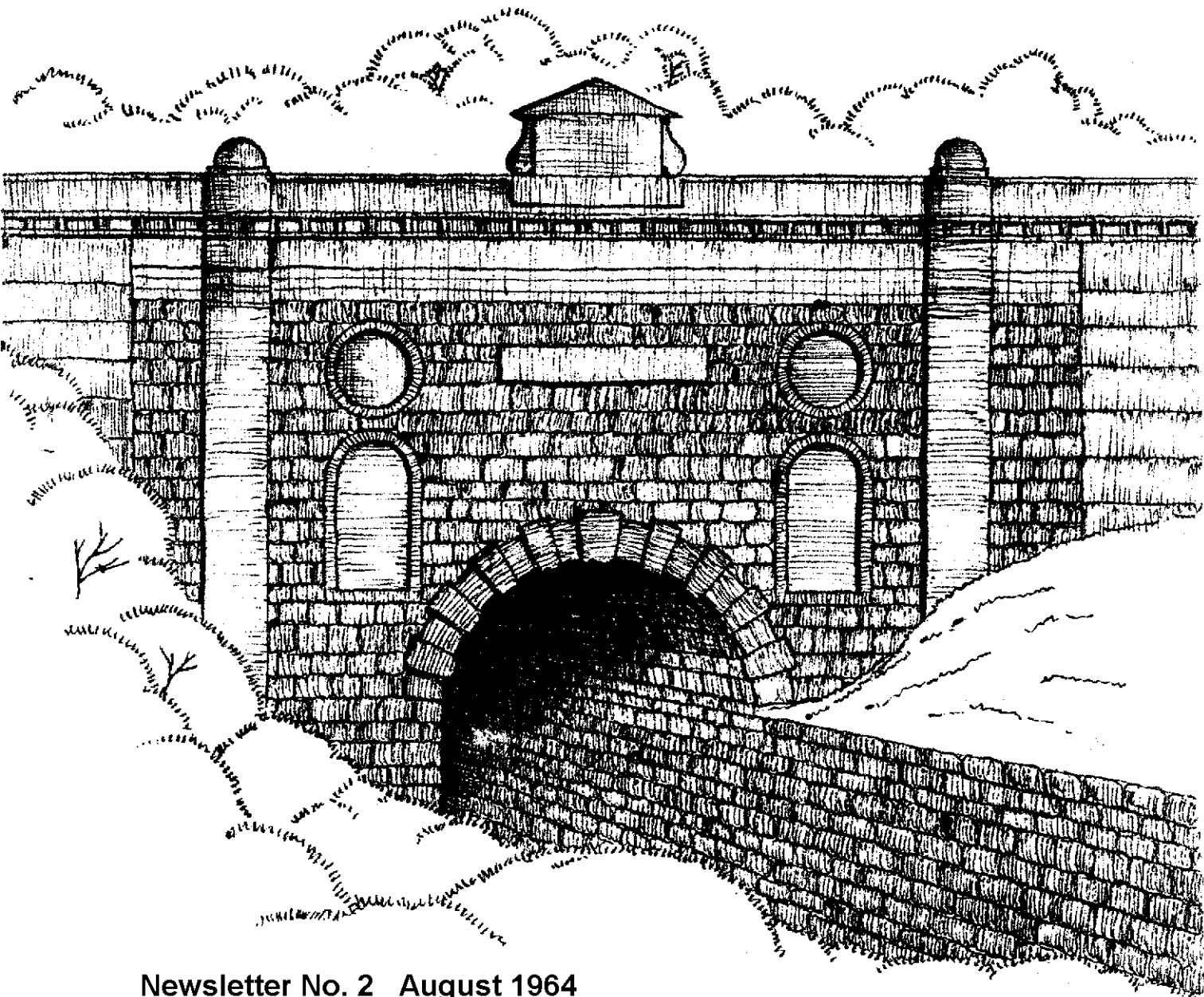


THE NEWSLETTER OF
THE GLOUCESTERSHIRE
SOCIETY FOR
INDUSTRIAL ARCHAEOLOGY



Newsletter No. 2 August 1964

EDITORIAL

Articles in this issue deal with the visits organised by your Society this year and I feel that these visits, together with the lecture programme, provide members with the background knowledge necessary for both their own and the Society's field activities, activities which it is hoped will expand in the near future.

This time I should like to make some remarks concerning company museums, a subject on which there is an article by Kenneth Hudson in the first number of "The Journal of Industrial Archaeology" which includes a list of many of these museums.

I did mention in the last issue that some industrialists do not seem to like establishing company museums. However, I hope that many of them will be taking due note of the new headquarters for Messrs. Pilkington Bros. at St. Helens, a development which includes an industrial museum. Speaking in London and referring to the museum, the architect Maxwell Fry said "This was a most important feature. One of the great defects of an industrial system was that the workers know only their little part of the job and not how it fitted into the wider process - in that sense they were isolated. I feel that if this museum could show the beginnings of glass, its social consequences and how it has come to be used in building, the technique of glass-making could be explained more scientifically." ("Building Industry News" June 18th 1964). Concerning this museum Kenneth Hudson says that it includes working models, students' library, archives section and lecture theatre.

It is my feeling that if firms could set aside a space, however small, showing the history of the firm and its products, it would be a valuable introduction to visitors. By visitors I am especially thinking of school children who should be encouraged to visit all types of industry, not only to improve their education, but also to show them the various types of employment available. These visits can make deep impressions - I remember vividly not only the school visits but also those made at half-term to biscuit, jam, soap, rubber etc. factories.

It is quite evident that many local authorities cannot, or do not, give the required support to the local museum; in fact the last journal of "The Society of Industrial Artists and Designers" stated that too many museums are in hideous, ill-lit, Victorian buildings, the soulless mortuaries of dusty, overcrowded and inadequately labelled objects.

cont

Even if new buildings are available, it does not necessarily mean that the layout will be successful and I feel that this is the case in the new Water Transport section of the South Kensington Science Museum where diorama after diorama becomes monotonous and one loses all sense of scale. I therefore consider that it is important that industrialists realise that if they establish a company museum it has a useful part to play in the life of the community.

GLOUCESTERSHIRE'S RAILWAY ARCHITECTURE

I am sure all readers would wish to add their congratulations to J.M. Rogers, aged 16 of Minchinhampton, who won the essay competition organised by the Local History Committee of the Gloucestershire Community Council. Part of this essay together with five of his illustrations has now been published in the June - July issue of "Gloucestershire Countryside". Although an expert in the subject can find a few errors or omissions it is nevertheless a masterly composition for one so young and shows great promise for the future.

Incidentally, in the same issue of "Gloucestershire Countryside" there is an interesting article on the aeroplane museum opened recently at Staverton Airport between Gloucester and Cheltenham.

G.N. Crawford.

STROUD VALLEYS IMPROVEMENT SCHEME

Many members will no doubt have read in their newspapers that the County Planning Department is interested in tidying up the Stroud valleys and that a film is to be made to illustrate their proposals. You will be glad to hear that there has been close co-operation between the County Planning Officer and members of your Committee and that the subject is to be featured in the autumn series of lectures. In addition the Department has written an article for this Newsletter, but publication has been deferred until the scheme has been explained more fully by the Planning Officer to Stroud industrialists during the next couple of months.

VISIT TO SOUTH WRAXALL AND BRADFORD-ON-AVON

On Saturday 6th June 1964 a party of fifteen, together with members' children, met Mr. K.G. Ponting in Bradford-on-Avon on a very wet morning.

Our first visit was to South Wraxall Manor, a couple of miles north, which is an extensive clothier's house of the 15th century with Elizabethan and Jacobean additions. Last year members had been briefly shown the outside of this house but this time we were able to inspect the interesting interior, although it is not usually open to the public.

It is not proposed to give a long description of the Manor as it is fully covered by Nikolaus Pevsner in "Wiltshire", a volume in "The Buildings of England" series. The high hall with its gallery and the colossal fireplaces in several of the rooms were the most noteworthy items and luckily the rain eased off so that we were able to inspect the exterior and the pleasant garden.

Back in Bradford, Mr. Ponting took us to the vast 14th century Tithe Barn, recently restored, where we had our picnic lunch. Inside we examined an interesting collection of old agricultural machinery which included a farm waggon.

Returning to the centre of the town we visited first the minute church of St. Lawrence which John Betjeman states is the most notable Saxon church in England ("Guide to English Parish Churches") and then Holy Trinity, the Parish Church. Here we were interested in seeing the brasses to Thomas Horton (1530), who was a wealthy clothier and a great Bradford builder, and his wife. Underneath was the clothier's trade mark - he was a merchant of the staple.

Walking through the town, with its terraces of houses rising one above the other, we passed a five storey cloth factory, now a rubber works, built in 1875 and designed by Richard Gane. On the other side of Church Street were many fine houses, especially early 18th century, showing the affluence of the clothiers. John Leland on his visit in 1533 said "Al the town of Bradeford stondith by clooth-making" ("The Story of Bradford and its Churches" by H. Clarke). Later, in the early 19th century, there were as many as thirty-two cloth factories.

Behind the clothiers' homes we looked at an 18th century terrace of three-storey weavers' houses. There were two settlements from abroad, the first of Flemings and the second of Huguenots brought in by the Methuens in the 17th century to teach a newer method of weaving.

Through The Shambles and up the hill on the Melksham road we came to "The Hall", a large, imposing, Elizabethan mansion built by a clothier, John Hall. It is still occupied by an industrialist, Mr. Moulton, and the factory of Spencer Moulton & Co. is just outside the walls. Mr. Moulton is well-known as the inventor of a rather revolutionary cycle and also of the hydrolastic suspension in the latest British Motor Company cars. We were able to wander round his garden and have a glimpse of the exterior of "The Hall".

The visit ended appropriately at Mr. Ponting's cloth mill in Trowbridge where we saw some of the machinery and the sample and despatch room with its many different types of labelled cloth.

DEPARTMENT OF TECHNOLOGY, BRISTOL CITY MUSEUM

Local History Bulletin No. 9 of the Gloucestershire Community Council reports that the establishment of a Department of Technology in the Bristol City Museum fills a long felt need in the South-West. The care of the scientific, technological and industrial monuments and relics of the region has hitherto been neglected in all but the rarest cases and the new department is aimed at remedying this deficiency. It will primarily be concerned with local items and the whole of Gloucestershire comes within the collecting area.

Already the Museum possesses fine collections of road vehicles and ship models, but examples of industrial machinery are almost non-existent. Over the next few years, therefore, they will be concerned with building up a comprehensive collection in readiness for the opening of the new Museum. Gloucestershire items already in the collections include a superb farm waggon from Oldbury-on-Severn and a carrier's cart from Bibury. A more recent acquisition is a Dursley-Pedersen cantilever frame bicycle in almost perfect condition.

PUCKLECHURCH LOCAL HISTORY SOCIETY.

A note in the Community Council's "Local History Bulletin" says that the Pucklechurch Local History Society in the south of the County hopes to investigate local industries past and present. They also publish a Newsletter.

NOTES FOR THE VISIT TO THE THAMES & SEVERN CANAL

SATURDAY, SEPTEMBER 5th, 1964

The project of joining the Rivers Thames and Severn is probably the oldest of all English plans for the building of a trunk inland waterway. It would have threaded a thriving and populous part of the country; linked the two largest cities in England, London and Bristol; increased the flow of goods between the two principal ports of the kingdom, the one looking eastwards to Europe and the other westwards across the Atlantic; and enabled the great agricultural and industrial wealth of the Severn basin, the midlands and the west to sustain the expanding capital. It appears to have been first suggested in the reign of Queen Elizabeth I, and from then onwards it was the favourite of all such designs amongst projectors and engineers. A determined attempt to realise it was made in the reign of Charles II when several Bills for the purpose were before Parliament, the most important of which was Francis Mathew's of 1668, and it is probable that it was then laid aside only because of the difficulty of financing it.

However, by the time it was actually sanctioned by Parliament in 1783, industrial supremacy had passed from the west of England to the north-west; Liverpool had supplanted Bristol as the second port in the kingdom; and the midlands no longer looked upon the Severn as the only outlet for the products of its industries, as other canals were already being built to link the midlands and north-west directly with the Thames. As a national project, the Thames & Severn Canal was therefore a failure, and it was only after many years of financial adversity that it achieved a modest prosperity as a local distributor of coal from the Forest of Dean mines.

The first part of the line to be completed, from the Severn at Framilode to the thriving woollen centre of Stroud ($7\frac{1}{2}$ miles), was built by the Company of Proprietors of the Stroudwater Navigation between 1775 and 1779 after nearly fifty years of dispute between the progressive mill-owners of the district, who knew that improved means of transport would benefit their industries, and a conservative opposition who saw the proposed navigation only as a competitor for the waters of the River Frome. The original plan of the Stroudwater Navigation had been sanctioned by Parliament in 1730, and the final design adhered sufficiently closely to the older one for it to be out-of-date in at least one respect: the towing-path was unsuitable for horses and enumbered with stiles, so that all vessels had to be towed by gangs of men.

The extension from Stroud to the Thames at Inglesham, with a branch to the Cotswold town of Cirencester (a total of $30\frac{1}{8}$ miles), was built by the Thames & Severn Company between 1783 and 1789 - remarkably quickly, due principally to the untiring zeal of a Wolverhampton merchant who was a proprietor of the Staffordshire &

Worcestershire as well as the Thames & Severn and a knowledgeable amateur engineer.

The principal, indeed the only considerable, engineering work on the line was Sapperton tunnel, 3817 yards long, penetrating the Cotswold ridge from the Frome valley to Thames Head. It was much the largest and longest tunnel that had then been built. The magnitude and difficulty of the task overwhelmed the contractor who undertook the whole of it, and the completion of the tunnel in 5½ years was only achieved by the Company's taking much of the work out of his hands and letting lengths to other undertakers - men who were themselves working masons or miners and leaders of construction: gangs of varying size.

The intention was to build the canal eastwards from Stroud so that as sections were completed materials could be carried by water as near to the working sites as possible. To a considerable extent this was done: the canal was in use to Chalford early in 1785, and to Daneway (at the western end of the summit level and near the tunnel portal) in the summer of 1786. The tunnel, however, had been begun long before that, in the winter of 1783-1784, but although it was driven with quite remarkable vigour and speed, it took longer than the sanguine proprietors had forecast, and work having gone ahead on the remainder of the summit level meanwhile, a considerable length of canal to the east was ready in March, 1789, and a boat built locally was used to carry constructional material along it about a month before the first passage of the tunnel was made on April 20th., 1789.

The junction of the canal with the Thames at Inglesham was completed last and celebrated in style on November 19th., 1789, but at that date the work of making the Thames navigable by laden barges between Inglesham and Lechlade had not even been begun by the Thames Commissioners. This was done, after a fashion, by the end of 1790, but the unwieldy and inefficient body of Thames Commissioners never did enough to make the upper reaches of the river tolerable for navigation, with the result that all the Thames & Severn Company's efforts to make the canal part of an effective waterway between the Severn and London were frustrated. The alternative, to extend canal navigation to the Thames at Abingdon, was prevented for thirty years by the combined opposition of the Thames Commissioners and the University and City of Oxford. It was only after the Wilts & Berks Canal had been built from Semington (on the Kennet & Avon) to Abingdon that this opposition was overcome, and the North Wilts Canal was authorised to form a junction between the Thames & Severn near Cricklade and the Wilts & Berks at Swindon. It was opened in 1819, and its effect, in conjunction with the development of the Forest of Dean coalfield, was to increase receipts sufficiently for dividends, modest but regular, at last to be paid to the unfortunate proprietors of the Thames & Severn Canal.

There is no space in these brief notes to develop the many fascinating aspects of the histories of the Stroudwater Navigation and the Thames & Severn Canal: the lawsuits of the former; the engineering of Sapperton tunnel; the disputes and quarrels in which the contractor was involved; the several different types of vessels used; the boatbuilding, carrying and trading which the proprietors of the Thames & Severn undertook; the interlocking of the Thames & Severn proprietary with other canals and the mines and railways of the Forest of Dean; the emergence of the Chairman as the dominating force in company direction; the courageous financial reorganisation to free the concern of a hopeless load of debt; the steady improvement of the works so that the company should be in the best possible state to meet railway competition; the slow and inevitable attrition caused by the competition of the new and superior method of transport; the schemes for turning the canal itself into a rival railway; the unsuccessful attempts, first of a group of allied navigations and later of the Gloucestershire County Council, to maintain the canal as a useful means of transport in modern times.

ITINERARY

- Stroud.** The Stroudwater Navigation basin has been filled in, but the house and office for the Clerk, built in 1796-7, is an interesting piece of canal architecture. Walbridge No. 1 Lock, by which the Thames & Severn Canal led off, is below the basin.
- Framilode.** Here is the lock leading from the Stroudwater Navigation into the River Severn.
- Saul.** The crossing of the Stroudwater and Gloucester & Berkeley Canals, built by the latter company, was an awkward piece of engineering. The level of the Stroudwater Navigation had to be raised 5 feet 10 inches between Whitminster Lock and the junction, and a lock built on the west side of the junction for the exit of the Stroudwater upon its old level. This part of the work was completed in 1820, opening canal communication between Gloucester and the Severn via Saul and Framilode. The Berkeley extension was united to the junction in the summer of 1826, after great difficulty, two failures in the works, and a stoppage of all three canals lasting ten weeks. The elaborate series of stop gates, designed to prevent loss of water in any direction from the three level arms, is very interesting.
- Brimscombe Port.** This was the largest installation upon the Thames & Severn Canal. The Port building, which includes a great warehouse, an office, and the agent's house, was built in 1787-1789. The basin, parts of which have been filled in,

was said to be capable of holding a hundred vessels, and got long all cargoes were here transhipped between Severn trows and Thames barges. Coal was stored on an island secure from pilferers. A short distance above the Port, at The Bourne, there are the two docks in which trows and barges were built.

Daneway. Here is the uppermost of the series of locks by which the canal ascended the Golden Valley. The remains of side-ponds, added about 1823 to reduce the consumption of water in the locks, can be seen. There is also the wharf which was the head of navigation for a time while the tunnel was being built. The Daneway Arms, known until about nine years ago as The Bricklayers' Arms, is a pleasant inn which was probably built by the company as a hostelry for the tunnellers. It faced the top lock, now filled in. Above the lock, the canal took a sharp turn and, passing a rectangular watchman's or lengthman's cottage, plunged into the steep flank of the valley through a portal built in the Gothic style.

Tunnel House. This inn beside the eastern portal of the tunnel was built to house the miners and others engaged upon the works. It was burnt down a few years ago and has been rebuilt with one less floor. The tunnel portal is about thirty feet below ground level in deep cutting, and was designed in the Classical style. To the east of the deep cutting is The King's Reach, so named in honour of King George III's visit in 1788, and one of the curious Round Houses, of which five were built to house the watchmen or lengthmen.

Thames Head. The wharf here was provided with an agent's house and four sheds. It stands beside the causeway carrying the Fosse Way over the canal and the infant Thames, and was intended to serve the Cotswold town of Tetbury, seven miles off. On the underside of the bridge are deep scours cut by the tow-ropes of barges rounding the sharp curve in the canal. A short distance away across the fields are the scanty remains of the pumping station set up by the company to supplement the original water supply of the canal, which had been drawn from the River Churn at Cirencester. The Thames Head well is oval, 15 feet by 10 feet clear, and 63 feet 8 inches deep. It took two years to sink (1791-1793), and the supply of water was increased by driving galleries from its sides, one of which extended more than 670 yards and was made partly by tunnelling and partly by the cut-and-cover method between 1793 and 1841. A Boulton & Watt engine was erected in 1791-1792, and replaced by a Cornish Beam engine in 1854.

Latton. The North Wilts Canal formed its junction with the Thames & Severn to the west of Latton village. A mile beyond, where the line of the Thames & Severn turned away from the main road to follow the River Thames to Kempsford and Inglesham, Latton Wharf was built to serve the town of Cricklade, half a mile away. The wharf has a building of a most peculiar design, adopted with slight variations also for the wharf at Kempsford and the terminal basin at Cirencester, the agent's four-roomed house rising between wings that served as warehouses. The rear of the building seen from the road is a vast expanse of roof sloping to low outer walls, but the front has a facade of plaster and stucco over the rough Cotswold stone, and is topped by a triangular pediment.

Inglesham. This is a pleasant isolated spot. The bridge across the tail of the lock leading into the Thames bears the date November 14th. 1789 - only five days before the first boat passed through into the river. In a close set group with the bridge are a Round House, lovingly cared for as a weekend retreat, a small warehouse, and until recently the timber bridge provided by the Thames Commissioners to carry the towing-path across to the south bank of the river.

Lechlade. Inglesham soon proved an inconvenient and inadequate terminus, and early in the nineteenth century the company bought Parkend Wharf, Lechlade, which had been built by one of the Thames bargemasters about the middle of the eighteenth century. His house and office is a charming building. Other accommodation included a two-storeyed warehouse, a cart shed of five bays and a dock.

H.G.W. Household, M.A.

GLOUCESTER FOLK MUSEUM

A rotary chaff-cutter from Barnwood, a comparatively modern piece of barn machinery made by Kells of Gloucester, has recently been acquired. The Museum would like to acquire an earlier type comprising a wooden trough and guillotine knife.

F I E L D W O R K

Volunteers are invited to help measure up Small's Mill, Pincoot Lane, Pitchcombe, on FRIDAY, 28th AUGUST, meeting Mr. Lionel Walrond at 6.45 p.m. at the mill.

From the Stroud-Cheltenham road (A.46) at the Eagle Inn, Pitchcombe, turn off down to the stream. Please bring old clothes and a torch, with rubber boots for the sluices if you wish.

It has been decided by your Committee, which incidentally meets monthly, that Field Activities are to be divided up into the following headings :-

- (a) Mills and Millwheels
(Mr. L. Walrond, Stroud Museum)
- (b) Transport
(Mr. J. Strange, 48 Stratford Road, Stroud.)
- (c) Engineering Machinery
(Mr. C. Townley, Rodborough House, Rodborough, Stroud.)
- (d) Factory Processes.
- (e) Agricultural Machinery.
- (f) Public Utilities.
- (g) Other Items.

Any information concerning (a), (b) and (c) should be sent direct to the Committee member whose name is given.

As well as the mill survey mentioned above, it is hoped to arrange field work on the Thames and Severn Canal after the visit on the 5th September.

L E C T U R E S

Two courses of lectures have been planned for the Autumn in co-operation with the Extra-Mural Department of the University of Bristol.

BROCKWORTH - at British Nylon Spinners' Lecture Hall.

The lecture series is called "Discovering our Industrial Past" and starts on TUESDAY, 29th SEPTEMBER with "Adventure of Discovery" by Kenneth Hudson.

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LECTURES (continued)

STROUD at the Technical College, Stratford Road, commencing FRIDAY, 2nd OCTOBER with "Industrial Archaeology on the Continent"; again the lecturer is Kenneth Hudson.

MEMBERS WILL BE GIVEN FULL DETAILS WHEN ARRANGEMENTS HAVE BEEN FINALISED.

PERILS OF FIELD WORK

FIREG GUN "BUT NO HOSTILE INTENT"

A LLANELLY HILL farmer was conditionally discharged by Brynmawr magistrates on Monday after being found guilty of common assault.

Clifford George Addis, of Blaengelli Farm, was said by the prosecution to have fired a shotgun at two men, Gordon Ratenbury and Raymond Ernest Bowen, both of Cardiff, who were amateur industrial archaeologists tracing the track of an old tram road connected with the industrial history of the area.

They were crossing a field when they heard the shot, said Inspector Douglas Davies. They became alarmed and instinctively dropped to the ground. They heard a shot travelling over their heads.

"VIOLENT"

The inspector said the men saw Addis coming towards them "brandishing a gun and looking violent and irrational." They tried to converse with him, but became terrified when they saw him reload the gun.

Inspector Davies added: "They tried to calm him down, but he pointed the gun at them and ordered them out of the field. The men were trespassing but were unaware of it."

Addis, who was ordered to pay costs of £4.10s., said in court that he had shouted at the men three times. Because they did not stop he fired a shot to attract their attention. He said he could not run after them because he had a slipped disc.

Mr. Julian Webster, defending, suggested that Addis had no hostile intent.

from "Abergavenny Chronicle" - Article sent in by Geoffrey Andrew.

Members who are not specialists will find it safer to read "Tramcar Treasury" by Dennis Gill, published 1963 by George Allen and Unwin 147 pp., numerous illustrations, 42/-.

G.N.C.

SOCIETY VISIT TO THE FOREST OF DEAN

On Saturday 4th July 1964 30 members of the Society were introduced to some of the early industrial features of the Forest of Dean by Mr. Baty.

The route took us via Longhope and Cinderford, passing the now closed Eastern United Colliery and the site of Soudley furnaces

Our first extended stop was at Viney Hill where we inspected Mr Hale's free mine. Although there was much coal to be obtained, the seams varying from 2'8" to 4'6" in thickness, it was explained that the difficulties of obtaining labour and the problem of drainage limited output of coal to approximately 20 tons per week. The mine had four entrances, the main one being 5'6" in height, all inter-connected underground. The mine was subject to the usual N.C.B. regulations. This particular mine was not a gale, the local term given to a free miner's working. We were informed that £100 was the usual approximate cost of obtaining a gale and that the money went to the free miners' association. The gaveller is the official in charge of free mines and a record of every gale is kept by him.

The party then moved on to another free mine above Yorkley, also owned by Mr. Hale, but at the moment not being worked. This mine was closed in 1875 but re-opened in 1957. The more adventurous of the party completed the rather hazardous incursion to the coal face, a distance of approximately 300 yards, by a tunnel five feet high in most parts. The seam appeared quite substantial but it was explained that mechanisation was urgently needed in order to work the mine to its best advantage.

After proffering our gratitude to the people concerned for making the visit so instructive and interesting, the party proceeded through Parkend towards Coleford where we examined the site of Mushet's iron working blast furnace at Darkhill.

We continued to Newland church where we were shown the famous brass, believed to date from the fourteenth century, depicting a free miner. The brass did not appear to bear any relation to the tomb to which it was affixed.

The party returned via Clearwell where we inspected a scowle hole formed by the extraction of iron from the rock. This was closed about 1900. The workings extended about a mile underground but we were content to explore the first few yards into the first cavern.

This was the last extended stop and the party returned via Ruardean to Gloucester and Stroud having had a most enjoyable preliminary excursion. I am sure that many members will have been prompted to explore the Forest in more detail after having had their appetites so skilfully whetted.

J. M. Strange.

SCHEDULED INDUSTRIAL MONUMENTS

A list of industrial monuments which the Minister of Public Building and Works has scheduled for preservation was issued on 29th June 1964. The following were among those of the period of the industrial revolution and later which were protected under the Ancient Monuments Act :-

Iron Furnace sw of Clydach House, Llanelly, Brecknockshire

Hirwaun Iron Works (site of), Penderyn, Brecknockshire

Marple aqueduct, Cheshire

Old Know's Lime Kiln, Marple, Cheshire

Duddon Furnace, Millom Without, Cumberland

Pont-Cysyllte aqueduct, Llangollen, Denbighshire

Glaze Meet blowinghouse (Tinner's Foundry), Ugborough, Devon

Haytor Granite Railway, Ilsington, Devon

Causey Arch, Tanfield, Durham

Remains of iron furnace at Cwmaman, Aberdare, Glamorgan

" " " " near Angelton, Coity Higher, Glamorgan

Mortimer's Cross water mill, Lucton, Herefordshire

Old Malt Houses and Kiln, High-street, Stevenage, Hertfordshire

The Malting (Kiln), St. Neot's, Huntingdonshire

Berney Arms Drainage Mill, Reedham, Norfolk

Canal aqueduct, Longdon upon Tern and Rodington, Shropshire

Ironbridge bridge, Madeley, Shropshire

Site of 18th century pottery at Longton Hall, Stoke-on-Trent

Green Mill, Saxtead, Suffolk

Chatley Semaphore Tower, Cobham, Surrey

Earthworks of Surrey Iron Railway, Merstham and Coulsdon, Surrey

Dundas aqueduct, Winsley, Wiltshire

The Forge Mill, Redditch, Worcestershire

Top Forge, Wortley Ironworks, Hunshelf, Yorkshire

The Glassworks Cone, Catcliffe, Yorkshire

In addition a number of buildings of this kind were among those of special architectural or historic interest listed by the Minister of Housing and Local Government.

("The Builder" 24th July, 1964)

Gloucester Here is a good stone bridge over the river Severn, with a quay, wharf and customhouse; but most of its business is engrossed by Bristol.

.... Its chief manufacture is pins. In this branch it is astonishing the number of people who are employed, there being at least 14 or 15 different processes. Under the bridge is a water-engine to supply the town and it is served with it also from Robin Hood's well to which is a fine walk from the city.

Gloucestershire Its manufactures are wollen cloth of various kinds, mens hats, leather, pens, paper, bar-iron, edge tools, nails, wire, tinned plates, brass etc; and of the principal articles of commerce of the county it exports cheese 8000 tons; bacon, grain, cyder £5000 worth, perry, fish £4000 worth etc.

Mills Water is the most common power and indeed the best, as being the most constant and equable while wind comes sometimes with great violence and at others is totally gone. Mills may also be moved by the force of steam, as were the Albion-mills at London; but the expense of fuel must undoubtedly prevent this mode of constructing mills from ever becoming general.

Coalery the coals are most advantageously brought out by horses. If the coal be not of such a height to admit horses, and has a moderate rise then men are employed to bring out the coals; they usually drew a basket of four or five hundred weight of coals fixed upon a small four-wheeled carriage. There are some situations in which neither horses nor men can be properly used; particularly where the coal has a great degree of descent: in such cases the coals are best brought out by women called bearers, who carry them in a kind of basket upon their backs, usually a hundred, or a hundred weight and a half, at once.

R. Rose.

The first place of call was the Severn Tunnel Pumping Station of British Railways, where we were shown around by the Manager, Mr. Stephens, and his assistant, Mr. Jones. Mr. Stephens gave us a comprehensive account of the construction of the tunnel, the difficulties which were encountered due to flooding and the important role which pumps played during the building period and subsequently. We were also privileged to see in operation the fine model of one of the beam engines, which Mr. Stephens had made in his spare time.

Although the pumping station was converted to electrical operation in November 1961 the Great Spring Engine House remains virtually complete. Here we were able to inspect, at close quarters, the six 70" beam engines built by Harvey & Co. of Hayle in 1877. The intention is to retain one of these engines as a museum piece, and it is to be hoped that recent changes in British Railways policy will not prevent this. This was then followed by a general tour of the site and we were able to locate where the remaining engines had been. We also inspected the ventilating fan, used to keep the tunnel clear of smoke. Like the pumps, this was at one time steam driven, but has now been converted to an electrical drive.

A picnic lunch was arranged at Portskewett, where we spent some time looking around the remains of the old railway and pier. Until it was superseded by the Severn Tunnel in 1886, a passenger ferry maintained a service between this point and New Passage on the Bristol side of the river, in connection with the trains.

From Portskewett we went on to Newport, for the visit to the Transporter Bridge, one of the only four structures of this type to be built in this country. It was opened on 12th September 1906, to provide a link over the Usk between the town and the rapidly developing industries on the east bank of the river. As well as the interest in the structure itself, we were intrigued by the Edwardian fittings, such as the pagoda-like control tower on the bridge platform. Our guide was Mr. Purnall, the Bridge Superintendent, who described to us many features of the history of the bridge, and recounted a number of amusing anecdotes about its operation.

On the return journey we stopped at Chepstow for tea, and to photograph the old cast iron bridge over the wye.

A final visit had been planned to a charcoal burning establishment near Westbury, but here we found the gate padlocked, and the owner nowhere in sight. The writer of these notes made an informal tour of inspection on a later occasion and found some eight or nine home-made kilns in use, converting timber from old railway trucks into charcoal. Although the equipment actually in use is relatively modern, the processes carried out are of considerable interest to the industrial archaeologist. It is to be hoped that an official visit can be arranged when the Society is next in the district.

A STEAM-ENGINE AT CROMHALL

Of the parish of Cromhall, which is on the extreme edge of the Bristol coal-measures, Rudder (New History of Gloucestershire, 1779) says: "The fossil productions of this village are pit-coal and white-lay stone. Of the former there is great plenty; but the works have relaxed for some time." Kelly's Directory of 1870 remarks merely that "an inferior coal is found in this parish.

The landowner was the Earl of Ducie, and leases of the collieries between 1787 and 1827, now deposited in the Gloucestershire Records Office (D 340 a T 83) show that their site was Cromhall Common, on the south of the parish near its boundary with Wickwar.

The lease of 1787 includes "all that steam or fire engine, tools, and implements of him the said Francis, Lord Ducie, now standing and being in or upon the said Common" and the lease is endorsed with the following inventory :

1 Fire Engine with its members & appurtenances supposed to cost £700 and if wanted any where else supposed it would sell for £350.

		valued at	
1	capstan rope		£3: 3: 0
4	gin ropes	" "	6: 6: 0
4	pit ropes	" "	3: 3: 0
12	coal picks	" "	8: 0
3	sinking mattocks	" "	3: 0
1	hammer	" "	1: 0
1	pair smith's bellows	" "	1: 10: 0
1	small vice	" "	5: 0
2	bushels and 1 half bushel measure	" "	15: 0
2	iron fire grates	" "	6: 0
1	iron scraper & 1 fire tickler	" "	6: 0
5	sinking barrels	" "	3: 15: 0
5	water do.	" "	2: 10: 0
14	coal carts	" "	3: 10: 0
8	buckets & clacks & 2 hooks	" "	13: 0
1	grindstone & frame	" "	12: 0
2	boaring rods abt. 16 ft	" "	2. 6
3	gins & carriages	" "	10: 10: 0
1	iron ladle	" "	1: 3

An inventory dated 1789 includes many other items, some with curious obsolete names, and the engine is valued at £420, having presumably been put in better order by the lessees of 1787, Robert

GLoucestershire - An Illustrated Essay on the History of the Landscape by H.P.R. Finberg. pp. 128. Hodder & Stoughton 1955. Price 21/-

In his book 'Local History in England' (1959), W.G. Hoskins emphasises the necessity of field work in an amateur's approach to local history. Kenneth Hudson, introducing us to Industrial Archaeology in his book of that title, re-iterates Dr. Hoskins' plea to get the feet wet. He adds "it is always useful to get a few fixed points and some simple, concrete facts clear in our minds before allowing ourselves to become hypnotised and quite possibly anaesthetised by details and theory". Many of us in our attempt to study the Industrial Archaeology of Gloucestershire will want to take this advice, and to anyone of this mind Professor Finberg's book is the best, if not only, guide.

Starting from the earliest times in which man began to shape the landscape to meet his own needs - when strip lynchets near Dyrham were made, down to when a village was destroyed to provide Filton aerodrome with its great hangar and runway - Prof. Finberg relates stages in the country's economic history to specific examples in Gloucestershire. He shows that our county can boast examples which illustrate almost every stage in the economic and industrial development of England, and what is of especial note is that much still remains for us to discover in situ. With a single exception, all the photo illustrations are of sites which we can still see.

As well as having an interesting narrative text, I feel that the book is valuable for the number of signposts it gives us. For example, we are given brief histories of the Stroud canals, and coal mining in the Forest, which urge us to go out and explore the towpaths and tramroads to discover the details for ourselves. Every page answers many queries about the landscape which occur in our travels around the county; for instance - why was such an ornate cottage built on the hillside at Lower Swell ?

Although Messrs Hodder & Stoughton have lately increased the price from 16/- to 21/-, it still should earn a place in even the most modest library of a student of Gloucestershire Industrial history.

F. J. Tucker

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Baylis of Frampton Cotterell and Oswald Jackson of Woodchester Park, both described as gentlemen. There is no mention of the steam engine in the next lease, made in 1819 to Michael Walker of Cromhall, coal-master, and Andrew Pope of Bristol, banker - the latter no doubt a sleeping partner. They had a lease for 21 years, but evidently the venture was not a success, for in 1827 there is a new lease to Samuel Long, a Charfield clothier.

Irvine Gray.

BOOK REVIEWS continued

THE JOURNAL OF INDUSTRIAL ARCHAEOLOGY. Vol.1. No.1 May 1964.
Editor - Kenneth Hudson. The Lambard Press. 72 pp.
15 photos. 2 maps. 4 drawings.

An impressive first issue with two simple criteria stated by the editor so that all may understand what articles, reviews or items of news are considered relevant to the study of Industrial Archaeology, and therefore suitable for submission to the editor :

- (1) Is it concerned with evidence which has actually survived, and which can be seen, touched and photographed ?
- (2) Does it report original field-work of some kind, however modest, or, alternatively, does it seem likely to lead to such field-work ?

Following the editorial there are two easily intelligible articles, one on "An Open-Air Museum for the North-East" and the other on "Early Fulling Stocks in Gloucestershire" both supported by photographs grouped together at the end of the Journal; an excellent arrangement.

However, there are parts of the second article and much of the third - "A Survival of the Wiltshire Paper Industry" - when it is obvious that the written word must be supported by clear plans of buildings and sites, as the descriptions of mill leets, power shafts and so on, is too difficult to follow and there is a limit to the amount of concentration that the general reader, as distinct from the expert, can muster.

The editor's list of "Company Museums" could well be extended in another issue to include former railway company museums like those at York and Swindon, now the property of the State, and lesser known State museums such as that of the Royal Armoured Corps at Bovington, Dorset.

The article on "Surviving Evidence of the New Forest Charcoal Burning Industry" is an excellent compact thesis but here again the reader should have a 1" Ordnance Survey map of the area open by his side. Further it must be emphasised that the fine study of "The Archaeology of the Bristol Coalfield" should have been supported by a clear map showing all the pits mentioned and their lines of communication, and it would be well worth producing such a map in a future issue. Again, good though the map of the Port of Southampton is in the next article on "Early Landing Places", these quays are not shown.

To conclude, an excellent first issue with just the right character and all concerned are to be congratulated.

I. M. Parsons.

Gloucestershire Society for
Industrial Archaeology
Newsletter No. 2 August 1964

BOOK REVIEWS continued

AN ILLUSTRATED HISTORY OF CIVIL ENGINEERING. J.P.M. Parnell.
Thames & Hudson 1964. pp.376 illustrations 228.

A really first-class book by the same author as the article on "Early Landing Places in the Port of Southampton" in the first issue of "The Journal of Industrial Archaeology". This book fills a serious gap and forms an excellent companion volume to "Industrial Archaeology" by Kenneth Hudson.

For the first time there are well illustrated chapters on Roads, Rivers and Canals, Railways, Docks and Harbours, Water Supply and Public Health, Bridges, Mastery of Materials, Structural Theory and Construction Methods. It must be emphasised that this book cannot go into great detail and it does in fact include works all over the world, but it is still of great interest to readers in Gloucestershire.

I. M. Parsons.

THE CANALS OF SOUTHERN ENGLAND. C. Hadfield. Phoenix House
Ltd. 1955. 383 pp. 27 photos (of prints, etc.)
8 maps.

This is obviously the established reference work on the subject but it poses the question of 'readability' in this type of book. It should be possible to read a book like this from cover to cover with enjoyment, but in this case the history is divided into periods and it is not possible to read the full story of each canal without flitting from chapter to chapter and, in addition, there are too many facts and figures which would have been better placed in appendices. The usual arrangement for a book on transport systems is as follows : Description of how the company was formed and loans raised, the expected traffic estimated and the route surveyed; Parliamentary approval sought; construction undertaken; operational methods developed and, where appropriate, reasons for closure established; then detailed descriptions, supported by photographs, of engineering works, architectural standards (if any) and transport vehicles whether water, road, rail or 'air. Good as this book is, it does not go very fully into these engineering details and therefore is disappointing from the view point of this Society.

I. M. Parsons.

INDUSTRIAL ARCHAEOLOGY. AN INTRODUCTION. Kenneth Hudson.
John Baker, Publishers Ltd. London 1963. 179 pp. 60 photos.

To quote from the Foreword, "It (this book) does not set out to be an encyclopaedia of industrial archaeology. Its aim is the more modest one of attempting to draw attention to the surviving

memorials of our industrial past and to help to create a public opinion which is sufficiently well informed to approve of money being spent on recording and preserving tangible evidence of some of the most remarkable achievements of a country which was, in its time, the leading industrial nation in the world." Nobody could quarrel with this objective as this nation has probably succeeded better than others in recording and preserving relics of its history and architecture. In fact, with regard to many undistinguished churches and houses it has almost certainly overdone it, and the recording and preserving of industrial relics merely continues an excellent tradition. A more responsive general public interest is vital and it is to be hoped that this book is soon reproduced as a paper-back in order to reach a wider public.

However it must be admitted that to the public who already are interested, this book is not satisfying. It is the result of an earlier attempt by the Council for British Archaeology to sponsor a Handbook of Industrial Archaeology. What would the Germans, with their undoubted thoroughness, have produced? Probably a far more useful book in that it would probably have contained an exhaustive list of types of industry so that the full range of the subject could be grasped and nothing overlooked, so vital because of the time factor. In this respect industry can, for instance, be classified into the following groups :

Agriculture and fishing

Extractive industry. Quarrying and mining of minerals, including sand, stone, gravel, metals, oil. Planting, felling and preparation of timber.

Heavy industry. Manufacture of iron and steel, ship-building.

Light industry. A vast field but includes manufacture of locomotives, cars and aeroplanes, textiles, pottery and glass. Chemicals, brewing and distilling.

Service industry. Building (including housing), power, communications (Post Office and Press) Transportation (including warehouses) by water, rail, road and air, water, gas and electricity.

Having clearly established what the whole range is, the next information that all readers should have, whether slightly or seriously interested, is how to carry out reading research and site research, without wasting unnecessary time and effort. The information in this book could have been condensed and left more space for material not included.

To conclude, in spite of its shortcomings this is an enjoyable book to read right through, to serve as it says, as an introduction.

I. M. Parsons.