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If there are workers pursuing industrial archaeological studies in any of the five counties who are not yet in touch with that County's representative, it is hoped that contact will be established as soon as possible so that each representative will have a complete record of the industrial archaeology being undertaken in his County. This will help co-ordination of the work so that:-

- (a) Anyone will be able to see if a particular topic is being studied and if so, by whom.
- (b) Anyone coming across information or material remains which are relevant to another worker's studies will know to whom to pass the information.

THE BULLETIN

This issue completes the first year (of 4 quarterly issues) of this Bulletin in its enlarged form. From reviews in other publications and from subscribers it seems that, in general, we are achieving most of our aims as set out in Bulletin No.6. One criticism has been the lack of diagrams and maps. It is realised that these are essential if the reader is to fully appreciate many of the items being reported. This issue does contain one diagram and we hope to include more illustrations in subsequent Bulletins.

The index at the rear of this issue shows that we have covered a large number of items of industrial archaeological interest during the past year. We hope you feel that this is worth 10/- and that you will complete the enclosed form and send it, with your subscription, as soon as possible, to J. Kenneth Major, 2 Eldon Road, Reading.

As Editor, I would like to record my grateful appreciation of Mr. Major's hard work in the production and distribution of the Bulletin. Also, I would like to thank all those who have sent in contributions, at the same time inviting more reports on all aspects of industrial archaeology from all parts of the area covered by CBA Group 9. We welcome longer articles but shorter reports, even if only of a paragraph or less, are very useful - but please include as much relevant information as possible; grid references are essential for accurate location G.H.S.

LEAGRAVE AND LUTON LIGHT RAILWAY

by F.G. Cockman.

In Bulletin No.8 we reviewed "Railways of Bedfordshire - Planned but not built 1844-1910" by F.G. Cockman (Price 30/- post free from The County Record Office, Shire Hall, Bedford). Mr. Cockman has kindly agreed to the following being reproduced from his book.

County Records Office ref. 3.1.1

Engineer: H.L. Williams.

Survey date: November 1910

Lodgment date: No endorsement of plans.

Length: 1 mile 6 furlongs 9 chains measured from New Bedford Road, Luton.

In 1910 there was open country between New Bedford Road Luton and Marsh Road Leagrave, with no means of travelling across country by public transport. It therefore occurred to George Balfour and Andrew Henry Beatty that they could fulfil a public want, and at the same time derive some financial benefit by constructing a light railway joining these two main roads. The capital was to be £24,000 in shares of £1 each, and there was sufficient response from the public to justify the surveying of the route and applying to the Board of Trade for a Light Railway Order. The Board was usually willing to grant such an Order if the travelling public would benefit, and the promoters were usually able to dispense with fencing along each side of the line, which was very expensive, but they had to submit to a speed limit, normally 15 m.p.h.. This limit was acceptable at the time, but, of course, worked very much to a light railway's disadvantage when motor traffic on the roads became faster.

The engineer's survey shows a typical "surface line", and it left at a gradient of 1 in 24.9 (unacceptable to a normal railway) from New Bedford Road; later this gradient modified to 1 in 41 up. The Company would have gone across to Gardenia Avenue at 1 in 100, then along Letchworth Road and Limbury Road to Marsh Road. Here the track would have dipped at 1 in 36.2, finally reaching its own station near "The Three Horse Shoes" downhill at 1 in 41. Although the railway could have been steam worked, it was probably intended to use electric tramcar type vehicles, as a junction was to be made with Luton Corporation Tramways near Stockingstone Lane.

The Leagrave and Limbury Parish Councils supported the scheme and a Light Railway Order was duly obtained from the Board of Trade. Unfortunately, difficulties then began to appear. The road authority was the Luton Rural District Council, and Messrs. Balfour and Beatty had omitted to consult the R.D.C. when planning the line. Whether this omission prejudiced the interests of the L. & L.L.R. is not disclosed in the correspondence, but in any case, opposition was forthcoming from the R.D.C. They required the promoters to widen Limbury Road to 24 feet, and they intended to hold them liable for any damage to the existing embankment in Marsh Road. An additional burden was that all sewers and drains were to be protected against damage by the weight or vibrations of the railway coaches. In his last letter, Mr. Balfour said that the additional expense of meeting the R.D.C. requirements was excessive, and unfortunately the scheme was abandoned, and the Light Railway Order was withdrawn (15th January 1912). No doubt the Luton R.D.C. were correct in protecting the highway from damage, but it is a pity that this useful connecting link was never built.

The Board of Trade imposed certain conditions, which make interesting reading:

Every passenger to be allowed 28lb. of luggage.

The Railway Company shall run a proper and sufficient service of carriages for artisans, mechanics and daily labourers at a fare of $\frac{1}{2}$ d. per mile.

The gauge is to be 4ft. 8 $\frac{1}{2}$ inches, with grooved rails as the Board may approve.

No carriage is to exceed 6ft 6inches in width.

The railway is to convey both passengers and goods, but is not to compete with the Midland Railway.

The Local Authority may use the railway between midnight and 5 a.m.

The motive power may be animal, mechanical or electric. If the last, the Postmaster General may require certain safeguards. (This was also imposed on the Metropolitan Railway in London.).

THE WILTS & BERKS CANAL - Part 2

by D.L. Banfield.

The first part of this report was published in Bulletin No. 8 and covered the history and general background of the canal. This second part lists some of the more significant physical remains. Ordnance Survey map sheets 157, 158 and 167 cover the entire canal. A complete catalogue of the results of Mr. Banfield's field work will eventually be deposited in the Berkshire Record Office.

Industrial Archaeology

The features of importance catalogued below have been observed during the past two years and are recorded in their present condition against their Ordnance Survey reference. The list gives only sites where something is still to be seen and is by no means exhaustive; it is condensed from my field log which is still incomplete.

Survey

- SU 496 966 St. Helen's Wharf (inscribed stone) Abingdon, Cast Iron Bridge erected as specified in Act of 1821 over River Ock, inscribed:- "Erected by the Wilts. and Berks. Canal Company: AD 1824. Cast at Agramans Bristol"
This bridge has been extended in width, otherwise it is a fine specimen of contemporary cast iron work.
- SU 496 965 Site of Lock, Wharf and Basin now Abingdon Laundry. Fine stone wharf store exists. Nissen hut stands directly on lock chamber. Lock rise was 9ft. 6 ins. (depending on level of Thames) to the canal.
- SU 428 919 Ardington March Lock, exists, rises 9ft. 5 ins. Rotten gates at bottom level.
- SU 427 918 Milestone, inscription illegible (not marked on 25" Ordnance Survey of 1876).
- SU 424 913 Ardington Top Lock, rise 9ft. 5ins. Superb example of Lock left to decay. Ground paddle gear exists, top gate gone, bottom gates stand Lock cottage derelict.
- SU 424 902 Fine culvert of Swindon stone for stream by Nevilles Farm. Farm bridge (arch) extinct.
- SU 417 902 Grove Bottom Lock, rise 9ft. 9ins., exists. Top sill and side chambers in good condition (chamber only 7ft. 6ins. wide - of., 8 ft. on other locks) probably rebuilt.
- SU 408 898 Small March Lock, rises 9ft. 5ins., derelict. West end filled and converted to farm road. At east end gates gone but water in bed, heel post exists.
- SU 405 896 Grove Common Lock, rises 9ft. 3ins., This has an integral brick bridge over the west end of the chamber. Gauging stone set in wall.
- SU 403 896 Grove Wharf, 4 wharf cottages and old public house still inhabited.
- SU 400 894 Aqueduct rebuilt over Wantage river (Ginge Brook) as required in Enabling Act of 1894.
- SU 398 893 Limekiln Lock, rises 8ft. 9ins., part filled with rubbish and derelict. Facing brickwork, English bond, 9" x 4" x 2 $\frac{3}{4}$ ".
- SU 394 892 Junction with Wantage Branch.
- SU 397 884 Belmont stone carriage bridge. Semi-circular stone arch still exists, being destroyed by children.
- SU 396 882 Wantage Basin. Wharfinger house, Wharf store, stable, tack room,

- SU 396 882
cont. This site will be redeveloped soon. Its buildings are as original.
- SU 381 883 Challow Wharf and Iron Foundry and Bridge (extinct). (Survey required of Iron Foundry).
- SU 302 898 Aqueduct of brick, 6ft. wide x 4ft. high over Woolstone brook. To west of this an embankment 6ft. high runs to Uffington Wharf 250 yds. away.
- SU 282 894 G.W.R. viaduct over canal. Foundation of parapet exists on south embankment. On north embankment the brick arch sides exist.
- SU 278 895 Longcot Bottom Lock, rises 9ft. 5ins. East end filled with foot-bridge over. Top end of chamber unfilled.
- SU 274 894 Canal enters cutting about 50 yds. by 12ft. deep. Longcot Old Wharf and Lock, Bridge Arch is filled and Wharf house is private residence. Longcot Upper Lock rises 9ft. and is sited to west of bridge.
- SU 269 893 Junction of Longcot Branch.
- SU 266 905 Longcot New Wharf is converted to residences (2 houses). Wharf store demolished at south end.
- SU 259 889 Bowles bridge arch (filled) extinct. 100 yds. south-west of bridge canal enters an embankment three-quarters of a mile long and 6ft. high passing to south of Shrivenham.
- SU 238 879 Shrivenham Arch Bridge exists in good condition. The base is small stone, while the parapets are of brick. As it crosses a cutting, there is no hump, hence it has been left.
- SU 226 878 Bourton Wharf buildings exist but canal is filled. It runs adjacent to A420 on south side. Arch bridge for road from Lower Bourton is extinct.
- SU 218 874 G.W.R. passes over canal site and A420. The former canal is now a second carriageway for the A420.
- SU 178 827 Culvert from Coate Reservoir dated 1822, into River Cole.
- SU 159 849 Section of canal bed exists to north-east of roundabout. Swindon Wharf site is to west of roundabout under new tower block.
- SU 151 849 Junction with North Wilts. branch, on shopping precinct. Pedestrian precinct is aligned on canal-bed.
- SU 150 848 Milestone set in wall (Semington 28 miles).
- SU 147 845 Commercial Road passes over canal on fine stone bridge with Wharf buildings alongside.
- SU 138 838 Canal enters culvert to flow through centre of Swindon. Water in bed to west of this point, to Rushey Platt.
- SU 137 835 Cheltenham & Great Western Union Railway bridge over canal. River Ray aqueducted under canal.
- SU 112 822 Wroughton Wharf now a farm.
- SU 095 815 Chaddington Lane Bridge Arch (exists) filled. Constructed of small stone.
- SU 092 816 Chaddington Lock, falls 8ft. 10ins., excavated out. Lock house remains.
- SU 070 816 Wootton-Bassett Wharf at Templars Firs, house exists.
- SU 052 816 Vastern Wharf. Arch is filled, wharf buildings derelict or demolished. Ground plan is discernible, but factory building is taking place. Timber export and stone quarries here.
- SU 128 812 At this point water enters from Tockenhām reservoir. Canal also enters cutting about 20ft. deep, and 150 yds. long to Seven Locks.

- SU 027 813 Seven Locks, 1, 2, 3, 4 and 5 in derelict form. Top Lock (1) is to best example. Numbers 6 and 7 dug out.
- SU 019 806
- | | | |
|-------|-------|------------------------------------|
| No.1. | falls | 8ft. 6ins. |
| No.2. | falls | 8ft. 1in. |
| No.3. | falls | 8ft. 10ins. |
| No.4. | falls | 8ft. 10ins. |
| No.5. | falls | 8ft. 6ins. |
| No.6. | falls | 8ft. 8ins. Bowds Bridge over this. |
| No.7. | falls | 8ft. 9ins. |
- SU 995 802 Dauntsey Lock, falls 8ft. 8ins., chamber filled on site 20 yds. east of A420. Lock house remains. Wharf yard and canal cottages built by Joseph Barnes lie derelict. Weighbridge exists on main road. This area to be redeveloped .
- SU 961 726 Junction with Calne Branch, unfilled.
(Calne Branch)
- SU 962 725 Carpenters Bridge, a brick arch stands derelict with centre brickwork collapsed.
- SU 978 713 River Marden Aqueduct has been dug out to improve river conservancy. Embankment here about 12ft. high:
- SU 997 708 Calne Lock chamber exists, ground paddles in situ. Lower level filled.
- SU 998 709 Calne Wharf. In excellent condition, many of original buildings exist. Detailed records have been taken. Development of site is probable.
- (Mainline)
- ST 961 725 Stanley Top Lock, falls 7ft. 11ins. chamber exists. Brick arch over south end of chamber is used to carry farm road. Lock house adjacent is overgrown and inaccessible.
- ST 961 724 Stanley Bottom Lock, falls 9ft. 2ins. Brickwork sound, gates gone.
- ST 960 724 Aqueduct over River Marden, 2 brick arches, 12ft. wide 8ft. high. The north-east arch is collapsing and entire structure is unsafe.
- ST 922 728 Tunnel 50 yds. long to terminal basin is extinct, Canal Company houses exist.
- ST 937 711 Pewsham Top Lock, falls 8ft. 9ins. Arch bridge at south end, part collapsed. Straps for heel posts exist at bottom gates.
- ST 936 710 Pewsham Middle Lock, falls 10ft. lin., exists. Brickwork decaying overgrown.
- ST 936 709 Pewsham Bottom Lock, falls 10ft. lin. West wall extinct (bricks removed). East wall sound. Good view of ground sluice. Spillway exists on east bank of chamber.
- ST 936 708 Sluice on west bank to spill excess water exists.
- ST 936 708 Aqueduct over Cocklemore Brook exists, working. Embankment here is 12ft. high about 50 yds. long.
- SU 927 680 Lacock Wharf. Bridge extinct, but wharf house exists, canal bed filled.
- ST 927 674 Lacock Lock, falls 9ft. 6ins. Brickwork in good condition. Water at lower level.
- ST 926 673 Milestone on south-east bank, inscription illegible. Wansdyke (Roman Road) crossed here.
- ST 925 669 Queenfield Lock and Arch Bridge. Lock falls 8ft. Both exist and bridge is used.
- ST 925 668 Aqueduct over stream, blacked, brickwork remains.

- ST 914 656 Stone aqueduct, working, in fine condition carrying 12ft. embankment over stream.
- ST 913 654 Arch bridge extinct, ramp to north exists. Milestone on south bank exists, inscribed E.M. mileage illegible.
- SU 900 612 Swing bridge site, brick foundations exist. This took a green lane across canal to bypass Turnpike toll.
- SU 900 610 Junction of Wilts. and Berks. Canal with Kennet and Avon Canal. Lock here, fall of 1ft 8ins. is extinct. Toll house exists 50 yds. along canal from junction. Over canal at junction exists an arch bridge to carry Kennet and Avon towpath. Bridge arch of stone, now filled with concrete. Handrail of Birkinshaw type fish bellied rail from Somerset Coal Canal.

North Wilts. Branch.

- SU 087 954 Junction at Latton with Thames and Severn Canal. Aqueduct extinct, carried North Wilts. over River Churn into Latton Basin. Branch rises to Swindon. Latton Basin 62ft. 6ins. x 200ft. x 7ft. deep. constructed of stone blocks.
- SU 087 953 Latton Lock, exists. Stands on aqueduct comprising 4 drainage arches. Rise or fall depends on level in both canals.
- SU 088 947 Aqueduct over River Thames (demolished). Footbridge remains. Originally 4 arches (brick)
- SU 094 934 South entrance to Cricklade tunnel, exists, brickwork crumbling. Tunnel contains water and is blocked after about 50 yds.
- SU 095 932 Chelworth Wharf, cottages and wharf yard exist.
- SU 097 927 Aqueduct over River Key exists 3 arches. Embankment here is about 7ft. high and canal bed filled.
- SU 100 918 Hayes Knoll Farm Bridge exists (brick arch).
- SU 103 909 Remains of Arch Bridge by Newthas Lane, arch and canal bed filled.
- SU 104 904 Hayes Knoll Lack, rises 6ft. lin., some brickwork remains, but chamber full of water and much overgrown. Canal extinct.
- SU 107 892 Short section of embankment is left standing at field boundary over aqueduct for small stream.
- SU 109 883 Purton Wharf. 3 cottages exist now rebuilt. Canal extinct, fields recovered for agricultural use. Route cross field to south-east to Mordon.

REPORTS OF INDUSTRIAL ARCHAEOLOGY IN THE INDIVIDUAL COUNTIES

BEDFORDSHIRE

Report of Visit

Mills in Bedfordshire, by J. Kenneth Major.

In June the Wind and Watermill Section of the Society for the Protection of Ancient Buildings held its annual mill tour and visited the mills of Bedfordshire. This was organized by Nicholas Bagshawe and provided a very valuable introduction to the mills. The mills seen contain a cross section of millwrighting history.

IF OTHERS WISH TO FOLLOW THIS ROUTE IT SHOULD BE REMEMBERED THAT CERTAIN OF THE MILLS ARE IN PRIVATE OWNERSHIP AND PRIOR PERMISSION FOR ACCESS SHOULD BE SOUGHT.

Hyde Mill, East Hyde, near Luton. Ref. TL 133 170.

A good mill built of brick with two lucams and slated roofs. The wheel was installed by Armfield of Ringwood - 14' O/D by 7' wide. This drove 3 pairs of stones. A roller plant of 2 sack capacity was installed by Gardner of Gloucester pre 1896. Supplementary power was obtained from the existing 15 H.P. steam engine by Varty of Royston.

Flitwick Mill, East End, Flitwick. Ref. TL 042 347.

This mill is an excellent example of the smaller trading mill. The early 19th century building is on the site of earlier mills. The iron water wheel is breast shot and is 9'-6" O/D by 9' wide. This drives 3 pairs of Peak stones. Other stones had been driven by an auxiliary steam engine and by electricity but this is now removed.

Stevington Windmill. Ref. S.P. 992 527.

This fine post mill is in the care of Bedfordshire County Council.

The mill was driven by common sails and drove two pairs of stones- though only the Peak stones are in place. The sails were designed to rotate clockwise. This mill is well worth a visit as it was built at the beginning of the great period in English Millwrighting and shows the transitional form of construction from the primitive mill to the great trading mills.

Bromham Mill, Bromham. Ref. TL 011 507.

This is an old mill dating from the 17th century with later alterations. There were originally two wheels though only that built by Anstoe of Kempston survives. This breast shot wheel is 14' O/D by 8' wide. This wheel drove 2 pairs of millstones whilst the missing wheel drove 3 pairs of millstones. Auxiliary power is now electric though it originally was supplied by a portable steam engine.

Grange Mill, Heath & Reach, Leighton Buzzard. Ref. S.F. 910 273.

This working mill, which is not trading, is an excellent example of the small trading mill. There is also an interesting millwrights smithy on one side of the mill.

The old building contained two breast shot wheels. The one which remains and is in use is 14'-4" O/D by 4'-5" wide. Each wheel drove 2 pairs of stones. More modern plant was installed in the early part of this century.

Bellows Mill, Eaton Bray. Ref: S.P. 981 196.

The mill has been attractively converted but some of the mechanism still survives. The present turbine was installed by Whitmore and Binyon (Suffolk Millwrights) in 1901 and this drove two pairs of stones. Previously there had been a steam engine assisting an iron overshot wheel 12' O/D by 7'-6" wide. This drove 4 pairs of stones.

Doolittle Mill, Totternhoe. Ref. S.P. 990 202.

Like all Doolittle Mills this mill is at the head of its stream but it is an important mill in that it is a watermill which carries on its roof a completely separate windmill.

The watermill is unconventional in that the drive to the stones is by means of horizontal shafts instead of the usual pit wheel, wallower and upright shaft arrangement.

There were also visits to two Buckinghamshire mills - see under Buckinghamshire, page 9.

Preservation.

Items from Stoke Mill, Sharnbrook (TL 012 591). This mill closed, at very short notice, mid-July. The family of Hipwells had milled here for 157 years but some years ago Mr. William Hipwell sold the mill to the Garfield-Weston organisation. At the time of closure much of the machinery was modern (one large sifter having been installed during the last year) but some of the older machinery apparently still belonged to Mr. Hipwell. He expressed a hope that this would be preserved. To find who would be prepared to have it, he contacted the Bedfordshire County Planning Office where Mr. Sidebottom informed Mr. David Goseltine (The CBA 9 Industrial Archaeology representative for Bedfordshire) who telephoned many people in the adjoining counties. As a result, Mrs. Mahon collected for the Billing Mill Museum (see notes for Northamptonshire) a roller mill, believed to have been made by Samuelson of Banbury; pieces of old sieves; a collection of

old wooden moulds which had been used for stamping prices on sacks and portions of elevator belting with leather buckets. She also acquired a very long (8 - 10ft.) wooden flour sifter on behalf of Mr. Derek Ogden, of Great Alne Mill, near Alcester, Warwickshire.

BERKSHIRE

Studies.

(a) Brickworks. Pinkneys Green, Maidenhead (SU 864 831). The Maidenhead Archaeological Society are still at work recording this brickworks which closed at the end of 1968.

(b) Brickworks. Binfield Brick & Tile Co. (SU 850 690). The large brickworks has now been demolished and the site will be engulfed by Bracknell New Town. Mrs. Jacobs and Mr. Major have recored the visible remains and Mrs. Jacobs is examining and recording the history of this brickworks.

(c) Brickworks, Finchampstead. The junior pupils of Finchampstead Church of England School attempt a local study each term. Recently the subject for this study involved bricks, chosen because some boys had discovered a quantity of bricks fused together as if they had been over-fired or perhaps had been part of a furnace. During their investigations the pupils read in a local history book of a tradition that the bricks of the church tower, built in 1720, were made on a site on the north east corner of the land once known as the Glebe. Corresponding to this spot, a local farmer, some years ago during ploughing, came across two circles about ten feet across made of broken, burnt brick. The pupils visited the site of this discovery and found scattered over the area a large number of pieces of brick. Further evidence that industry of some kind took place there was provided by an old enclosure map, dated 1817, on which was marked a circle at the spot where the farmer had made his discoveries.

(d) Decorative Terra Cotta Work. The pupils of Finchampstead C.E. Primary School are also recording the decorative tiles, chimney pots and finials to be found in their area. This is an important study of a little known late 19th century decorative building product.

(e) Whaling Relics. Buscot Park (SU 237 967). By the first reservoir in the hydraulic system there is an arch made of whales jawbone. This was a gift to the Buscot Estate by the owner of the Faringdon Estate. The great house at Faringdon (SU 288 959) was owned by the owner of a whaling fleet. Around the house and grounds and on many farms associated with the estate there are enormous cast iron pots. These pots are generally 5' long nearly circular and 3' deep. Opposite faces on the short diameter are flattened. There are lugs cast onto the long ends. The shape was a deliberate design which enabled the pot to be built into the brickwork of the "try" works on board the whaling vessels. The lugs were to enable chains to hold the pots down on the decks. The blubber was rendered in these "try" works during the voyage. When the ship was laden the "try" works was demolished and the pot brough back to England. One of those at Farrington is labelled in early 18th century lettering "Johnson Ironfounder Cran Wharf Wapping". Wapping was an early centre of the whaling trade.

Similar pots are being recorded all over the world. One labelled "Coalbrookdale" was recently recovered at Sta Barbara, California. Some are still used on the Azores for the shore based whaling industry.

(f) Water Supply, Newbury. Mr. Saffery is working on the water supply system, tanks and engines which supplied Newbury with water.

Courses.

A course of 24 lectures will be held at Mansbridge House, Reading under the auspices of the W.E.A. and Reading University. This course on Industrial Archaeology will be more concerned with the skills of the subject than the previous course. Attention will also be given to the history and development of particular industries. The meetings will be at 7.30 p.m. on Monday evenings starting on September 22nd with a General Introduction by Laurence Cameron and J. Kenneth Major. On 6 meetings, Mr. Major will deal with techniques of Industrial Archeology and on 3 meetings Malcolm Deere will talk on Steam Topics. Mr. Cameron will cover Pottery and Bricks, Breweries and Maltings, Railways, Services, Entertainment Industry and Sussex Industry. Other speakers are Andrew Jewell on Agriculture and Machinery, Mr. McClean on Photography, Mr. F. Roberts on Chemicals and two meetings will be devoted to students' work.

Publications. The Foundry Trades Journal of April 24th 1969 carried an article by C. McCombe and J. Kenneth Major entitled "Castings for the Mill" which details some of the finds made at Bucklebury Foundry and at Bodleys Foundry Exeter.

Studies.

(a) Lower Winchendon Water Mill (SP 737 121). J. Kenneth Major reports that this mill has been demolished following the collapse of the three storeyed wall over the wheel arch. The mill house remains, with the fine paper drying shed of timber which remains from the time before the mill was converted to grain work after being a paper mill. Some equipment was taken to the Bucks. County Museum and the mill was fully recorded, photographically, before demolition commenced.

(b) Tingewick Mill (SP 662 341). Richard O'Rourke, of Towcester, reports that the present owner is still making use of water power but to generate electricity instead of milling corn which ceased in 1966. The 2 pairs of stones and the stone nuts have been removed but the remainder of the original machinery is intact, including the steel breast-type water wheel. This is out of use, the electrical power being generated by a water turbine-generator set obtained from Deddington Mill, Oxfordshire A 1911 Lister single cylinder diesel engine is also used to generate electricity for the house. A more detailed survey of this mill is to be made shortly and will be reported in a future issue of this Bulletin.

Report of Visits.

(a) Mills. The S.P.A.B. Bedfordshire Mill (see pages 6 & 7) tour crossed the boundary into Buckinghamshire to visit the following two mills:-

Pitstone Windmill. Ref. S.P. 945 147.

This windmill in the care of the National Trust has recently been re-restored and new sails have been added. This first mill is some 100 years older than Stevington and though it contains more recent examples of millwork than Stevington its fine body and works are well worthy of examination.

Edlesborough Mills. Ref. S.P. 982 192.

This is a real mill complex containing as it does the empty shell of a tower mill, the remains of auxiliary steam power and a water mill. The water mill is extremely derelict. The water wheel was over shot, 12' O/D. This drove 3 pairs of stones which still survive with much of the driving systems.

(b) Dancer's End Pumping Station (SP 905 088), near Tring. During the Summer Term Industrial Archaeology course at the Leicester University's Centre in Northampton, a visit was made to this Pumping Station through the courtesy of Mr. R. Pownall, Engineer and Manager of the Bucks. Water Board, and who supplied much of the following information.

It is assumed that the Station was situated at Dancers End so that its reservoirs would have sufficient altitude to feed the 3 Rothschild mansions at Tring, Halton and Waddesdon. It was also in a position where chalk could be quarried and burnt to produce the lime for softening. The station was completed in 1866 and presumably work started a year or two earlier.

The coal for the lime-kilns and for raising steam for the pumping engine is thought to have been brought from Tring railway station, approximately 4 miles away. Since the pumping station is situated in a secluded spot, reached by narrow and winding lanes, the delivery of coal must have been a considerable undertaking. There does not seem to be any record of difficulties with this.

The station now works automatically with electric pumps but older items, out of use, seen during the visit on 30th May, included:-

(a) A double beam pumping engine. This had two separate rectangular bed plates one for each side of the engine from each of which rose 6 fluted columns to support an open top frame covering both sides of the engine. The cylinders were cased in polished wooden vertical strips. At the other end, connecting rods from each beam drove cranks on either side of the flywheel which was central and passed through the floor between the two separate bed plates of the engine.

The wall at this end of the engine house had also been recessed to accommodate the rime of the flywheel. Apart from the flywheel, there was nothing else on the crankshaft, the pumps formerly being driven by extensions of the piston rods downwards from below the cylinders. These were cut-off, as were the air pump and feed pump rods, about 1950.

During the 1930's, Mr. Alf Woodward of Dunstable, measured up this engine and made a very fine model of it. This model was sold at the first of the Christies' Model Engineering Sales, a year or so ago, for a considerable sum. Mr. Woodward died some years previously and it is not known what happened to his drawing. The actual engine at Dancer's End stopped full operation in 1936 but was kept in working order and used as standby plant during the second world war. It was partly dismantled about 1950 so as to be able to accommodate electric pumps immediately below.

(b) Underground covered softening tanks. These were most impressive, especially the older tanks, constructed in 1865 with large span brick arched roofs. Brief details of these tanks are as follows:-

	Plan dimensions (overall)	Water depth.	Brick Arch 9" thick Rise	Span.	Constructed
1. Depositing & service reservoirs.					
(Depositing reservoir constructed over service reservoir)	(110' x 30'	16'	11' 0"	28' 0"	1865
2. Lime water tank.	45' x 20'	18'	10' 0"	19' 6"	1865
3. Lime water tank.	40' x 20'	18'	10' 0"	19' 6"	1865
3. Depositing tank.	120' x 38'	18'	Flat roof: steel joists brick infill & concrete carried on columns.		1900 ?
5. Lime water tank	60' x 23'	15'	Flat roof: steel joists & concrete carried on columns.		1903

Publications.

(a) Industrial Archaeology (The Journal of the History of Industry and Technology) Volume 6, Number 1, February 1969, p.95 & 96 contained notes and photographs of some limeworks, built about 1928 and recently demolished. The notes incorrectly gave the location as Aston-Clinton but the limeworks were actually at Ivinghoe Aston (SP 960 176).

(b) Industrial Archaeology Volume 6, Number 2, May 1969. p.199-201 contains some notes and interesting photographs of the watermill at Ford End Farm, Ivinghoe (SP 941 165) by Mr. K.A. Larking, 23 Brampton Rise, Dunstable who has made a study of this mill. (Some notes on restoration work at this mill were given in Bulletin No. 4, April 1968, p.3).

NORTHAMPTONSHIRE

Studies.

(a) Calcining Ironstone. The last pits to calcine ore in the County (Nassington and Cranford) ceased doing so earlier this year. The reason for calcining were to drive off the volatile constituents and so reduce the weight of ironstone with correspondingly lower cost of transport to the blast furnaces, to break down unwieldy blocks of green carbonate stone and to change the ferrous carbonate into ferric oxide and so lessen the cost of reducing the ore in the last furnaces. A study is being made of calcining operations in Northamptonshire and the remaining physical evidence of this, e.g. the large brick and concrete calcining kilns at Wakerley (SP 947 996) about 7 miles N.N.E. of Corby, the centre portions of calcine clamps as left at Storefield (SP 865 832) and Irchester (SP 907 659) and even the discolouration of the area (SP 956 779) S.W. of Twywell station where stood calcine clamps which were removed many years ago.

(b) Industrial Buildings in Northampton. The Archaeological section of the Northamptonshire Natural History Society has started recording the buildings in an area, about ½ mile E.N.E. of the town centre, bounded by Wellingborough Road, Palmeston Road, Billing Road and York Road. Factories and houses, with outworkers' shops, are all mixed together in this area and it has been decided to include houses, shops, etc. together with the industrial buildings so as to give a complete record of this type of industrial environment.

(c) Towcester Gasworks. Richard O'Rourke has made further study of these works and reports the following:-

'Mr. J.B. Horne's comments on page 16 of Bulletin No.8 are quite correct. I have recently obtained more information on the works from Mr. Kightley, an ex-employee there.

'There were in fact two benches of horizontal retorts, with 6 retorts in one and 4 in the other. The retort house was knocked down about 1939 and the present structure on the site built using the old bricks. This is now occupied by the Towcester Mill & Trading Company. Neaby was the booster house, built in 1917 and containing two vertical gas engines. This was probably demolished about the same time and replaced by the present building which contains the single cylinder Lister diesel.

'Three purifier beds were latterly used and these occupied part of what is now the cinema car park. The tank of the original gas holder apparently still exists under the garden behind the 'Gas House'. The other two, on the opposite side of the Silverstone Brook, for which no building date can be given, were of 80,000 and 120,000 cubic feet capacity and went out of use about 1934 when the present holder was erected. A small vertical boiler in the retort house was used to supply steam to the holders - apparently to keep the water seal from freezing in cold weather.

'The present Gas House was built in 1937 on the site of a previous house probably built soon after the inception of the concern. The original 2" main is said to be still in use. There was formerly a small gasholder at the Lodge (now Hill's Transport Cafe) on the A5, one mile north of the town. I believe the house was built about 1840 so that the holder could have been built at the same time.

'As far as it known, only two gas engine (part from those in the works themselves) were used in Towcester: A 120 H.P. engine driving through line shafting was used at Groom & Tattersall's works until about 1955 and a small engine was used to drive a generator for electric lighting at Towcester station, until its closure in 1964'.

(d) Mileposts. Further to the notes on page 16 of Bulletin No. 6 it is said to report that the milestone at SP 573 729, on the strip of grass between the lay-by (the old A428) and the newer link road to the M1 has disappeared. It was still in position at 9.00 a.m. on Thursday, 5th June, but roadworks had been in progress near it for several days and by 5.30 p.m. on that day it had gone.

Another milepost on the A428 (the former Northampton-Dunchurch turnpike) also disappeared earlier in the year. This was on the west side of the road, just south of the lay-by near the entrance to Grove Farm, about a mile south of West Haddon. (SP 643 708). Early in the year the hedge along the road was pulled up so that the milestone was clearly displayed against the field behind. A few weeks later there was not trace of the milestone.

Apart from the example quoted as the only known cast iron milepost in the County, in Bulletin No.6, there are a number of these in the Thrapston and Oundle areas. These are not marked on the 1" O.S. map and their locations are now being recorded.

(e) Dovecotes. A very superficial article on Dovecotes in 'Northamptonshire Life' April/May 1969 is the reason for this summary, by Eric Instone, 1 Saxon Rise, Duston, Northampton, of his work to date on Dovecotes in Northamptonshire:-

The most recent survey of Dovecotes in the British Isles is that of D.C. Bailey and M.C. Tindall published in volume 2 of the Transactions of the Ancient Monuments Society. Six classes of Dovecotes are recognised, they are:- Beehives, Square, Lecterns, Octagonal, Cylindrical, Dovecotes in roofs and towers.

There are, of course, variations in all classes. For example, square would include rectangular; rectangular if divided into two cells becomes double square. These descriptions cover the Scottish scene; with reservations they cover the general case.

'Northamptonshire Life' has recently tried to encourage an interest in the dovecotes of this county and mentions those which were described by A.C. Cooke in his unique book of the 1920's. The author of the magazine article spoke of what he had seen, realising that there were of course a greater number unknown to himself and hoping that readers would write to him on the subject.

Pevsner's "Buildings of Northamptonshire" (Penguin Books) mentions at least nineteen, and I have seen and photographed fifteen of these. In a survey made in 1944 nearly forty were described as still standing in the County, twenty-four of these have been seen and photographed within the period 1964-1969. In addition I have located four not previously listed and a number of buildings which have been adapted in recent times for the keeping of pigeons.

In regard to the revolving ladders sometimes fitted to round, square, octagonal and even rectangular dovecotes, Northamptonshire can claim a complete example at Cranford. Warmington has the central pole and arms but no ladder, Barton Seagrave still has the central pole; Dallington had the central pole and arms within living memory. Wadenhoe had a complete potence and probably still has.

Accepting that cylindrical dovecotes with pronounced batter to the walls may be loosely described as beehives then we have:- Roade, Furtho, Denton, Harlestone and Warmington in this class. The cylindrical houses are, Rothersthorpe, Cranford, Barton Seagrave and Hollowell.

Of the square or rectangular houses, the tower in Abington Park is on its own, more typical are Isham, Orlingbury, Burton Latimer, Cosgrove, Mears Ashby and Twywell. Among the noticeably rectangular are Kingsthorpe, Kislingbury, Ashby St. Ledgers, Titchmarsh, Passenham, Little Addington, Wilby, and the well preserved Rushton with its counterpart at Cotterstock. Cotterstock has two dovecotes of course. The only double square known to the writer is the exceptionally large house of Maurice Tresham at Newton. Some like Kislingbury and Passenham appear to have been made with two storeys at the outset.

Only two octagonal houses are known in the county, that at Dallington has been roofless for years and should certainly be preserved as being unique in the construction of the nest holes. The Newbottle house is still in excellent condition boasting a stone slated roof, with both gable and dormer. It is a smaller version of the better known house in Milcombe, Oxon., some six miles away.

This does not exhaust the list of course and a technical survey would take years. I have not given grid references in this short note, partly because many of the lesser known houses are on private property and are best protected by obscurity. Only three dovecotes seen in the County are roofless, only a few have been adapted for use as farm buildings and most are in good repair. Almost all the owners or tenant occupiers are enthusiasts but would obviously not welcome streams of curious visitors.

Reports of Courses.

(a) "Canals for Interest". This was a 3-day residential course held at Knuston Hall, Irchester. The first day consisted of visits:-

(i) The basin at the end of the Market Harborough Arm (SP 727 879). This arm was originally part of the Leicestershire and Northamptonshire Union canal, which was intended to link Leicester and Northampton. The full line of the proposed canal was never completed but the portion from Leicester to Gumley Debdale Wharf (SP 695 915) was opened in 1797 and extended to Market Harborough in 1809. Mr. G.W. Baker, a director of Harborough Marine Ltd., showed the course how boats are built and decorated for the canal today.

(ii) Foxton Locks (SP 691 894 - 691 896). These were on the canal opened by the old Grand Union Canal Company in 1814 linking the Grand Junction Canal at Norton (SP 603 657) with the Leicestershire and Northants. Union canal about ½ mile west of Foxton (SP 691 897). This then provided a through route between London, Leicester and on to Derbyshire: the L. & N.U. line to Market Harborough became a

branch off this 'main-line'. The old Grand Union was bought by the Grand Junction Canal in 1894 which in turn became part of the new Grand Union Canal Co. which came into existence 1 January 1929.

The Foxton flight of locks consist of two staircases each of five locks with a meeting pond in the middle to allow boats to pass each other. The total fall in 75 ft. and it is said to take about $1\frac{1}{2}$ hours to negotiate the complete flight of locks. In the late 1890's it was decided to speed the passage of boats by installing an inclined plane boat lift: the boats were floated into one of two tanks, connected by a wire rope, each tank running sideways on eight sets of wheels carried on four pairs of rails. This was of the counter-balanced type with a steam winding engine to compensate for friction and unbalanced loading. The inclined plane was opened for traffic on 10 July 1900 (an illustrated account of the technical details is given in "Engineering", Volume 71, January 25th, 1901, p.111).

The expected increase in through coal traffic did not materialise, in fact decreased, and the lift was too expensive to maintain with a head of steam at all times whether or not it was in use. In 1908 the locks were reinstated for night traffic when the incline was not working and the locks were used for all traffic when the incline stopped working in 1910 (although it is possible the incline was used temporarily in 1912 and later when the locks were under repair). The lift was dismantled in 1926 but it is possible to see the old arm, on the east side, at the top of the locks, which led to the inclined plane and there are the foundations of the engine house although very overgrown as is the site of the plane itself.

(iii) The basin at the end of the Welford arm (SP 644 809). This was originally a branch of the old Grand Union Canal, $1\frac{5}{8}$ miles long from the junction with the 'main-line', near North Kilworth (SP 627 825). This branch had only been reopened the previous Saturday (17th May) after having been unnavigable for 12 years. The restoration work, involving the dredging of 10,000 tons of mud, was carried out by the British Waterways Board's own staff. (Reported in Chronicle & Echo, May 19, 1969, p.5).

On the second day of the course, there were 3 separate talks by Mr. D. Blagrove of Stoke Bruerne and Miss J.M. Douglas of Wellingborough has sent in the following reports:-

(i) 'Canals Yesterday - History and Development'. This traced the history of canals from the time of the Sumerians about 2500 B.C. (mentioning that the earliest known map is a papyrus fragment showing a Sumerian waterway) and described the canal works of the Chinese, the Greeks and the Romans, with special reference to the Roman works in Britain such as the Fossdyke and the draining of the fens. 1759 was regarded as the beginning of the canal age proper, with the work of the Duke of Bridgewater and his engineer, James Brindley.

(ii) 'Canals Today and Tomorrow - The present Use, and the Future'. Canals came under government control in both wars, and most of them were nationalised in 1947. In 1955, the Rusholms report divided the canal system into 3 groups:-

1. To be improved by dredging.
2. Worth retaining for transport.
3. Disused, or carrying little traffic.

There was no guarantee of tenure even for groups 1 and 2, until 1958 when the Bowes Commission granted 25 years' tenure.

The British Waterways Board took over in 1962, and in 1966, a White Paper on the Future of Waterways laid down a dual system for their use - as commercial waterways, and as cruiseways. Mr. Blagrove considered that the future of the canals is more promising now than for many years, but there are faults in their organisation, e.g. no long-term, overall plan for pleasure use; under-emphasis on commercial navigation and a negative approach by the Waterways authorities. Reference was made to Pownall's scheme for a contour canal: the 310 contour line passes through every important industrial town in this country and a canal following this line would have many advantages.

(iii) 'Boats and Boat People'. In his final talk, Mr. Blagrove described with personal knowledge and affection, the life and ways of the boat people. They were most illiterate, but had a traditional culture of their own, expressed in such ways as their songs and the decoration of their boats. At first, only the men worked the boats but when wages were reduced by the coming of the railways, the families left their homes ashore to live on the boats. The women made the cabins look as like their old homes as possible, with crochet work, brass and "lace" plates. This talk was illustrated by slides made from photographs

taken by Mr. Blagrove on a cruise in his own narrow boat.

The third day was devoted to visits, the morning being spent on the "Linda" in travelling from Cosgrove Lock (SP 796 433) along the former Grand Junction Canal (opened from Brentford as far as Stoke Bruerne in 1800) to Stoke Bruerne bottom lock. The Waterways Museum (SP 743 499) at Stoke Bruerne was visited in the afternoon.

The course was over-subscribed. There are to be further canal courses, of a more advanced nature at Knuston Hall on the week-ends of 30-31st May and 13-14th June 1970. The Leicester University Department of Adult Education is arranging speakers for these courses. Further information may be obtained from Miss Smith, Warden, Knuston Hall, Irchester, Northamptonshire.

(b) "Practical Industrial Archaeology". This was a summer term course of nine weekly meetings organised for the Leicester University's Centre in Northampton by the Course Tutor, Geoffrey H. Starmer.

(i) The first meeting, a Friday evening, started with a brief introduction on the aims and techniques of industrial archaeology. Then the course split into groups of approximately 6 members to follow four separate short routes in the vicinity of the University Centre and obtain information on the industrial buildings sufficient to complete National Industrial Monuments Survey Record cards.

(ii) The second meeting was a Saturday afternoon survey of the physical remains of Islip quarries, near Thrapston. (A brief history was given in Bulletin No. 6, page 15). The party followed the branch of the tramway which extends northwards from the furnace site and on the west side of Drayton Park. There was evidence of the route of the tramway, in the form of cuttings, embankments and bridges, for most of its length. Amongst the features recorded were:-

SP 965 784 A long skew 'tunnel' where the tramway to Twywell passed under the Slipton Road, just after its junction with the line to Church mine south.

SP 965 785 Adit entrance to Church mine south - still visible despite the slowly encroaching rubbish from the local authority tip in the former Church opencast quarries.

SP 954 801 The adit to Woodfields mines, half covered by slipping of overburden, but with the remains of the brick tipping dock for transfer of ore from the 2' gauge underground wagons to the 3' gauge wagons for transport to the furnaces.

SP 952 804 (and at other places). Impressions of long removed sleepers, in a material that was probably 'slag sand' pressed into a compact mass during wet weather by the weight of trains passing over the sleepers many years ago.

(iii) The next meeting was again on a Saturday afternoon when a really good turnout made light work of excavation on the track of the Blisworth Hill Railway. This was Northamptonshire's first railway, built in 1800 to provide a temporary connection between the two sections of the Grand Junction canal during the construction of Blisworth Tunnel which was completed in 1805. The Railway ran from Stoke Bruerne Wharf, on the east side of the canal immediately below Stoke Bruerne bottom lock (SP 751 488) to a wharf on the west side of the canal just north of the A43, Northampton-Towcester Road (SP 724 534). The history of the line has been described in Victor A. Hatley's 'The Blisworth Hill Railway 1800-1805' published as a pamphlet by the author and shortly to be re-issued in revised form. Reference has been made in Bulletin No. 2, page 5 to items from this tramway found by George Freeston of Blisworth, who supervised the afternoon's 'dig'.

An area, about 18 ft. square was excavated at approximately (SP 736 513) across the road from Buttermilk Hall Farm. Only a small distance below the surface four almost complete rows of stone sleeper blocks (two rows for each track) were found. Using some of the plate rails and pegs located elsewhere by George Freeston, a small section of track was reconstructed and photographed. At the end of the afternoon the site was filled in and re-turfed to the satisfaction of the farmer.

It is hoped to give a detailed report of a section of the tramway, based on the results of the above excavation, in Bulletin No. 10.

(iv) One Friday evening meeting was spent at Heygate & Sons' Bugbrooke Mills (SP 678 587). The site has been occupied by watermills for a very long time: it was

said that during rebuilding a beam was found dated 800 A.D. Most of the mills were burnt down in 1941 although parts of the old structure were incorporated in the rebuilding. The mill house still stands and next to this a modern turbine, driving a Brooks generator, is situated where the waterwheel used to be. The present mill machinery is driven by belts and shafting from a single 120 H.P. electric motor on the ground floor. Power is usually taken from the E.M.E.B. but there are 3 120 kVA oil engine driven generators to keep down the peak load demands.

(v) The following Saturday afternoon, the course visited Leicester to see some of the preparations for the Museum of Technology for the East Midlands. This new museum is collecting from a large area which includes Northamptonshire, whose Industrial Archaeology Group has been asked to locate certain items for the museum. The Abbey Park Pumping Station, which is the site for the new museum, was visited and Mr. B. Waters, Keeper of Technology, showed the four large Gimson rotative beam pumping engines which are the nucleus of the 'Power' section. Also seen, in dismantled state, were various other engines including a colliery winding engine and a small beam engine from Morrell's Brewery, Oxford. Whilst waiting for the buildings to be erected on the Abbey Park Site, the Museum has set up sections on Technology in various parts of the city to encourage and maintain the interest of the public in the major Technological Museum project. The sections visited were the knitting machines in Newark Houses, the Railway Museum (with its full-sized locomotives) and the recently opened Road Transport Museum.

(vi) On a Friday evening, the Fellmongering Department of the Co-operative Wholesale Society Limited was visited. This occupies the Rush Mills site which is on the south side of the Beford Road out of Northampton, just before it crosses the River Nene. (SP 77 595).

There was a cornmill here in earlier times and in 1833 the mills were leased by Mr. Stacey Wise, of Maidstone, for paper-making. He purchased the mill the following year and used both water and steam power to drive the machinery. The paper produced was of very good quality and in 1840 Mr. Wise obtained a government contract for paper for banknotes, for government stamps and later for postage stamps. Most the original mill was burnt down in 1847 and after rebuilding had a succession of owners. From 1881-8 Messrs. Spalding & Hodge (of South Darenth Mill, Kent) were making paper here. From 1889 Sparre Patents Co. Ltd. tried to produce paper similar to that made by hand but the experiment failed and the mill closed in 1893. Some years later the site was taken over for animal skin dressing but in 1924 the original mill building was burnt out. The premises were rehabilitated and the Co-op³ acquired them in 1948.

A large iron breast-type waterwheel was seen alongside one of the older buildings which contained a saw bench which was driven by the waterwheel through double helical gears and belts and pulleys. This was used for maintenance work but did not appear to have been used recently at the time of the visit. However, the wheel and machinery was put in motion - and some timber sawn! Close by the waterwheel was a reciprocating pump which used to be driven by it to supply the fire sprinkler system. There is also an abandoned turbine, formerly used for electrical generation, in a corrugated iron building a little upstream of the waterwheel.

Parts of the building now used for fellmongering (the preparation of animal skins, mainly the removal of flesh and wool) seemed rather old. Mr. Harding, Manager of the Co-op's Fellmongering, Bone Products, Hide and Skin Department in Northampton, showed the small narrow gauge railway on which hand-pushed wagons are used to bring the raw skins (over a wooden trestle bridge across the old mill-race) into the building. Here they are soaked in pits, holding up to 200 skins in water. After soaking the skins are drained for about an hour, then placed in tanks of water and sulphide of lime which acts as a depilatory and loosens the wool. The skins are then taken to men who, wearing rubber gloves, place each skin in turn on an inclined wooden board and rub off the wool, throwing the latter into different sections of a partitioned wooden box in front of him, according to from which part of the animal skin the wool was rubbed. The skins then go into mechanically driven beaters to take off any other bits of wool and into tanks of water and lime to act as a preservative.

The wool, removed from the skins, is heated and squeezed to drive out moisture and then stored between large wooden partitions eventually being pressed down in large sacks (by a man inside the sack jumping on the wool as it is thrown in) and despatched to firms such as Paton & Baldwins. Before the introduction of drying machiners, the wool was spread on a grating below which a coke fire was lit. The grating is still in position but most of the stove below has been demolished.

(vii) The next meeting was a full day coach outing to see examples of industrial archaeology outside the County, the emphasis being on different ways of producing power. David Goseltine made the arrangements for the first two items visited, namely, Pitstone Windmill (see Report of S.P.A.B. visit, page 9) and Ford End Watermill (see Buckinghamshire, Publications, page 10) which was put to work grinding. Bulbourne Canal Workshops (SP 933 137) were seen in passing but there was no time to stop to inspect this complex of buildings, stretching for almost 500 yards along the N.E. of the canal, N.W. from Bridge 133, with a small railway running into various sheds and including a wagon turntable. The next stop was at Dancer's End Pumping Station of the Bucks Water Board (see Buckinghamshire, Report of Visits, Page 9). After this there was a stop to see the tower mill at Cholesbury (SP 935 069) but this was cut short by the bad grace of the wife of the landlord of 'The Half Moon' inn. (This 'pub' is definitely not recommended to parties of industrial archaeologists!) After lunch, the party visited the Museum of English Rural Life at Reading where Andrew Jewell, Keeper of the Museum, gave a fascinating demonstration of the work of the museum and showed the reserve stock - where the steam-driven lawn-mower, built in 1897 by the Lancashire Steam Motor Company (Forerunners of Leyland Motors) was particularly appreciated. On the return journey, a visit was made to Greys Court to see the large donkey wheel formerly used for drawing up and automatically tipping buckets of water from the well (SU 724 833) and to Nettlebed Brick Kiln (SU 703 868).

(viii) The other full-day coach outing was to Lincolnshire to see something of the variety of the industrial archaeology in a given area. Nevill Birch, Secretary of the Lincolnshire Industrial Archaeology Group, organised a very full programme of visits, including coaching hotels in Stamford, maltings, toll-houses, the grand station buildings at Stamford, remains of the Edenham & Little Bytham Railway (built by Lord Willoughby de Eresby in 1856 to connect his country estate at Grimsthorpe Castle with G.N. main-line at Little Bytham), Londonthorpe Watermill (with 3 pairs of overdrift stones), remains of ironstone workings S.E. of Lincoln, the engineering factories in Lincoln and the waterways there - including a floating shop. (Eight typed pages of notes were issued for this tour but since this was out of the CBA9 area no details are included here).

Report of Meeting.

The Northamptonshire Federation of Archaeological Societies held an Open Meeting on Saturday, 19th April, at Kettering Grammar School. The first part of the meeting consisted of short illustrated talks on recent work in the area. Although one on these was solely on Industrial Archaeology it was interesting to see the relevance of some of the other talks to this subject. In particular, Mr. D.A. Jackson's "Excavation of a Roman Bridge at Aldwinckle" and Mr. J.M. Steane's "Excavations at Lyvenden", (which indicated quite an industrial complex for making pottery) showed definite links with industrial developments of the present day.

After these points of contact between the local 'traditional' and 'industrial' archaeologists it was disappointing to find no mention of latter-day industry in the main talk which was by C.C. Taylor, of the Royal Commission on Historical Monuments, on "An Archaeological Survey of the Peterborough Area". This was commissioned because of the New Town developments in that area and it was hoped that the talk would show what should be done in the Northampton Expansion area.

In addition to the talks, there was an exhibition of recent archaeological material. Amongst the traditional bones and broken pots, the industrial archaeologists displayed a collection of old (but still whole!) beer bottles dredged from the Ise Brooke, near Page's Mill, Wellingborough earlier in the year by the Nene & Welland River Authority. The bottles were accompanied by a display of photographs recording local breweries and maltings and also of general industrial archaeological activities.

Preservation.

The Museum of Milling at Billing Mill (SP 813 611) has proved very popular and it is planned to open an extension to this in 1970. The extension will accommodate some of the items recently acquired by Mrs. Mahon, such as the Samuelson Roller Mill from Sharnbrook (See Bedfordshire, Preservation, Page 7) and the open space between the mill and the extension should be sufficient to install the horse gear from Mill Farm, Eversholt (SP 988 321) which is now 'stored' in Mr. Goseltine's garden at Whipsnade.

Publications.

(a) Bulletin of the Northamptonshire Federation of Archaeological Societies, No. 3. April 1969 contains 6 pages on industrial archaeology in the area and include classified lists of mills recently investigated and a short article on the physical remains of the Twywell branch of the Islip ironstone tramway.

Copies of the Bulletin may be obtained, price 5/- plus postage, from A.E. Brown, Department of Adult Education, University of Leicester, 6 Salisbury Road, Leicester, LE1 7QR.

(b) "Northamptonshire Life". There have now been two issues, April/May and June/July of this new publication and some of the articles have an industrial archaeological interest. Unfortunately, many of the articles seem to be written by people outside the county who lack the intimate knowledge of the area and who are also unaware of the 'locals' who have made considerable studies of some aspects. The article by Jeffery W. Whitelaw on 'Dovecotes' in the April/May issue was such a bad example of lack of local knowledge that Eric Instone, who has been investigating them for a number of years, was asked to write a summary of his work for this issue of the Bulletin - see page 11. W.H. Owens' article "The Waterways Museum at Stoke Bruerne" in the June/July issue is a useful description of this museum and is nearer to the standard one would expect from a self-styled County magazine.

OXFORDSHIRE

Studies.

(a) Oxford Canal. Mr. Hugh Compton, 122 Hermitage Road, St. John's, Woking, Surrey is writing a book on the history of this canal.

(b) Water Supplies. Mr. David Sims, of Ark House, Crown Road, Wheatley is studying the history of the development of water supplies in the area.

(c) Windmills. The windmills at Great Haseley (SP 637 024), North Leigh (SP 387 128) and Wheatley (SP 589 052) are subjects of projects by D. Hallam, D. Sims and Mr. and Mrs. Scovil.

(d) Hensington Workhouse. was recorded before its demolition by Miss Susanna Everett.

(e) Wheelwright's Shop, Aston. The Study Group at the Oxford City & County Museum (see below) were recording this shop on 25th June.

Study Group.

The Study Group for Recording Recent Historical Sites and Monuments (see Bulletins 7 and 8, Page 17) continues to meet on the last Wednesday evening of every month at 7.30 p.m. at the Oxford City & County Museum, Woodstock, for lectures, excursions and discussions of members' work.

Group Work undertaken so far included a survey of Hitchman's Brewery, Chipping Norton, a survey of the Blenheim Estate Mill (powered by both a waterwheel and later a beam engine) at Combe (SP 416 151) and recording of the Wheelwright's shop at Aston. New members are always welcome and details are available from Susanna Everett, Assistant Field Officer at the Oxford City & County Museum (Tel. Woodstock 456).

Of the two monthly meetings already held the first was devoted to a discussion of members' work and the second to a lecture given by Professor P. Matthias on the brewing industry (see below).

Report of Lecture.

For the second of its monthly meetings the Study Group at the Oxford City and County Museum concerned with the recording of later industrial and historical monuments welcomed Professor P. Matthias of All Souls' College, Oxford, to give a lecture on 'The Brewing Industry and Its Artifacts'. Report by Miss. S. Everett.

Professor Matthias began by saying that much of the interest in the brewing industry for industrial archaeologist lay in the fact that, except for mills and milling, it was the industry earliest industrialised and most widespread. Many breweries still survive because of the continuity of ownership and also because methods of brewing changed very little until recently, and so an early brewhouse (possibly eighteenth century) often survived, even if it only formed the nucleus of later buildings. In many small towns such as St. Neots, Baldock and Wisbech eighteenth century structures still

house modern machinery. Country breweries have a much greater chance of survival than large city or London breweries where their often extensive sites are valuable for re-development.

Professor Matthias discussed the style, function and location of breweries. He showed slides to illustrate the point that the eighteenth century brewery was built to look as much like a country house as possible, often with a clock such as one would expect to find on a stable block of a country residence.

The function of the brewery demanded that it should be tall with the various processes of brewing taking place as the liquid descended through a tower block. Slides of early steam pumping engines showed how much old equipment may survive in breweries where the scale of the industry did not increase.

The brewery site had to be spacious as storage space had to be great. The dark, bitter, porter beers had to be stored for a year and nine-tenths of the buildings on a brewery site might well be used for storage. The storehouses are often of the least pretentious style and show the best of uncluttered functional architecture.

Most of Professor Matthias's examples of breweries were taken from London and the eastern counties and this was particularly interesting as it widened our horizons beyond our own local area.

Publications

(a) The Field Department of the Oxford City and County Museum has just produced its first Newsletter, which is aimed at keeping people interested in all fields of archaeology and local history in touch with each other and to provide some way of knowing who is studying what in the county. Anyone who is working on Oxon. material and would like their work publicised should let the Field Department know. The newsletter will be produced three times a year and the next issue will be in September. It is available, free of charge, from the Field Department of Oxford City and County Museum and at the moment has a circulation of about 300.

(b) Top Oxon. Vol. 2, No.1, published by the Oxford Archaeological Society, contains an article on the 'Workhouse in Oxfordshire' by Susanna Everett. This article is the result of both record research and an emergency survey carried out at Woodstock Union workhouse before demolition.

(c) With reference to the Buscot Park Railway in Berkshire (reported in Bulletins 6 and 7), Oxfordshire can boast a farm railway still in daily use. This was reported in Narrow Gauge News No.57, February 1969 (of the Narrow Gauge Railway Society) which describes the 2' gauge line belonging to Mr. Alan Keefe at Cote Farm, Cote, near Bampton. The route is in the form of a long 'U' and the motive power is at present a 4-wheeled Lister diesel locomotive.

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(*) immediately after the page number, shows that the reference is to a review of a publication on the item.

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INDUSTRIAL ARCHAEOLOGY COURSES IN NORTHAMPTONSHIRE

(a) Duston. A short course entitled "Industrial Archaeology in Northampton" is to be held for dix consecutive Wednesday evenings, 7.00 - 9.00 p.m. starting on 24 September at Duston Evening Institute at the Secondary Modern School. The course tutor is Mr. Eric Instone (who will also give one of the lectures during the course at the University Centre, see below). This is an introductory course and further details may be obtained from the Principal at the Evening Institutue or Mr. Instone, 1 Saxon Rise, Duston, Northampton.

(b) Northampton. For the fourth year, the Leicester University Centre in Northampton is offering a course on idustrial archaeology although this year the title is "Old Crafts & Industries". This is a 22 week course, held on Friday evenings at the University Centre, Barrack Road, Northampton, 7.30 - 9.00 p.m. starting on 3rd October. For more information please contact the Warden at the University Centre or the Course Tutor, Geoffrey H. Starmer, 17 Mayfield Road, Northampton, NN3 2RE.

(c) Rugby. Although centred in Warwickshire, the course "The archaeology of old crafts and industries" at the Percival Guildhouse, Rugby, will deal with an area which will include the western parts of Northamptonshire. This course, to be held for 24 Wednesday evenings, 7.30 - 9.00 p.m., commences on 1st October. It will cover the techniques of industrial archaeology and give practice in the application of these to the remains of past industrial activities around Rugby. Further details may be obtained on application to the Warden, Percival Guildhouse, Rugby. or to the Director, Education Unit, Rugby College of Engineering Technology Eastland, Rugby.



