portland Terrace but leased to the cement works. It was used as a reading room, and it was also the venue for entertainments such as concerts. This building does not survive and is one of the few that have been lost from the late Victorian era expansion of the village. A recreation ground was provided in the area opposite Hampden Gardens. A local football team called 'Newhaven and Cement Works' was established by 1886.[14] Presumably, there was some sponsorship or support for this team from the cement company. The team survives today as Newhaven F.C., based at Fort Road, Newhaven. It is not known when the link to the works ended.

Fig 5. The Hampden Arms, South Heighton, 2022

Allotment gardens were provided by

the Glynde Estate, located behind the works in Cow Wish Bottom, and in the area of Portland Terrace; the former of which are still in use today. The large garden attached to each house in Hampden Gardens and Portland Terrace were presumably intended to be used to grow the tenant's own food. Similar arrangements can be seen in the Estate's home village of Glynde.

The village today

There has been considerable infilling and building of bungalows and houses on the margins of the village from the 1960s onwards. There is also a development of social housing on the edge of the parish. However, the core of the village was designated as a conservation area on 10 February 1976. An appraisal of the conservation area was made by Lewes District Council in May 2009 and includes details of the reasons for designation and the current condition of the buildings and surrounding environment. Interestingly, much is made of the agricultural past of the village, but no mention is made of the relationship to the cement works. However, whilst they are not listed buildings, Hampden Gardens, South View Terrace, Downs Villas and the Hampden Arms are all noted as "[making] a positive contribution to the character and appearance of the conservation area".[15] Clearly, the important legacy of the village's industrial past has been missed by the planners responsible for the designation and appraisal of the Conservation Area. There is also no mention of the role the Glynde Estate has played in shaping the village.

Conclusion

Over time industry has left us a legacy of buildings, machinery, science, technology and ideas that are worthy subjects of research. It also helped to create places and communities, and these can survive long after the industrial activity that formed them has ceased. This aspect of industrial history is an equally important field of study, and it is hoped this case study of South Heighton makes a small contribution to it. It has shown how a small, rural, agricultural settlement was significantly altered by the coming of a cement works in the late nineteenth century. It has also highlighted the role played by local landed gentry, not only in promoting the establishment of the cement works but also in the creation of what amounts to a blend of an industrial settlement with an estate village. The Glynde Estate maintained, and continues to maintain, a close control of land and housing in the village and this has, to a considerable extent, helped to preserve its character. Interesting comparisons can be made with the Estate's home village of Glynde, which also has a significant industrial past.

Questions can be asked about the impact of other cement works on their local communities. The mid-twentieth century works at nearby Beddingham had no provision for workers' housing despite being sited away from any settlement. Why was this? The Shoreham works of the Sussex Portland Cement Company Ltd at Upper Beeding in the Adur valley had two terraces of houses built in a very similar style to Hampden Gardens and known as Dacre Gardens, as well as some more substantial houses known as Dacre Villas (Baron Dacre being a title Viscount Hampden (H B W Brand) inherited in 1890). Further research is necessary to establish the Glynde Estate's involvement in this development. Generally, further investigation of industrial communities in Sussex will be enlightening.

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