

North East Derbyshire Industrial Archaeology Society



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A Brief Account of The History of Sheffield's Castles and The Impending Redevelopment of the Castle Area *Derek Grindell*



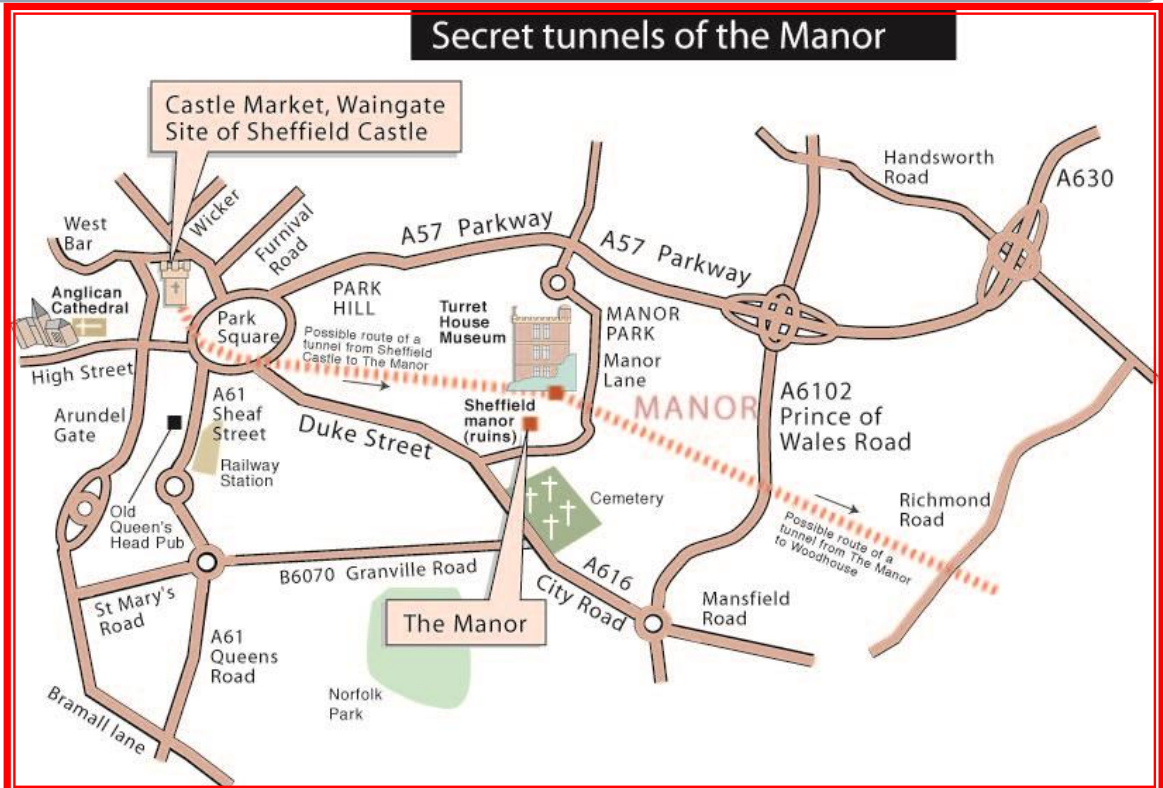
Mary Stuart (1542-87)

Sheffield Castle - The Known History

The Domesday Book records that the main base of Waltheof, Earl of Huntingdon, was located in the vicinity of Sheffield. The discovery of pottery at Sheffield Castle was initially attributed to the

Anglo Saxon period but subsequent reclassification placed its origins on a later time line, which could confirm a link with Waltheof and even earlier since pottery fragments believed to be Roman were also found.

William 'The Conqueror' appointed Roger de Buisli as the first Lord of the Manor. He was one of a small band of supporters, who had contributed in excess of fifty ships to the Norman invasion force. After the quelling of Waltheof's rebellion, and his subsequent execution, came the ruthless suppression and burning of the North of England. For his active role in supporting William's campaign de Buisli was appointed the first Norman Lord of the Manor, thereby assuming ownership of not only much of Hallamshire but dominion over most of what is now South Yorkshire and the 'honour' of both Tickhill and Sheffield.



Plan of 'Secret Tunnels' of The Manor reproduced by kind permission of Designer/Artist, Ann Beedham



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In this issue: ■ A Brief Account of The History of Sheffield's Castles and The Impending Redevelopment of the Castle Area
 ■ What's On? ■ NEDIAS Visit to Steeple Grange Light Railway ■ Barrow Hill Engine Shed Reopening, September 2017 ■ I A News & Notes ■ Chairman's Chat ■ Historic Milestones in the NEDIAS Area ■ And Finally ... *Geothermal Energy - a century of progress* ■

South Yorkshire had numerous motte and bailey castles, most of which were of earth and wood save for those at Conisborough, Peel Hill (Thorne), Tickhill and Sheffield. These were all fortified in stone, indicating that the Norman invaders recognized South Yorkshire, Earl Waltheof's former stronghold, as a potential source of residual resistance. Robert de Bellesme, Head of the influential Montgomery family, inherited De Buisli's land holdings and is believed to have had direct control of Sheffield and provided the stone defences at Tickhill.

During the wars between Henry I and his elder brother Robert Curthose, Duke of Normandy, De Bellesme supported Robert and, as a result, his estates in England were attacked by Henry's supporters. In 1103 Tickhill was burnt to the ground by the Bishop of Lincoln, as confirmed by excavations within the Keep. It is known that by the early 12thC the honour had passed to De Lovetot, and Sheffield was permanently separated from Tickhill. It was De Lovetot who constructed the first known church and the first recorded bridge over the Don located at the site of today's Lady's Bridge. During this period the presence of a castle is implied but not fully confirmed.

The De Lovetots were succeeded by the De Furnivals and the existence of a castle in the early 13thC is verified by documentation in the form of a letter from King John and a grant of land. In 1266 the early castle and township of Sheffield were laid waste by the appropriately named D'Eyville, an ally of Simon de Montfort, who is credited with establishing the concept of a constitutional monarchy.

The severity of Sheffield Castle's effective demolition left an identifiable "destruction layer" which, where undisturbed, reveals the precise location of the mediaeval town. Since the first castle had never been authorized, the De Furnivals were granted a licence to crenellate the new structure. This involved the provision of battlements, essential defensive measures, given the fate of the original structure, which it should be noted, may well have had some stone features. Hence any stone found on the site would not necessarily have originated in the second castle erected in the 13thC.

The Second Sheffield Castle

Constructed of stone with strategic advantage in mind, it occupied a site of more than 4 acres, more than three times the size of Conisborough and one third more than Tickhill. Briefly occupied by the the De Furnival family it then passed to the Nevilles of Fauconbery but, after only one generation, the occupancy passed to the Earls of Shrewsbury, the Talbots. Their most notorious member was John "The Butcher" Talbot, the Commander of the English forces in France during the final stages of the Hundred Years War. He died in the last battle of that conflict at Castillon in 1453 but his family maintained possession of the Castle for many years.

In Elizabethan times Sheffield Castle and the Manor Lodge were only two of the properties owned by George Talbot, the 6th Earl of Shrewsbury (c.1528-90), one of the country's richest men. He became the fourth husband of Bess of Hardwick in the autumn of 1567 and, as a trusted servant of Queen Elizabeth, was responsible for maintaining her writ in the north of England. The Queen's confidence in Talbot's loyalty and awareness of his wealth ultimately proved to be an intolerable burden both on his marriage and his fortune. Responsibility for Mary's confinement included her retinue, which at one stage numbered forty. Talbot's wife, Bess of Hardwick, was also involved in her captivity, since the Queen specifically requested that she should 'sit with the Scots queen'. There was an existential threat that her supporters might attempt to release her from captivity. One way of minimising the risk was to periodically move the location of her confinement, which theoretically was not a problem to a man owning houses at Worksop Manor, Tutbury Castle, South Wingfield Manor, Rufford Abbey, Welbeck Abbey and Buxton Hall. On 28 November 1570, Mary Stuart, then aged 27, left Chatsworth and was taken to Sheffield Castle. Standing on solid bedrock, towering over the rivers Don and Sheaf on one side with a moat and a ditch on the other it was a very secure location but following the revelation in 1572 of Mary's involvement in a plot to assassinate Elizabeth 1, security was enhanced.

Sheffield Castle was said to be cold, damp and smelly resulting in a gradual deterioration in Mary's health. Over the years of her incarceration she developed arthritis and rheumatism. Under close guard, she took particular exception to the change of guards at 5:00am, which was accompanied by the beating of drums outside her bedroom door.

From April 1573 Mary was escorted the two miles to the new Sheffield Manor Lodge, which, save for 1575, was used for several months each year until 1584. Mary and her servants would also spend several weeks at such other locations as Chatsworth, Buxton and Worksop Manor. In captivity, Mary is said to have had

sixteen-course meals, four times a day, which were served buffet style with a choice of fish, meat, venison, rabbit etc. The cost of keeping Mary and her retinue was immense and Shrewsbury's allowance from the Crown, was not only faltering in its delivery, but proved to be woefully inadequate.

Unusually for the 16thC, Mary's height was 5ft.11ins. and, in her youth, she was said to have been admired across Europe for her beauty, not least for her complexion, which verged on perfection. She appears to have been an early pioneer of beauty treatments since, in addition to drinking the two barrels of white wine she was allocated per month, she used it for both washing and bathing.

Mary's everyday life was very restricted during her confinement. She read books and wrote many letters. One estimate claims that she wrote over 2,000 during her captivity, and this figure does not include the 'letters of intrigue' she wrote during her imprisonment. Her main occupation was embroidery and, with Bess of Hardwick, she spent many hours engaged in intricate needlework. Mary loved birds and she set up an aviary at Sheffield, which contained exotic species. Dogs were her favourite animals and she kept various breeds. Over the years, Mary's health deteriorated, mainly due to her "wretched prison" of Sheffield Castle. Due to lack of exercise and fresh air, she aged prematurely and by the time she left Sheffield in 1584, she could barely walk. Mary wore a different wig on alternate days to hide her thinning grey hair, since, although only 42, she could have been mistaken for an old lady. Within two years of leaving Sheffield she became involved in what became known as the Babington plot and was executed at Fotheringhay Castle in February 1587.

Sheffield Castle, Mary's main prison, occupied a site extending over more than four acres, which was more than three times the size of Conisborough, and a third again of Tickhill. The harsh reality of her detention was ameliorated by the range of accommodation available within the castle walls. A financial document, which has survived, reveals that the Castle had two "wards", which contained "diverse buildings". One of the numerous definitions of 'ward,' provided by 'The New Shorter OED' (pub. 1993 by Clarendon Press), is '*111 a place for guarding. 9 The inner or outer circuit of the walls of a castle; the ground between two encircling walls of a fortress*'. These facts are germane in that they show the Castle to have been not only sufficiently spacious to house England's most prestigious aristocratic family, the Talbots, but fit to detain a Queen securely and in relative comfort.

From the Earls of Shrewsbury the Castle and honour passed into the ownership of the Dukes of Norfolk, who remain to this day the Lords of Sheffield (Baron de Furnival). It was during the English Civil War that Colonel Beaumont held the castle for the Crown. In the absence of any chance of relief he surrendered the Castle to Parliament after a short siege. The fact that it had been held by Royalists led to its destruction. From the scant archival sources available, a financial document states that the Castle consisted of two "wards" containing "diverse buildings". The Castle was a very large structure, whose "diverse buildings" were listed as follows (1) Porch of the Great Hall, (2) The Great Hall, (3) Covered Way from Hall to "Great Chamber", (4) Large Dining Hall, (5) Wardrobe, (6) My Lord's Chambers, (7) My Lord's other Chambers, (8) Tower Chambers, (9) Porter's Lodge, (10) Dungeon, (11) Buckhouse, (12) Brewhouse, (13) Wash House, (14) Kennel. Numbers 1-10 would have been within a strongly-fortified ward. Reference is made in the document to maintenance work on the main fabric of the Castle and the moat as well as to the Castle's grange house, stables and plumbing.

The Civil War garrison, which must have been confined within the defensive ward, consisted of "two hundred foot, a troop of horse and five guns and their crews". This would equate to at least 360 men (excluding non-combatants).

Talbot's appointment as custodian of Mary in February 1568/9 had cast a cloud over their marriage, which ultimately led to their separation. Nevertheless their union lasted for 23 years during which time George and Bess shared many interests, including building. The Earl built the Lodge at Handsworth, near Sheffield Manor and a small house to accommodate visitors to the increasingly popular baths at Buxton. From 1585 he made major alterations to his manor at Worksop and, initially at least, supported his wife's plans to enlarge Chatsworth. Not only had Bess achieved financial independence but her social aspirations required the facility to entertain the influential elite of the period by creating a suite of new rooms at Chatsworth. The provision of accommodation and hospitality would prove irresistible to those travelling to the Earle's increasingly popular Buxton baths.

Thus Queen Elizabeth I, in passing the heavy burden of Mary's secure imprisonment to George Talbot, had saved the royal purse considerable ongoing expense. Failure in his royal assignment was unthinkable. Could

his expenditure have included a subterranean passage way to ensure that Mary's numerous moves to and from the Castle were achieved in complete secrecy? Between 1569 and 1584 Mary was moved to various properties owned by Talbot but she spent most of her 'imprisonment' at Sheffield. During the course of the 16th century the Earls of Shrewsbury had converted the old hunting lodge in the extensive deer park, which today would encompass the Manor Top estate, into a fine country house. It was dismantled in the early 18thC but the turret house, which stood at the entrance to the grounds has survived in virtually its original state.

Today the historic area around the Castle has become increasingly rundown following the closure and demolition of the old Castle Market. The City Council has long since had in mind to excavate the remains of Sheffield Castle and stimulate new business in the area. *The Star* of July 31st announced an investment by Sheffield Council of £786,000, which initially will fund a major archaeological excavation of the remains of the Castle. Martin Gorman, Chairman of the Friends of Sheffield Castle was quoted as saying: "This is fantastic news, and we are excited that work to excavate the remains of Sheffield's mediaeval castle will begin soon. We look forward to working alongside the City Council, archaeologists and the two universities, to maximise public engagement and interest in the castle, as the finds are revealed and interpreted."

In addition, urgent repairs are planned to the Old Town Hall, which is owned by G1 London Properties Ltd., and has been on the market for years with little public interest. Valerie Bayliss, Chair of the Friends of the Old Town Hall, is raising money to buy the building. The survey and design work for Castle Hill and Grey to Green (a local planting scheme) will form the basis of a bid to the Sheffield City Region for further financial support. The Castle Hill space will be an integral part of plans for the uncovering of the river Sheaf, which runs under the site and will create a new pocket park called Sheaf Field.

On August 19th *The Star* ran a two page feature by Dr. David Clarke, of Sheffield Hallam University, in which he claimed that the impending archaeological excavations on the site of Sheffield Castle could resolve the persistent rumours that a tunnel linking it with The Manor and possibly even extending to Woodhouse awaits discovery. Dr. Clarke claims that subterranean tunnels are 'Sheffield's oldest and most persistent urban legend'. He recalls that as a child he heard of a tunnel under Castlegate and decades later the landlord of the Cross Keys at Handsworth showed him a bricked-up archway in the cellar that he claimed was the access to another tunnel that was headed for the Manor, probably almost a mile and a half away. Another was said to run from the Manor Lodge to the Old Queens Head, which would have involved being routed under the river Sheaf. Yet another was said to be underneath the cellars of the offices of *The Star and Telegraph* on York Street where Dr. Clarke was employed as a journalist in the 1990s. As part of a recent survey, undertaken by Ed Dennison for Sheffield City Council, he referred to local folk lore suggesting that the tunnels existed and conceded that there was indeed some evidence to support the theory.

Escape tunnels, known as *sallyports* were a feature of many mediaeval castles. Visitors to what remains of Knaresborough Castle can see one cut from solid rock. Another is located beneath Nottingham Castle so it would be no surprise to have the existence of a similar facility confirmed at Sheffield Castle. As long ago as 1896 a network of tunnels was rediscovered beneath cellars in the Hartshead area of Sheffield by workmen enlarging Cockayne's department store on Angel Street, a site now occupied by *Argos*. John Leader, then editor of the *Sheffield Independent*, climbed inside the cavity and confirmed that it was not a drain or sewer but noted that in one direction it ran towards the Cathedral and, in the other, downhill towards the castle where it was blocked.

In the 1930s an entrance was revealed by workmen under *The Star* offices. Frank Brindley, a keen climber and caver, decided to delve further into what he called 'Sheffield's oldest mystery'. In 1936 he questioned a workman, who claimed to have been passed by a hooded ghost, who dissolved into a stone wall. Undeterred, he set off with a team of men to inspect the area of the cellar where the 'vision' had vanished. They discovered what appeared to be a tunnel entrance, which had been excavated from solid rock. Measuring between 5ft. and 6 ft. in width, the tunnel ran eastwards towards Castle Hill

Dr. David Clarke of Sheffield Hallam University will talk on '*Sheffield's Greatest Mystery: Underground Tunnels*' at Sheffield's Central Library on Wednesday, 29th November. For those interested in learning more about George Talbot's prisoner, local Historian David Templeman is the author of *Mary Queen of Scots: The Captive Queen in England*. This is a new book relating the story of Mary's imprisonment on the orders of Elizabeth I. To place an order, visit the Friends of Sheffield Manor Lodge website (<http://www.fosml.org.uk/product/mary-queen-scots-captive-queen-england-1568-87/>).

WHAT'S ON?

NEDIAS Lecture Programme

Meetings are held at: St Thomas' Centre, Chatsworth Road, Brampton (opposite Vauxhall/Bristol St Motors) S40 3AW. There's plenty of parking in their own car park, including disabled spaces, as well as on-road parking in front of the Church. All meetings commence at 7:30pm.

Monday, 12 th December 2017	Christmas Meeting
Monday, 8 th January 2018	Jane Middleton-Smith: "History of Smedley's Mill"
Monday, 12 th February 2018	Christine & Alan Piper: "Industrial history of Lumsdale"
Monday, 12 th March 2018	Doug Jenkinson: "Recovery of Barytes from Lead mine Waste and its use at the Butterley Co's Denby Hall Washery"
Monday, 9 th April 2018	Maureen Greenland & Russ Day: "The life of Bryan Donkin"

Other Diary Dates

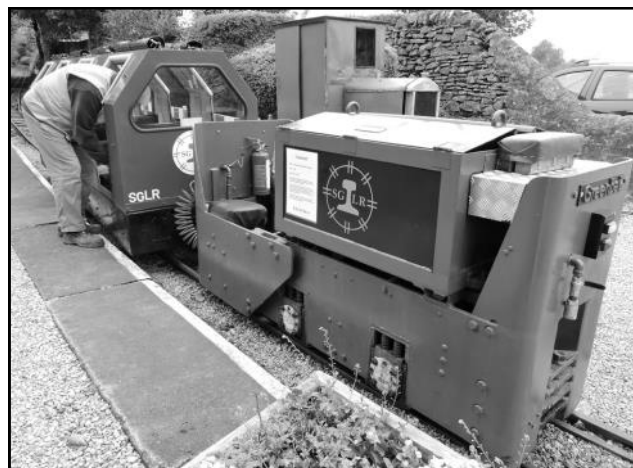
Thursday, 16 th November 2017	Les Nixon - Trains in the Snow . 7:30pm Barrow Hill Roundhouse. Info: http://www.barrowhill.org/lectures.html (Doors open @ 7:00pm)
Saturday, 18 th November 2017	South Yorkshire Archaeology Day . 10:00am-4:00pm at the Showroom Cinema. Booking forms at www.sheffield.gov.uk/archaeologyday .
Monday, 20 th November 2017	Helen Jackson " Grenoside Steel ". 7:30pm SYIHS at Kelham Island Museum.
Monday, 11 th December 2017	Philip Wright " The Scissors Man: the story of scissors and of Ernest E Wright & Sons ". 7:30pm SYIHS at Kelham Island Museum.
Monday, 22 nd January 2018	Prof Russell Thomas " History of Gas Manufacture in the UK ". 6:30pm Newcomen Society/SYIHS at Kelham Island Museum.

NEDIAS Visit to Steeple Grange Light Railway

Pat Pick

We had a fascinating visit by NEDIAS members to the Steeple Grange Light Railway in September.

One thing we learned from one of the volunteers was that this small railway transported over 130,000 war grave headstones cut at from Hopton Wood limestone at Middleton Quarry and engraved by 40 engravers before being transported via the railway to France/Belgium. Next year they are going to replicate this journey by having three stones quarried and engraved for transportation on the 11th November 2018.



Barrow Hill Engine Shed Reopening, September 2017

Philip Cousins

Barrow Hill Engine Shed was officially reopened on Thursday 21 September after a Heritage Lottery Fund (HLF) award. The HLF originally awarded a £96,000 grant, later followed up by a £1.2 million grant in November 2016. The following month the roundhouse closed its doors to enable work to commence.

Work has included attention to the roundhouse roof and its supporting lintels; treatment and painting of steelwork, walls painted, with mortar pointed (an ongoing job). Major construction work has involved demolition of a single storey building latterly used as the kitchen, to be replaced by a striking glazed cafe and entrance building. This part of the building has seen significant investment, with windows and doors reinstated and re-glazed, brickwork repaired and lintels repainted. False ceilings have been removed, electrics and heating attended to and insulation added. In what was the old eating area (which also doubled as a lecture room) the original blue brick floor was carefully removed and reinstated in order to facilitate the installation of under-floor heating – the overhead gas heating having been removed. Part of the original shop premises has been converted back into its original use as the foreman's office, complete with desk, notice boards etc. Next door – the signing on point (the former entrance) – has been refurbished as an exhibition space. The latter is just one of a number of areas where both the history of the roundhouse, the locality and the role the railways played is explored and interpreted for visitors. Items from the roundhouse collection are displayed in this room and a second room, which was formerly Tilley's bookshop (at the opposite end of the roundhouse). There are interactive displays, including a large touch screen in the signing on point.

Some time has been taken to explore the history of the adjacent Staveley Works, coal mining and Barrow Hill in general, through maps, plans, photographs and personal reminiscences. The interpretive displays are not just another repeat of generic railway timelines and of information about the 'great and the good'. As one might expect there are some interactive displays suitable for children. Throughout the roundhouse new interpretive signage and displays have been installed. An example of some of the detail employed is one of perhaps the more unlikely ones, for a first aid box. This makes reference to the hazardous nature of the work involved in servicing locomotives. There is a short trail leaflet, which guides visitors around the displays, entitled 'The roundhouse in 24 Objects'. These range from the shear legs, yard signal box and roundhouse smoke hoods to perhaps more mundane items such as a lump of ironstone and of coal.

As part of the HLF grant a learning coach has been overhauled, which is designed to host school trips. The coaling stage has also had new fencing installed. In addition to new toilets the old ones in the yard have been refurbished.

The official opening on the Thursday, by HLF chairman Sir Peter Luff, also saw Barrow Hill general manager Mervyn Allcock presented with an award from the *Railway Magazine*, recognising his achievements in initially saving the building and taking the project forward. Shortly afterwards a sold-out rail tour from Kings Cross – the 'Grand reopening' – arrived at the site (arranged by UK Railtours), giving its passengers the first public view of the revamped site.

There was a gala on Friday 22, Saturday 23 and Sunday 24 September. This featured steam locomotives *Flying Scotsman* and *Tornado* giving trips up the truncated Speedwell Branch with three coaches (the learning coach included), partnered by LMS 'Jocko' 47403, from the Great Central Railway at Loughborough. This is the first time that *Flying Scotsman* has visited the roundhouse since a British Rail open day in 1974. When not being used on the passenger shuttles the cabs of *Tornado* and *Flying Scotsman* were open for inspection. Early publicity for the event indicated that the National Railway Museum's *Rocket* replica was to attend, but this locomotive was not present. One of depot's resident diesel shunters – 03066 – gave short trips to the site boundary gates at the main-line connection. Modern locomotives were also present, including three of Direct Rail Services Class 68 locomotives – 68023, 68024 and 68025 (built by Vossloh in Spain and destined for Transpennine operations), though these were not open for inspection. A selection of trade stands were present. The Deltic depot was also open.

On the 21, 22 and 23 September a newly commissioned community play 'Down the Line' was performed at the roundhouse. This was written by Kevin Fegan and directed by Carole Copeland. The cast included the *Flying Scotsman*, The Ireland Colliery Brass Band, Hollingwood Primary School Choir, Mervyn Alcock (the roundhouse general manager), professional actors and amateurs. The play told the story of the roundhouse.

According to the October 2017 *Railway Magazine*, the HLF grant has also enabled the employment of a

learning and access officer and the appointment of a volunteer co-ordinator. Funding should also ‘...enable encouragement of heritage skills, training and apprenticeship schemes, and develop a programme of events and activities’.

An attractive combined programme for the gala and the play was produced. It is estimated that some 5,000 people attended the gala. The roundhouse is again open at weekend's from 10:00 to 16:00 with an admission of £3 for adults. See the website <http://www.barrowhill.org/index.html> for further information.



The new entrance and café, pictured on the 23 September 2017.

Philip Cousins



The signing on point, with foreman's office visible through the window. Some of the high-quality displays installed can be seen in this view. Before the Lottery funded scheme, this area was formerly the roundhouse public entrance; the foreman's office acting as the shop. A new shop and entrance has been created.

Philip Cousins



A view in the yard taken from the ex-Pinxton signal box on the dull afternoon of Saturday 23 September. *Tornado* is to the left on a passenger shuttle, with *Flying Scotsman* to the centre. Direct Rail Service's 68024 can be seen between to the two. Note the coaling stage to the right, which has seen new fencing installed as part of the lottery scheme.

Philip Cousins



The foreman's office has been recreated in its original position.

Philip Cousins

IA News and Notes

South Yorkshire Archaeology Day ... and Derbyshire Archaeology Day?

South Yorkshire Archaeology Day will be held on Saturday 18th November, 10am-4:30pm at the Showroom cinema in Sheffield. There will be talks on recent archaeological research and fieldwork in South Yorkshire, delivered by academic, commercial and community archaeologists. Programme includes talks on: Excavations at Rossington Inland Port, Doncaster; Excavating Attercliffe Steelworks; Researching RAF Wortley, Reserve Ammunition Depot; the Don drainage basin in prehistory; From Scandal to Steel: historic building recording at Swinden Technology Centre; Archaeological Recording of Ardsley House, Barnsley; Peel Hill, Thorne: a motte and more; the Story of Sheffield Castle: archives, archaeology and interpretation.

You can book online at www.archaeologyday2017.eventbrite.co.uk, or more info via South Yorkshire Archaeology Service, 0114 273 6428

Derbyshire Archaeology Day as usual will be held at The Pomegranate on the second Saturday of January 2018.

The Value of Heritage – news from HE

Historic England has been reviewing the value of heritage. The latest statistical data has been collected and analysed for their latest report *Heritage and the Economy 2017*. It shows that in England:

- ♦ Heritage directly contributed £11.9 billion in Gross Value Added (GVA) This is equivalent to 2% of national GVA
- ♦ There are 278,000 people employed in heritage
- ♦ Heritage tourism generated £16.4 billion in spending by domestic and international visitors
- ♦ Repair and maintenance of historic buildings directly generated £9.6 billion in construction sector output

It's probably true to say that "heritage" is one of our most valuable industries – sounds like big business to me.

Heritage Award for Cromford Mill

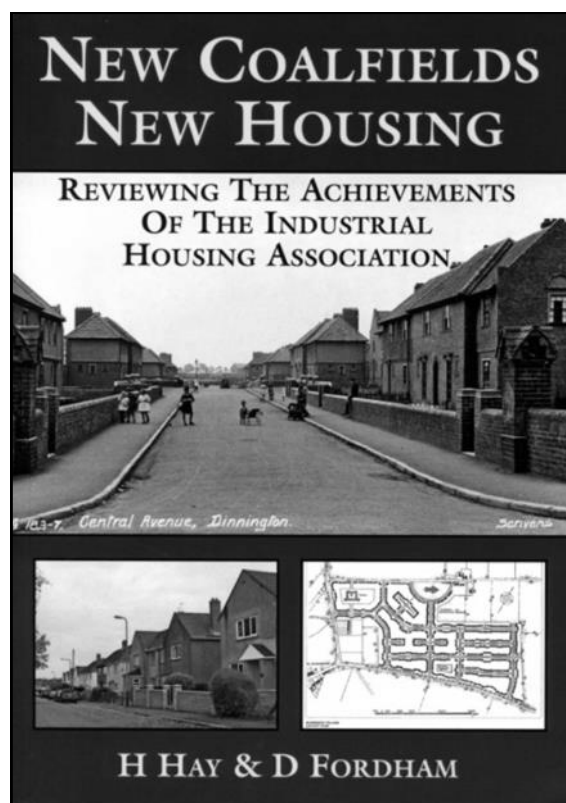
Cromford Mills has been awarded the prestigious 2017 European Union Prize for Cultural Heritage (Europa Nostra Award) for the brilliant work carried out on Building 17, the building which heralded in the world's factory system. This is perhaps the most important building in the world in global industrial history, certainly extremely well known judging by the numbers of overseas visitors to this most important fulcrum of our local UNESCO World Heritage Site. It's Europe's top honour in the heritage field, and the awards ceremony was held at Cromford on 19 October.

New book on the Industrial Housing Association

Philip Cousins

Readers of my article in a recent issue of the NEDIAS newsletter on social housing ('Piccadilly Road's involvement in social housing' – No. 66, May 2017) may be interested in a recently published book by H Hay and D Fordham, *New coalfields, new housing: reviewing the achievements of the Industrial Housing Association*. This book, of A5 size, with 140 pages is copiously illustrated, some in colour, indexed and basically does what the title implies. It has been compiled on a not for profit basis.

There is a very useful gazetteer of Industrial Housing Association sites, including Piccadilly. The latter includes a contemporary plan (from the Derbyshire Record Office) which shows that further development on Piccadilly Road would indeed have been accessed where the recently constructed new house is situated (referenced in a photograph at page 10 of my newsletter article). Locally the developments at Netherthorpe, Hollingwood and Newbold are also covered. The book is published by Fedj-el-Adoum Publishing (email: Fedj-el-Adoum@outlook.com), being very reasonably priced at £7.95 including postage. It is available from Mr D Fordham, 3 Adelaide Road, Norton, Doncaster DN6 9EW. Cheques to be made payable to D Fordham. Copies are available in Chesterfield Local Studies Library, though not for purchase.



Cromford Mills – volunteers wanted

Would you like to be part of the Derwent Valley Mills World Heritage site? The Arkwright Society is looking for enthusiastic individuals to join the friendly volunteer team and help to preserve Cromford Mills for future generations.

The survival of Cromford Mills would not have been possible without the Arkwright Society and its skilled and enthusiastic members and volunteers. Their passion and energy – and fund raising efforts – have helped to transform a once derelict and contaminated site into a successful visitor destination. Over the years volunteers have provided tours, talks and much of the onsite entertainment. Today we have over 100 volunteers who contribute regularly across the site – you could be one of them..

The majority of our volunteers help out part time, some roles involve a longer term commitment, and others could be helping with a short term project. Our Visitor Centre @ Building 17 is open daily; in here our volunteers inspire people about the whole of the Derwent Valley as well as taking visitors into the historic first mill to meet Sir Richard Arkwright. You could become a tour guide and share stories about our history or inspire school children as they learn about mill life.

The Arkwright Society also owns the Lumsdale Valley, Slinger Woods and Dunsley Meadows. All of these sites need a lot of care in terms of woodland management and fundraising events. We organise volunteer working parties to help clear vegetation, build footpaths and fencing. So, if you're interested in working in the great outdoors this might be for you.

If you are interested in learning more, please email volunteering@arkwrightsociety.org.uk or call 01629 823256 to discuss our opportunities with the Volunteer Manager. By the way, within NEDIAS, both Pat Pick and Cliff Lea already volunteer regularly at Cromford. – do ask them for more personal information on how to get involved and what it entails.



Chairman's Chat

Cliff Lea

The timing of our final Newsletter of the year is accompanied by the last leaves of Autumn, and the promise of Christmas. At our final meeting of the year on 11 December we'll have our annual quiz and slides from members. Is there anything you'd like to show members yourself? Anything you've been involved with this year that you'd like to share with us? Please let me know at cliff@nedias.co.uk or 01246 234212, and we'll slot it in.

During 2018, our lecture programme covers two important anniversaries. First and foremost, it's timely that in April we'll be celebrating the 250th anniversary of the birth of Bryan Donkin in a talk from the two authors of his latest biography. We will also recognise the Centenary of the sinking of the Chesterfield area oil wells as WW1 came to a close, and particularly of Britain's very first successful well sunk at Tibshelf in 1918.

In the meantime, my best wishes for Christmas and the New Year.

Historic Milestones in the NEDIAS Area

Cliff Lea

There are many Anniversaries, Centenaries and Celebrations of the industrial heritage and prominent residents in our area, and sometime these important dates pass by without due mention because we don't recognise them. Here's the start of a "Timeline", but it's only a start – can you please remind me of the many significant dates which I've missed. Let's see if we can fill in the gaps – and amend any errors. Do drop me a line with additions – at the very least there are many rail and pottery links we need to fill in.

1652		George Sitwell leases iron furnaces at Staveley
1702		Richard Dixon starts glassworks in Whittington
1716		James Brindley born
1721		Lombe's silk mill built, later recognised to be the world's first "factory", Derby
1732	Dec 23	Richard Arkwright born
1745	Jan-23	William Jessop born
1750		Derby Porcelain Company in business
1755	Dec-19	Richard Arkwright Junior born
1764	Apr-01	Benjamin Outram born
1768	Mar-22	Bryan Donkin born, Sandoe, Northumberland
1771		Arkwright's first water powered mill, Cromford, start of the world's "factory system"
1777		Chesterfield Canal opens
1781	Jun-09	George Stephenson born
1787		Richard Barrow born
1790		Butterley Ironworks starts as Benjamin Outram & Co
1792	Aug-03	Sir Richard Arkwright dies
1794		Cromford Canal opens
1796		Tramway laid from Glasshouse Common to Chesterfield Canal
1802	Apr-03	John Bradbury Robinson born
1802		Bryan Donkin Company starts in Bermondsey
1805	May-22	Benjamin Outram dies
1810		William Johnson acquires pottery (later to become Pearsons)
1814	Nov-18	William Jessop dies
1817	June	Pentrich Revolution
1819	Aug-16	Peterloo Massacre
1823		Charles Markham father of CPM born
1839		Clay Cross Company forms
1839		Robinson & Sons, Chesterfield, founded by purchase of Pill Box business
1840		North Midland Railway opens at Chesterfield
1840	Oct-23	Clayton's Tannery founded by Joseph Clayton
1843	Apr-23	Richard Arkwright Junior dies
1844		Midland Railway Company formed
1847		Riddings Oil strike in James Oakes pit and first oil refinery
1848	Aug-12	George Stephenson dies
1854		Dunston & Barlow Co Ltd starts (see 1864)
1864		Dunston & B. becomes Sheepbridge Coal & Iron Co.
1864		Staveley Coal & Iron Co formed
1865		Richard Barrow dies
1865	Apr-14	Charles Paxton Markham born
1869		John Bradbury Robinson dies
1870		Barrow Hill Roundhouse opens for use
1871	Feb-18	Harry Brearley born
1871		Ch'field & Derbyshire Institute of Mining, Civil and Mech. Engineers forms
1872		Wilson-Camell steelworks built, Dronfield
1886		Sir Robert Robinson, OM, FRS, Nobel Prize laureate, born
1888		Charles Markham father of CPM dies

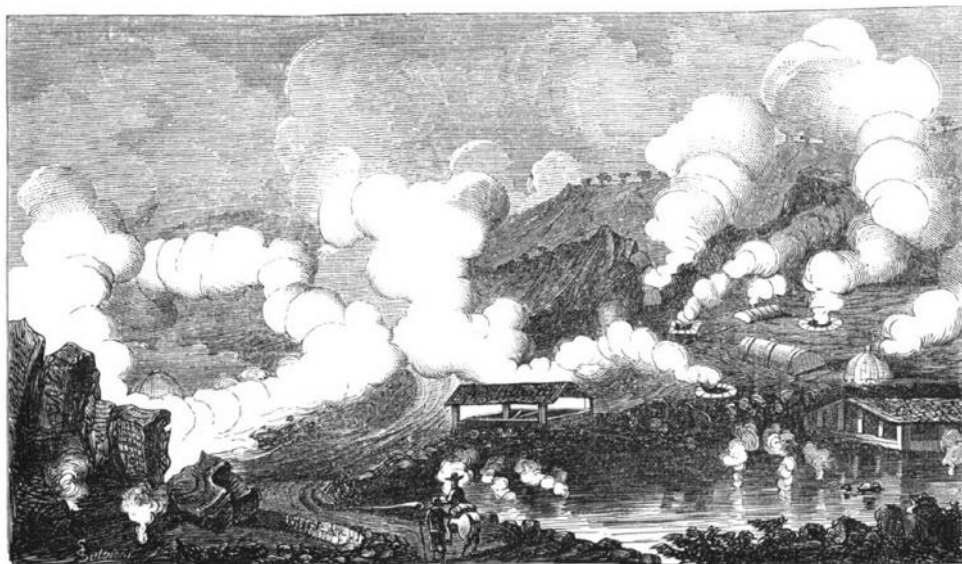
1895		Cresswell Model Village built by Bolsover Colliery Co
1896		LD&ECR opens for traffic
1902		Bryan Donkin Chesterfield Works opens
1918		BTH, Brit.Thomson-Houston, later called Glass Tubes, opens in Chesterfield
1918	Oct	Hardstoft No 1 oil well spudded at Tibshelf
1919	May-27	Hardstoft No 1 well strikes oil at Tibshelf
1922		Lamp Caps opens in Chesterfield
1923		Dema Glass starts in Chesterfield
1926	Jun-29	Charles Paxton Markham dies
1948		Staveley Iron & Chemical Co formed
1948	Jul-14	Harry Brearley dies
1955	Dec	Avenue Coking Works first firing
1975		Sir Robert Robinson, OM, FRS, Nobel laureate, dies
1991	Feb-9	Barrow Hill Roundhouse Closed as a BR Depot; Roundhouse and its associated buildings were given Grade 2 Listed Status by the Department of the Environment
1991		Masson Mill, cotton business finally ceases
1992		Avenue Works - carbonisation plant closes
1994	May	Pearsons Pottery, final closure
1996	Dec-20	Chesterfield Borough Council became the new owners of Barrow Hill Roundhouse and nearby yard.
1998	Jul	Barrow Hill Roundhouse re-opened its doors to the public.

And finally

.... Geothermal Energy - a century of progress

Visitors to Tuscany these days may be attracted to the towers of San Gimignano or the fine wines of Montepulciano, but look a little closer and you'll learn of the local hot springs and warm spas. I recently came across an interesting article published in an old "Scientific American" magazine of 1917.

"In central Tuscany in 1904, volcanic steam was first used in an ordinary steam engine of about 40hp, but the borax salts and other chemicals seriously corroded the machinery. Later the superheated steam was applied to an ordinary multitube boiler in which it was used in place of fuel. An experimental plant worked successfully, supplying power to the works and the villages surrounding Larderello. Its success led Prince Ginori-Conti to develop a power plant on an large scale, and three 3,000 kW turbo-generators were installed in 1911. The new undertaking has proved a great boon in industrial Tuscany."



VEDUTA DEI LAGNI BORACIFERI DI LARDERELLO, NELLA PROVINCIA DI PISA

The above fascinating historical snippet of information refers to the business activities of the Prince of Florence, Piero Ginori-Conti. Since the early 1800s the family business had commercially extracted Boric Acid from geothermal waters and natural geysers around the town of Larderello in Tuscany. Old drawings of the area show many geysers and hot springs.

LEFT:

Fig 1: The hot springs around Larderello, Tuscany in 1868

In the early 1900s Conti had gone on to investigate use of steam from these hot springs to generate electricity. First of all he proved the context by generating sufficient to light several electric bulbs with this, the world's first geothermal electricity generator at Larderello. He went on over the next few years to build what at that time would have been a massive plant to provide electricity commercially to the towns of Volterra and Pomerance. Marie Curie the famous scientist was to visit and see for herself during WW1. It wasn't until 1958 that the world's second commercial geothermal plant was to be built in New Zealand, as we all started to catch up. The plant at Larderello is still in operation, and has expanded to become one of the world's largest geothermal generators.



This was groundbreaking early work and the very beginning of today's geothermal energy industry. And finally in Britain? Well we have only one commercial geothermal power plant, in Southampton, but it's long been recognised that there is great potential here in Derbyshire, with its known thermal springs at Matlock, Buxton and elsewhere.

LEFT: Fig 2: Conti's very first generator using what he referred to as "volcanic" steam

BELOW: Fig 3: The geothermal plant at Larderello as it appears today - one of the world's largest.



REMINDER: NEDIAS subscriptions due at end of the year - renewal form enclosed.

Contributions, no matter how short (maybe about a visit you have made), and preferably by email to cliff@nedias.co.uk, for inclusion in future editions of this newsletter are most welcome.

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