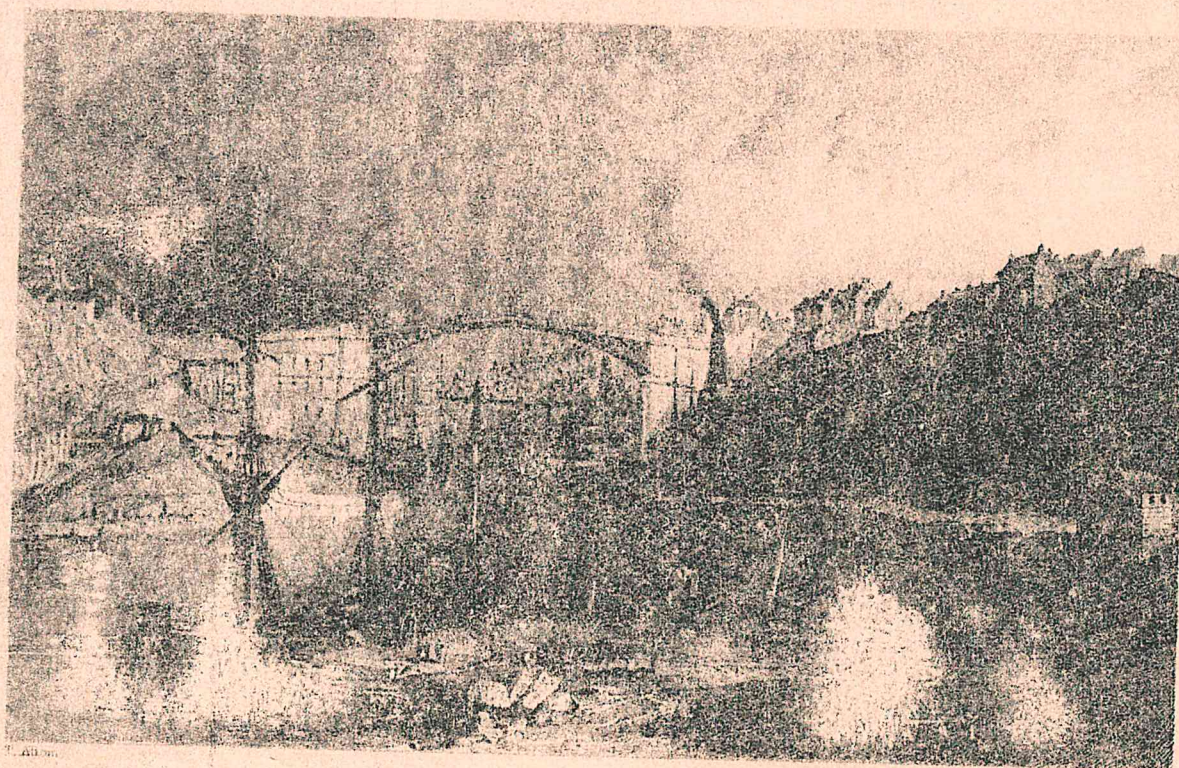


NORTH EAST INDUSTRIAL ARCHAEOLOGY COUNCIL NEWSLETTER



SUNDERLAND, COUNTY OF DURHAM

PRINTED BY THE AUTHOR

NORTH EAST INDUSTRIAL ARCHAEOLOGY COUNCIL

NEWSLETTER NO.2 - AUTUMN 1972.

Editor's Notes.

Our second edition covers the first quarterly meeting of the Council which was held at Durham on 8th September. Transcripts of the four talks given are included and I hope will be of sufficient interest to attract more members to the next Council Meeting in December. As all these talks were accompanied by slides moreover, we cannot do more than give the basic 'framework' whilst excluding the changing scenery within.

I think everyone present will agree that it was a varied and lively evening.

For our December Meeting, originally fixed as 8th December, we have now been invited to join the Durham University IA Group who on Monday, December 4th, are having Mr. Neil Cossens as their speaker. For details see Page 2.

We are pleased to announce that at last after protracted negotiations, Bulletin 16 is finally in the hands of the printers so we may see it in 1972 after all!

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NORTH EAST INDUSTRIAL ARCHAEOLOGY COUNCIL

DECEMBER MEETING.

At the invitation of the Durham University Industrial Archaeology Society we are holding our next Quarterly Meeting on Monday, 4th December, at 8.15 p.m. in the Elvet Riverside Building of the University of Durham.

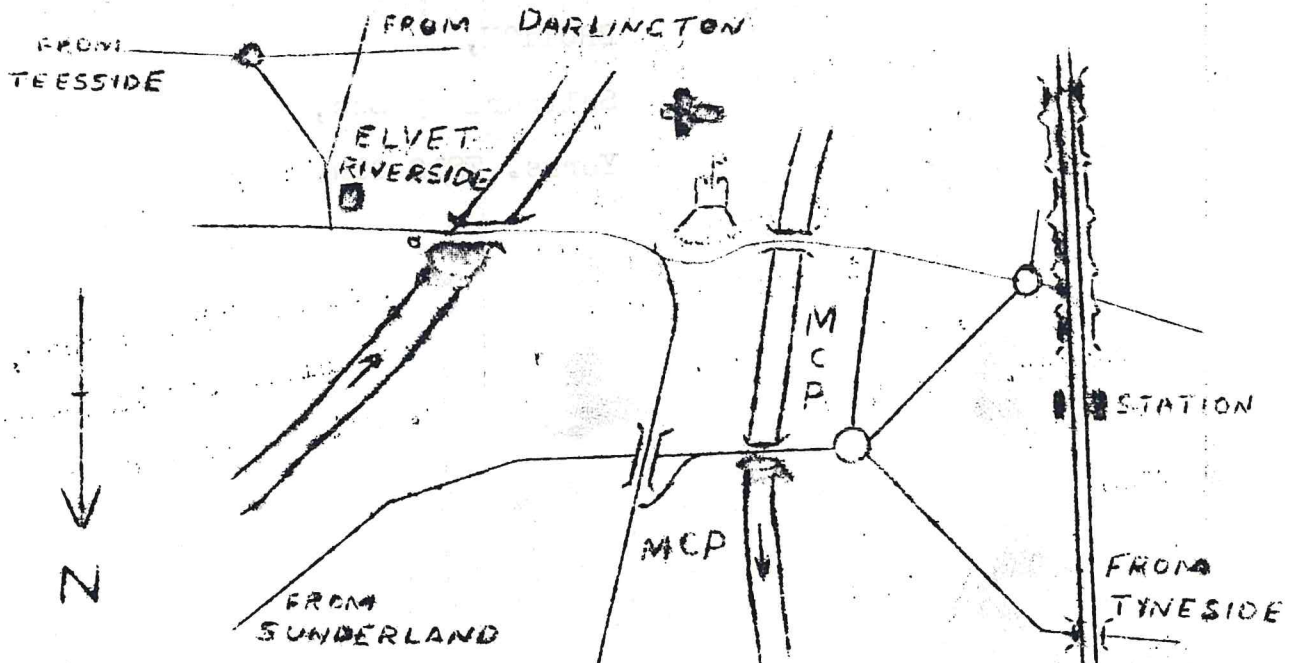
The speaker will be Neil Cossens, the Director of the Ironbridge Gorge Museum.

Elvet Riverside is the brick building in Elvet opposite to the Three Tuns Hotel. The lecture will most probably be held in Room 142, should there be any alteration this will be shown by the Porter's Lodge.

Car Parking Facilities:-

There are three main Municipal Car Parks (MCP) in Durham, Milburngate, Claypath and near Brown's Boathouse, and the fee is 5p. The one near Brown's Boathouse is the nearer to the Elvet Riverside Building, which can be reached by using the staircase beside Elvet Bridge.

Free parking can be found in Old Elvet, outside the Elvet Buildings and there is an underground park at the building itself.



NORTH EAST INDUSTRIAL ARCHAEOLOGY COUNCIL

TALKS GIVEN AT SEPTEMBER MEETING 1972

BEEHIVE BREAD OVENS by VERA CHAPMAN

My interest in bread ovens arose rather casually as a side track from other countryside field-work. Last year I drew together notes on ovens I had recorded in Wharfedale, Wensleydale, Teesdale and Weardale, the North York Moors, lowland Durham and the North Riding. These will appear, with illustrations, in Bulletin 16 of this Society. I have examined similar ovens in Wales, Switzerland and Italy, and since writing the above article have found further local examples.

There are, from ancient, Biblical times and beyond, two main types of bread: the flat unleavened bread cooked on a "griddle" (an iron plate) slung over an open fire or on a flat "bakstone" (bake-stone), and raised bread which had to be baked in a closed space which we call an oven. The simplest ovens still to be found in the North East are made of brick or stone and are circular in plan, with a domed top like a beehive. They are referred to as a "brick oven" or "bread oven." They may be contained completely within the thickness of a wall, especially in houses of the 16th & 17th centuries when walls tended to be thicker, in which case there is little or no external evidence to be seen from out of doors.

In thinner walls the ovens had to protrude either internally into the room or externally in the form of a "bulge." It was these curious but characteristic protusions on the walls of farmsteads and cottages that sparked off purposeful research, and acted as clues that drew like magnets.

The bulge protrudes as an arc or semicircle up to 4 ft. deep from the house wall, and is capped by a sloping roof. The oven itself is usually 2 to 3 ft. in diameter internally and the dome 18 to 30 ins. high, whilst the entrance is a rectangular opening at

oven floor level and waist height. It was normal for the country house wife to stoop in loading the oven, and incidentally so does the modern town housewife, except that the 1960's brought the eye level even within the range of possibility! The opening was edged in brick or faced with stone, chamfered on the sides and top to take an iron door or an oven stone. Otherwise the entrance could be sealed with brick and clay. Heating was done internally beforehand by burning twigs, gaggots, furze, peat or turves. The fire would burn fiercely for as much as $1\frac{1}{2}$ hrs. although Cobbett mentions $\frac{1}{2}$ hr. The ashes were then scraped out and the bread put in, either as dough or in tins.

The oven was situated in the house beside the main fire, commonly in an ingle nook. The oven opening was more often on the left side of the fireplace (as you look at the fire) less often on the right hand side, and a unique example lies in the centre of the ingle nook.

Sometimes the oven was found in the teefall, the low-roofed extension behind the main house, and there is one example in a farm garden.

Their use seems to have spread in the 16th & 17th centuries, and in the more northerly Pennines area in the 18th century. All are now defunct, few are intact, and many are plastered over and hidden. They had persisted in use until the end of the 19th century, and occasionally in remote areas until the Second World War. No doubt they could be revived along with the candles & oil lamps during our next strike-bound winter!

The talk was illustrated by slides showing internal and external views of beehive ovens in the North Pennine Dales, the North York Moors, The Darlington area and upland Wales. Continental ovens in Switzerland & Yugoslavia were also shown, and an Italian oven seen during construction in the spring of 1972. Oddly enough, there's life in the old oven yet.

YARM VINEGAR BREWERY by DAVID TOMLIN.

Wren's Vinegar Brewery, Yarm, was situated on the northern bank of the River Tees in County Durham, and on the western side of the approach road to the fine medieval stone bridge over the river. Under the provision for the re-alignment of the A19 road the site of the brewery was acquired by Durham County Council for complete demolition.

The first visit made to the brewery by the Teesside Group was during a survey of Yarm, about two years ago. John Harrison, as TL&G Secretary, asked the owner Mr Wren, for permission to look inside, but this was refused, probably as he did not want anyone to see his brewery in the then partly derelict condition.

The buildings were therefore, inspected from the outside, and this external viewing revealed a composite of buildings and of styles. On the large building fronting the road it could be seen from the position of doors and windows that there had been several floors at different levels.

One of the buildings was large and tall, with long roundheaded windows, reminiscent of an engine house. There were no signs of machinery inside but it was noted that there appeared to be a

Cast Iron cross beam in the roof, which had lettering cast into it, however despite the use of binoculars from the public foot-path which traverses the site, it was not possible to read it.

In the autumn of 1971, the present Secretary of TL&G, approached Durham County Council for permission to view the interior of the brewery. This was granted on their taking over some months later. The Group measured and photographed the buildings and hope to prepare the east elevation for eventual publication.

In the spring of 1972 the Group were able to enter the buildings and collect bits and pieces which had not suffered destruction from vandals. These included labels for jars, bottles etc.

account books, bottles with the titles "Wren's Vinegar Brewery

and Yarm Vinegar Brewery" moulded into the glass. There were also technical journals relating to the brewing of vinegar, and oddly some, glass encased electric cells. Examples of labels showed that apart from vinegar the company produced pickles, sauces & chutneys, and on one label was the name and address of the firm as "Cecil Wren, Eaglescliffe."

Vinegar is made either from stale beer or, as in the case of the Wren Brewery by using malt barley fermented with vinegar yeast, and this has been the method in use since the brewery was established in 1908, this being the date given by the owner Mr. Wren in an interview transmitted by Radio Teesside. There appears from documentary & site evidence that other industries have flourished on the site. During a search Charles MacNab found in the cellars a machinery diagram from Bertrams of Edinburgh, relating to paper making & steam engine manufacture, the latest date on the diagram was an Exhibition date when the company was awarded a gold medal in 1866. Mr. Wren's nephew showed the Group an auctioneer's pamphlet of the site dated 1906, declaring an intention to sell the "going concern" of a paper mill & associated works.

In his "History of Yarm" (1957) Wardell mentions a steam flour mill built in 1849 by Thos Wren & Sons, which in 1850 handled £5,000 worth of flour by river traffic alone. The mill contained two engines each developing 40 HP, and turning 17 pairs of grindstones. In 1860 the boiler and engine houses were destroyed by fire, which also damaged a large quantity of stock and the resultant ruins are quoted as near those of the paper mill. In a pamphlet "The Short History of Paper-making in the North East" prepared by C.F. Maidwell in 1959, a paper mill owned by C.T Bainbridge & Son was known to be established at Yarm before 1850 and still working in 1864.

It appears that at least three works have been established on or around the site, paper & flour milling and a vinegar brewery, and from "Teesside Potteries" by J.R.A. Le Vine (1972) comes the informatio

that a Mr J.H. Clark established Yarm Potteries in 1927 in a single storied building at Wren's Vinegar Brewery. The pottery was discontinued between 1936 & 1939.

So there we have a complex small industrial site, with a very long history, probably going back many hundreds of years further than I have covered.

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NER BRAKE VAN RESTORATION by SIMON CHAPMAN.

It was during a visit to the Clarence Iron Works in 1969 that an old railway brake van was spotted. On closer examination it was seen to carry the date 1895, and the idea of offering it to the Beamish Museum was mooted. The Works Engineer of what had by now become the Clarence Distillation Plant was in favour of the presentation and seconded the offer with great pleasure.

The special feature of these vans of which were hundreds on the NER system was the lookout attached to the top of the van giving the guard a view down the length of the train. They were called 'Bird-cage' lookouts. These vans were not unique to the NER, but appear to have lasted longer on the NER than on other railway systems.

The van's works plates showed that it had been built at York in April 1895, however it was now in a dilapidated condition with missing handrails and side boards, while the windows were boarded up.

The first task was to halt the decay and then begin restoration. After obtaining permission for access to the site, work began in December 1970. It was then we noticed a second brake van in the yard, and the works plates showed that it too was built at York in December 1895. On this van the lookout was missing, but it did carry original lamp brackets & handrails. The buffer collars were inscribed 'NER' and the axlebox covers were embossed 'NER Pattern 2A', while most of the brake gear was intact. As

the first van had a broken axle box and a broken buffer beam it was realised that it would require a lot of effort to repair this van compared with the repairs needed for the second, and so it was decided that the second van would be the one on which restoration would be carried out. The lookout would be transferred and general repairs done. However, Robert Hutchinson, a joiner by trade, said that a patching up job was not worth while and that a thorough job should be done on the brake van. Assurances were obtained from Beamish of some finance so we embarked on restoration work sufficient to prevent further decay, before the van went to Beamish. Complete restoration was not initially intended, but one thing led to another until this became the goal.

The main task was to take out the sag in the roof by renewing the door posts and internal strutting. Around the site were odd bits and pieces of brake gear and brackets etc. for the area under demolition had once been the wagon repair shops and a good deal of the required metal work for the van was found in this area.

Most of the external weather boarding on the sides and ends has been replaced with secondhand floorboards brought from demolition sites. Metal brackets and some internal woodwork has been obtained from the first van. Other metal parts missing from the brake gear and footsteps have been made for us by the Engineering Dept. of B.S.C. Ayrton Works.

During 1971 the operation of transferring the birdcage was carried out. This entailed several days work loosening it on the one van and preparing to receive it on the other. The actual movement occurred during one morning and by evening the birdcage was permanently in its new home.

At one end was the apparent outline of a small door, but the other end had a central window cut in it. The significance or otherwise of these was lost to us until a visit by a gentleman from York as a

result of some publicity on the restoration, which had appeared in the North Eastern Railway Association's "Express". He worked for BR at York, and had made a study of NER wagons and vans. The small door, he said, had been used by the guard for access to the outside to hang lamps on outside brackets, thus saving him the trouble of clambering around the outside of the van when either travelling or in wet weather. A similar door had therefore, been replaced in the other end of the van by a window. The door was in fact fixed and when unscrewed and fitted with hinges it worked once again.

Much internal woodwork was removed, the best pieces being kept and put back, and the remainder replaced with pieces from the first van. The internal arrangement was our greatest problem. Preserved in York Railway Museum is a cut-away section of the guard's Birdcage lookout from a passenger coach. This shows the arrangement of steps used to reach the lookout and also an elaborate "Ships-wheel" type of handbrake. This type of brake was not used in a goods brake van, but the arrangement of steps and seats give an indication of what had at one time been removed from our van. The design of the seating arrangements was finally resolved at Tyne Dock and measurements taken from a van here proved most useful in replacing the fittings in our van.

However, this is completed as far as we know to the original design, in the absence of official drawings.

The van is gradually taking shape both inside & out, and when complete will be finished externally with a coat of red oxide gloss. Through the research our friend from York has done it was found that the van had been allocated to Tyne Dock and this wording will be painted in white on the sides with the letters "NE" as well as the figure "2", showing that this van had Type "2" axleboxes. It is intended to have it ready for presentation to the North of England Open-Air Museum by the end of this year.

ON SITE PRESERVATION by DR. STAFFORD LINSLEY :

Dr. Linsley's talk was edited owing to the time limit imposed upon the meeting. He began by stating that he did not believe that everything should be preserved, nor that those objects which are to be preserved should necessarily be preserved on site. For example the Gosforth Horse Tram found in the thicket of a Northumberland Estate was best dealt with by renovation and removal to a museum, in this case the North of England Open Air Museum. An alternative case illustrated by Dr. Linsley was the steam navy at Beamish. The transfer from a quarry had been fraught with difficulties due to a changed environment to which the navy was not suited. Illustrating his talk with examples from St. Fagans Museum in Wales Dr. Linsley showed how the preservation of a tannery and a cockpit, though beautifully restores and excellent examples of their type were nevertheless completely sterile, and removed from an appropriate environment. As a contrast he showed how Ironbridge was attempting to preserve within a framework of existing structures on and around the site, although there had been errors in the past. The Lilleshall Blowing Engine was an unfortunate example of out of context preservation.

This approach had been rectified by later thinking and another blowing engine had been fitted into an existing blowing engine house. The policy of only moving things onto the site to complement the original structures was now being followed. An instance of on site preservation with all good intentions was the headstock of Washington Colliery (by the Washington Development Board), but it was marred by the unnecessary technicolour decoration of the structure.

The Cornish beam engine at the Taylor shaft of the East Poole Mine was a good example of on site preservation by a voluntary organisation which when almost complete, was brought into the care of the National Trust. Another beam engine preserved in situ by voluntary efforts is to be found in the Fen country of Cambridgeshire, but the

interior has been turned into a general museum containing typical museum collections like stuffed butterflies.

Another example of on site preservation which would not have been considered 4 or 5 years ago is the Dinorwic quarry area, now under the care of the National Museum of Wales. Here in the workshop area, everything has been kept basically as it was the day the quarry closed.

About 20 years ago a group of people in Sheffield actively campaigned to preserve the Abbeydale Industrial Hamlet, and although you would not believe this when reading the publicity leaflet produced by the City of Sheffield, the City would have nothing to do with the preservationists at that time. Now the Hamlet is under their care, and the whole area is spotlessly tidy, entirely clean without flakes of rust or scale. In contrast is the authentic preservation of the Finch Foundry at Sticklepath in Devon. Here the forge is in use there are iron scraps on the floor and there is scale around the hammers.

Dr. Linsley ended his brief talk with slides illustrating other sites where on-site preservation had or was being undertaken, including Killhope Wheel and the corn mill on the River Till at Heatherslaw in North Northumberland, but stressed that in his opinion the N.E. was sadly falling behind the rest of the country in the field of on-site Industrial Preservation.

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NORTH EAST INDUSTRIAL ARCHAEOLOGY COUNCIL

1972 CONFERENCE AT NEWCASTLE ON TYNE.

The N.E.I.A.C. Conference this year was sponsored by the Tyne Group and the general theme was Agriculture. The Conference was held appropriately in the Clement Stephens Lecture Theatre at the Department of Agriculture at Newcastle University.

The first speaker, Dr. Helen of the Department of Geography, gave a learned discourse on the form and distribution of gin gangs in

Northumberland together with some observations on its possible historical development from very similar "machines" used in medieval German coal mines. After coffee break Vera Chapman enthralled us all with a most interesting and scholarly account of the 18th & 19th century enclosures on the moor edge farming community supported by some original documents from the Northumberland Record Office and some excellent slides. Although we started promptly at 10.30 am we had most regretably to cut out the discussions on Vera Chapman's talk by 1.30 pm, when we adjourned to the Peregrine Hotel for lunch. Many members expressed their appreciation of the two papers. Following lunch the coach took us to the private collection of farm tractors, implements, machinery and tools of the farming industry of Mr. John Moffit at Newton. This included one of only two Ival tractors of 1904 vintage in this country, one of the first tractors to be marketed and still in working condition, the original farm forge, a most remarkable and unique steam engine of early 19th century used for threshing & milling on a local farm and restored by Newcastle University. The weather was kind and the visit ensued a most enjoyable day.

R.M. Higgins.

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NEWS LETTER NO.1 - ERRATA.

THE HISTORY OF COALMINING IN BEDLINGTONSHIRE.

Mr. Steven Martin who gave the talk on the History to the Tyne Group has drawn our attention to some errors which have crept into the typescript.

Page 10: Line 28 - The monks of Newminster were granted the leases at Cambois in 1236 not 1320.

Page 13: Line 10 - The Riddleys acquired property at Cambois in 1764 which is of course in the 18th not 13th century !

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THE NATIONAL CONFERENCE OF BRITISH INDUSTRIAL ARCHAEOLOGY HELD AT GLASGOW

SEPTEMBER 15th / 17th 1972.

Women's Lib. was very prominent at Glasgow in the form of two resolute ladies. The first was a solid and very positive Northern Mill Engine 'recoverer'. Slides showing the lady and her compatriots standing - not unlike big-game hunters, spanners akimbo, instead of rifles, and standing with one foot on the old dead flank of some derelict mill engine, lifted out of some deserted mill.

The other lady, Dr. Glen, was crisp, precise and a lecturer who spoke within her time limit, almost to the second, a lesson to us all. She spoke on the Scotch Whisky Distilling Industry. Included in the slides was one showing the almost countless illicit stills in the Firth of Clyde area, in the 18th Century, and all on record because the builder of the stills, a dour Campbelltown plumber and staunch Presbyterian had kept immaculate accounts of his work. The lecture was itself a treat, and a further treat was in store for the delegates - a miniature bottle of Scotch.

Another local speaker was John Thomas, the Scots Railway Historian, a son of Springburn, who gave us a nostalgic view of this suburb of Glasgow, which in its prime, erected more steam locomotives within the burgh boundary than any other similar area in the world. Caledonian, North British, Neilsons are names among a regal list of builders.

A curt, clear, colourful tour of Ironbridge Gorge Museum by Neil Cussons was part of Sunday's fare. Promising not to use the adjectives 'largest', 'oldest', 'first', 'only' and 'unique' in his talk, he nearly made it, until he began to describe the iron canal barge, discovered in service as a water tank in a local farmyard. This was restored by students working under the Museum's Keeper of Technology, one, Stuart Smith, whose policy of Collect, Restore and Present, on this occasion has produced the ONLY iron canal barge in this country.

The final speaker was by way of being an advertisement, if we can use that,

for the venue of Conference 1973. Mr. J.K. Qualtrough, one of the quartet of authors on the IA of IOM gave us a conducted tour, to whet our appetites no doubt, of the Isle of Man, from the fishing industry, through mining to the tourist industry.

Members' contributions were varied, perhaps the most exciting could only be regarded as an Industrial Archaeology failure. Collecting photographs of mills and mill architecture in the North West, one ardent enthusiast arrived one fine sunny day with ideal conditions for photography just too late! and we were treated to some spectacular colour slides of a burning mill. The colours, vivid, red and angry orange and forbidding were breathtaking, one could literally feel the heat from the conflagration, and it was noticeable that each shot taken by the photographer was farther and farther away from the mill. Later slides showed the stark frame of the burned out mill and revealed how fierce the fire had been.

Exhorted by both the programme of events and the organiser Dr. John Butt, the Conference were prompt for the excursions on the afternoon of Saturday, only to be kept waiting for about 20 minutes for the coaches, there is a lesson to be learnt here. The destinations were New Lanark, and then either Biggar, with a museum and gas-works, for Party A or Wilsontown and Shotts for party B.

New Lanark, founded in 1748 by David Dale, a Glasgow linen merchant and Richard Arkwright, was a revelation. The site, in a sylvan setting in a gorge along the river Clyde was overpowering. The long high row of tenements, all apparently inhabited today towered above the mills, which themselves dominated the river. The architecture is simple and functional befitting a site where one of these buildings was called by Robert Owen, who had taken over from Dale, the Institution of the Formation of Character.

Wilsontown has only the ruins of two engine houses on either side of the now dry Mouse Water. The works were founded in 1778 by three brothers, Robert, William and John Wilson, and were the second coke

smelting iron works in Scotland. It was here that John Gondie developed the idea of the "Scotch" water cooled tuyere which was an essential part of the Neilson hot blast process for iron smelting. Other remains consisted of a culvert carrying the stream through the main part of the site, a lime kiln and a three arched wagonway bridge.

The journey back to Glasgow was via Shotts and across the richest coal-bearing parts of Scotland, where out on the moorland stood pyramidal waste heaps "bings" and the area was criss-crossed with the lighter green of old and abandoned rail & wagonways. Conference also means people and meeting people with a common interest, and this was one of the most enjoyable parts of the conference. Seeing for the first time those who had been names attached to a book or article - neither David & Charles nor the Journal of I.A. go in for photographs on dust jackets etc. - Dr. Buchanan, quiet, thoughtful & unassuming, the precise, perfect professionalism of Neil Cossens, the ebullience & joviality of Dr. Diaper, the brash arrogance of the young man, who is to put I.A. aright, after completing the Study of the Butterley Ironworks, one Philip Riden. Other members were true to form, Dr. Alan Griffin, crouched in some "caunch" the talk thick on coal mining, an old friend Dr. Michael Lewis, knee-deep in maps while on the coach, looking for wagonways on the uplands. It was also a pleasure for the North East contingent to see our own Dr. Stafford Linsley up there among the front runners one had the satisfied feeling that in terms of the National Conference and I.A. speaking the North East had arrived.

Was there anything else we should remember? - YES - the food! It was glorious.

A Trencherman from Bowburn.

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WEEKEND COURSE ON INDUSTRIAL ARCHAEOLOGY

The North Riding County Council is holding a second course on I.A at the Wrea Head College, Scalby near Scarborough. Mr. Frank Atkinson will again be the Tutor for the Course which commences with dinner at 7 p.m on Friday, 16th March, 1973 and ends with lunch at 1 p.m on Sunday 18th March. It is hoped to take students on a coach tour of the area during Saturday afternoon.

There is room for about 40 residents at the College which is a large 19th century house standing in its own wooded grounds at the north end of Scalby. A pleasant social atmosphere generally exists here and the courses are for the general public who often have no previous knowledge of the subject.

A leaflet giving details of Courses run can be obtained from branch libraries in the North Riding, or by writing to The Education Officer, County Hall, Northallerton, Yorks.

Editor.

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NEWS AND VIEWS FROM THE GROUPS

DURHAM GROUP

A Water Regulating Valve - An interesting water regulating valve has been recovered from Ashgill Head Lead Mine, Harwood-in-Teesdale and has been removed to Ryhope Pumping Station where a museum of such items is being established.

Ashgill Head Mine worked until about 1885 and the water flowing from the level and also that collected by a water race running around the head of Harwood was used in the ore dressing plant situated a short distance below the level mouth.

After it was used there it was taken by another race which commenced just below the Ashgill Head works around the hillside to Lady's Rake Mine which worked until 1909. Lady's Rake is situated about 300 ft. lower than Ashgill Head.

Although Lady's Rake is only a shallow mine dewatering was always

a problem. This necessitated a considerable regular water supply to provide adequate power for pumping and seeing that Ashgill Head level was no longer in use it was decided to use the mine as a reservoir. The workings are extensive so it was possible to create a very considerable reserve which could be used in dry weather.

The dam was made only a short distance inside the level and the valve was attached to it to control the flow. The flow was manually controlled, but an interesting feature is the pressure relief valve incorporated near the mounting flange. This is adjustable and was necessary so that the water pressure which built up in the mine could be kept within reasonable limits. The valve is at present being assembled at Ryehope and will be on view after completion.

H.L. Beadle.

Mr. H.L. Beadle lists the following industrial sites in Teesdale in need of preservation :-

1. Small early 19th century lime kiln (NY.919283). This is one of its size which we have left and it is standing intact at Stable Green, Newbiggin-in-Teesdale.
2. Saddle House (NY.988248). This is the only existing "Jagger galloway saddle house" that I know of and it stands by the road side at Toft House, Egglestone near to the sites of the Egglestone smelt mills. Saddles were recovered from it and sent to the Bowes Museum some years ago and the building is getting into poor state and will soon require full restoration.
3. Lead Mill Chimney (NZ.087249). The chimney stands on the right bank of the Gaunless Beck opposite the village of Copley and it is the only relic we have of the Teesdale lead smelting industry. Although it was well outside of Teesdale it cannot be separated from it because it was erected by the Earl of Darlington to smelt his duty ore extracted from the mine

owners in Teesdale who had 'takes' or 'leases' to work the mines.

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DURHAM UNIVERSITY GROUP

Fieldwork - There will be 4 working parties at Beamish Museum where we hope to restore a C.19th farm. There will be 1 or 2 working parties on the Derwent Canal project - a voluntary work on the Pocklington Canal has temporarily ceased while the B.W.B. carry out dredging operations and resources have been transferred to the Derwent scheme.

Report of Annual Trip - From the outset it must be made clear that the Group's annual trip cannot, by any stretch of the imagination, be considered 'pure' industrial archaeology. The role of the Group within the University- as with many other societies- is partly social; our annual trip serves as an anaesthetic to exams.

The first day served to appease our very strong canal contingent- we represent the I.A.W. within the University. Bingley Five Rise Locks were followed in incredibly quick succession by the canal basin at Marple- despite a new minibus still running in at 45 m.p.h. We hope to join the I.W.A. working parties here this term.

However, the highlight of the first day, in my opinion certainly, was a visit to the Flint Mill at Cheddleton- restored and in working order, as was demonstrated by our guide. Not to be outdone however, our canal contingent had done it again! the flints for the mill were brought in on the Calden Canal and the basin at Cheddleton has been cleared out.

By an astounding feat of driving the next day found us in the South Wales coalfield, the main area which we had come to see. Several sites of interest were visited along the heads of the valleys, the most interesting of which was the remains of an old ironworks at Bloronge near Blaenavon. No mention seems to

be made of these ironworks in literature on industrial monuments and they were only found because we happened to take a wrong turning. A fairly detailed study was made and further information flowed freely from one of the 'locals'. The afternoon was taken up with a visit to the open air museum at St. Fagans where working examples of the rural & industrial crafts of Wales are to be seen.

The third day was also spent in South Wales, with a sortie across the Severn. Coal mining & railway sites in the Forest of Dean were visited, including Lydney Harbour & the Forest of Dean Railway Preservation Society- my opinion of whom is unprintable- who were having an Open Day. Later in the day the S.S. Great Britain was visited, where we were provided with a guided tour and finally we sped to Crofton where we managed to see the beam engines steaming.

On the way home a visit was made to the waterways museum- a favourite port of call with our members, and not only because of what is to be seen there! Finally a visit was made to the Newcomen engine at Elsecar, maintained by the N.C.B. not in the best of conditions, it is still there though, which must be some consolation.

All in all a very enjoyable trip though perhaps too much ground was covered- we motored well over 1,000 miles in 4 days and as I said before, not pure I.A.

Those who showed an interest in Philip Grant's work on the watermills of Tuscany may be interested to know that an account is to appear in the November edition of "Industrial Archaeology". The Group is considering carrying out a watermill survey of Durham (the city and its environs) with a little help from Tom Hlay, so to speak.

"Industrial Heritage" the third edition of the magazine published by the Durham University A.I. Group is now in circulation and contains interesting articles on London's Varied Industries & the changing industries of a Parish - Great Ayton, N. Yorks. Details of the Group's first venture into archaeological excavation are included and while this appears inconclusive, probably due to the short period entailed, let us hope it has broken the ice 'for the future'.

Other articles on the Pocklington Canal in East Yorks and the Tramways D'Ille Et Vilaine round off a good assortment of reports which at 3p. per copy must be an absolute bargain at today's inflated prices. Copies of the magazine can be obtained via the Council Secretary, Don Wilcock.

Editor.

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SUNDERLAND GROUP

Winter Lectures.

- Wed. 10th Jan. PREHISTORIC IRONWORKING
Speaker - Mr. J.W. Haldane.
- Thurs. 8th Feb. THE NATIONAL TRUST IN THE NORTH EAST.
Speaker - Mr. T.V. Wetherell
- Thurs. 29th Mar. NORTHUMBERLAND WATER MILLS.
Speaker - Dr. S. Linsley

Meetings will be held in the lecture hut at Ryehope Pumping Station at 8.00 p.m. Work will be continuing at Ryehope each Thursday evening and at weekends. Members will be notified of other activities when they are arranged.

Ryehope Pumping Station - Ryehope Pumping Station was built in 1868 and ceased operation in July 1967. It is not clear who first had the idea of preserving the engines, but the following brief account, based on the record of the activities of Sunderland I.A. Group gives an outline of the project to date. During the winter of 1968 members of the Industrial Steam

Preservation Society, Friends of the Open Air Museum and members of Sunderland I.A. Group worked at Ryehope. Among these were Peter Butler, Ron Judge, Chris. Topp, Stafford Linsley & Stuart Smith. The grease that these workers put on the engines has now been largely removed and we owe them a debt as otherwise we would have been faced with the much more difficult task of removing rust.

Not much happened for the next two years until in August 1970, four members attended a meeting to discuss ways and means of forming a Trust. In September 1970, plans were in hand to produce a publication describing the aims of the Trust and in October & November further meetings were held. In March & November of 1971, Jumble Sales were held and over £100 was raised for the Trust.

Work started at Ryehope on Saturday & Sunday 3rd & 4th April 1971. According to our Minutes "some members worked at Ryehope. Good progress was made at clearing away the dirt and debris left behind by the former occupiers." This refers to the clearing of the coal shed which is now a museum area. During 1971, work continued at weekends and Thursday evenings. The walls were chipped, painting done, gallery & walkways erected etc. In the early part of 1972 heaters were installed, the museum roof insulated, displays laid out, toilet block & cafe constructed and road & car park re-surfaced. The money for these jobs were provided by grants from the English Tourist Board, Dept. of the Environment, Local Authorities and from other sources. The Sunderland & S. Shields Water Co., also provided help in many ways.

In March the Pumping Station was featured in the Chronicle competition on television and on March 30th, the station was officially opened by Mr. R.A. Pepper of the Water Co. On the

following day, Good Friday, our records show that "members worked at Ryhope to prepare for visitors on the next day, but over 100 visitors turned up which rather upset the programme."

Since then volunteers have worked at Ryhope every weekend acting as guides, booksellers, cafe assistants, cleaners & generally doing whatever needed to be done. During the coming winter the Co., will install a new well head, the engines will be balanced and an electric drive fitted to the North Engine. Preparations are also going ahead for the steaming of the South Engine.

Several thousand people visited Ryhope this year and we hope that with the added attraction of the engines in operation the number will be even greater next year.

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TEESSIDE GROUP

Thursday 14th December 7-30 p.m. FIELD WORK DONE BY THE ESTON GRAMMAR SCHOOL. SURVEY OF NORMANBY RLY. BRIDGE. HART WINDMILL, to be held at the University of Leeds, Adult Education Centre, 37 Harrow Rd., Linthorpe, Middlesbrough.

Excursion to Industrial Sites in the Tyne Valley. 8/7/1972.

For its second annual coach meeting Teesside I.A. Group organised a visit to the Tyne Valley, and was fortunate in having Dr. Stafford Linsley of the University of Newcastle to lead the day's expedition. About a score of members & friends took advantage of the opportunity to become acquainted with various relics of earlier industry in the Tyne Valley.

Dr. Linsley had selected 6 sites for our attention. The first was the Victoria Tunnel, running under Newcastle. This 2-mile brick-lined tunnel was opened in 1842, to accommodate a colliery railway carrying coal from Spital Tongues Colliery (on the edge of Town Moor) to the River Tyne. It was built thus to avoid paying heavy tolls to ground landlords, and because

the land between the colliery and the river was entirely built up. Our party gained access to the tunnel through a manhole and our traverse of a $\frac{1}{4}$ -mile section of the tunnel was greatly enhanced by the informed interest of our guides from the City Engineer's Dept. No signs were seen of the rail tracks or rope haulage. However, although the tunnel apparently ceased to carry coal a round 1857, substantial quantities of coal dust remain on parts of its brick lining, in some places encased in layers of whitewash dating from the war of 1939/45 when the tunnel was used for air-raid shelters. It is understood that plans are at an advanced stage to use the tunnel to carry two sewage pipes. On emerging onto the surface after our exploration the bright sunlight of the morning seemed all the more attractive.

Lemington Glass Cone - the second stop of our tour. This is situated on the banks of the R. Tyne $4\frac{1}{2}$ miles west of Newcastle, in Newburn U.D.C. This 108 ft. brick cone, originally 120 ft. high, was built c.1797. (See I.A. Top Ten Sites in N.E. England compiled by Frank Atkinson, pub. Frank Graham 1971 at 50p). At the present day glassworks we were made welcome by the manager, who carefully explained to us the reason for the cone, and the main steps entailed in making glass objects. When standing inside the cone itself, all members acknowledged it an impressive structure. Its $1\frac{3}{4}$ -million bricks had formed a gigantic funnel for smoke & fume and created a draught of cool air, while at the same time protecting the glassworks from rain. The present operators of the works, Glass Tubes & Components Ltd. are to be congratulated on preserving it.

The surroundings of the one surviving cone (reminiscent of the bottle-shaped kilns of the Potteries) are full of industrial history. Within 100 yards is the former bed of the Tyne, now silted-up as the result of straightening operations a century

ago, but relics of the wharves & staithes remain. A glance at the map shows how much more sensible it would have been to cut a channel to short-circuit the other loop of the oxbow instead, but probably vested interests with property on the south bank of the river (i.e. at Stella) prevented this. The low lying flat area is now largely occupied by twin electricity-generating stations with their associated railway sidings, although there is space also for other works interspersed with little fields and allotments. Adjacent to the Lemington Glassworks site is that of the Tyne Iron Works - closed in 1865, and now nothing but a motley collection of derelict stone & brick structures, in the early 1800's the works boasted two blast furnaces producing weekly 30 tons of iron each. From 1800 to 1830 these were said to be the only iron furnaces in blast between the North Riding and the Forth. To several members this poorly-documented site seemed to present a challenge; perhaps the ironmaking expertise of Teesside may soon help to achieve a fuller understanding of the layout of the works. This problem was amongst topics discussed during the break for lunch.

Besides the industries of glass & ironmaking, in former times the Tyne Valley at Lemington was important as a river-loading point for coal from nearby collieries. To reach the staithes from the workings 1 or 2 miles to the north, the coal was transported down wagonways. Fortified by lunch and still enjoying the clear weather, our party investigated the complex of wagonways stretching from the former North Walbottle Colliery (1892/1968) passed the sites of the Coronation & Blucher Pits, and down the bankside to the main N.E.R. line. Little evidence remains of these formerly active collieries, for intensive 'restoration' of the sites has been recently done. The trace of the wagonways is clear, marked by a public footpath and in places forming the

boundary for housing estates. The actual tracks have recently been removed, but some relict stone sleepers were noted, together with various bridges and embankments. The route has been chosen for running new drainage pipes, a project not yet complete. Joining the coach again after the pleasant walk downhill we were driven to Throckley, on the line of the Roman Wall and on high ground once more. Here an agreeable green lane led to Dewley, the site of several coal pits worked from c.1780. For transporting the coal raised here to the staithes on the banks of the Tyne, 2 miles south, a waggonway was in operation in the period from c.1780 to 1820. George Stephenson worked here as a boy in 1789. Close to the point north of Throckley where the lane branches off from the road, stands an ancient stone farmstead. This down-at-heel building, apparently one of the oldest structures in the neighbourhood and currently in use as a coal-merchant's store, is said to be threatened with imminent demolition.

Embarked in the coach once more, we were taken westwards some half-dozen miles to Wylam on the bank of the Tyne- here a rural stream. In wooded surroundings a mile west of the village stands the Wylam Water Works, opened by the Newcastle & Gateshead Water Co. c.1874. The feature of most obvious appeal to the student of industrial history is the Cornish style enginehouse, built to contain the secondhand Cornish engine bought from Wheal Vor as the first means of pumping. This had a 11 ft. stroke, 85 in. cylinder dia, and a pumping capacity of 3 million gallons/day. It was soon augmented by other engines and later superseded by electrification in 1918. Happily the characteristic enginehouse remains, together with its boiler house and chimney stack. However, in contrast with Ryhope, all steam machinery at Wylam has been removed; the present electric

installation is nonetheless impressive as it smoothly raises water from the river and delivers it under pressure to the pipeline that lift it to high-level reservoirs.

This peaceful setting marked the end of our official expedition. However, on the journey back to Teesside two additional inclined tramways were drawn to our attention. At least one of these rope-operated standard gauge colliery railways is still in use. They were built to haul coal from collieries in the Team Valley (one at Kibblesworth) up the ridge between Gateshead & Birtley, and thence on the down gradient to Hebburn. After treading out the deserted tracks of the several waggonways on the north bank it was particularly interesting to see these fully equipped installations.

Altogether this was a successful day's excursion, enabling members to see some of the main features of the industrial history of the Tyne in a painless manner. Our thanks are due to Dr. Stafford Linsley for planning & arranging the tour, for giving us his time & guidance throughout, and for producing a sheet of details concerning the various items visited. An impressive feature, and one that contributed to the pleasure of the day, was the meticulous way Dr. Linsley kept to his time schedule. Without doubt, too, the good weather contributed largely to the excursion's success: everyone enjoyed the leisurely walks along countrified tracks, in the sunshine.

J.K. Almond.

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TYNE GROUP

Dr. Stafford Linsley gives the following notes:-

Smeaton's waterwheels for the Coquet River Ironworks - In 1775/8 a group of speculators established a foundry for iron & tin on the River Coquet in Acklington Park, Northumberland. The dam

also engineered by Smeaton, was 11 ft. high, provided a head of 15 ft. at the wheels and formed a mill pond in the river upwards of 2,000 yards long & 60 yards wide. The foundry failed and was advertised to be sold in 1791. The building were purchased by a Newcastle draper who converted them into a woollen mill. The woollen manufactory continued until 1884 and then seems to have ceased operation.

The main mill building and the magnificent weir are at NU.207029 and although they are in private hands an excellent view of them may be had from the nearby road.

The Newcomen Society paper referred to in the original note is "The Waterwheels of John Smeaton" by P.N Wilson, Newcomen Soc. Trans. Vol.30 (1955/56) and this also gives reference to other sources of information on Smeaton's waterwheels etc.

Industrial Archaeology of the Electricity Supply Industry.

Mr. R.A.S. Hennessey lists some of the electrical I.A. sites as follows :-

1. The shell of the Forth Banks Power Station, down by the Tyne in Newcastle, the station of the Newcastle & District Electric Lighting Co. (1890), one of the original turbines from this station is preserved at Stella North Power Stn. today.
2. A large substation, now used by NEEB as an equipment depot, is at the rear of Woodbine Ave. Gosforth. A big 'barn' of a building.
3. At Blaydon Burn there is a waste-heat station, which belonged to the Priestman Power Co. now a derelict set of buildings where waste heat from the ironworks was used to produce electric power.
4. At Hartlepool the waste heat station remains, the only 'municipal' in Gt. Britain, integral with the old South

Durham steelworks can be seen near Seaton Carew.

5. Another pioneer Newcastle & District Electric Lighting Co. site can be seen near the old course of the Tyne at Lemington.

6. Dunston 'B' station, 1931, with later additions, is probably to be "Reorganised". The building is a good example of Public Utility architecture of the '30's and it also contains one of the last chain grates used in power stations, and has genuine 1930's Parsons Turbines.

There are of course other sites which are worth recording.

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