

GSIA

1964
1974



PATRICK LANE

WHITECLIFF FURNACE

10TH YEAR JOURNAL

The aims of the Society shall be to stimulate interest in, record, study and where appropriate, preserve items of industrial archaeology particularly in the county of Gloucestershire.



GSIA

GLOUCESTERSHIRE SOCIETY FOR INDUSTRIAL ARCHAEOLOGY

1974

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GLOUCESTERSHIRE SOCIETY FOR INDUSTRIAL ARCHAEOLOGY 1973-4

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& Editor of
the News Sheet.

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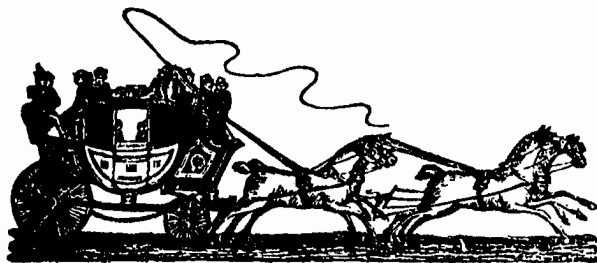
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Cover Illustration

We are indebted to J.P.G. Lane T.D. for kindly allowing us to reproduce his original drawing of the Whitecliff Furnace (SO 568103)

The above was the Committee for 1973-4. At the A.G.M on Oct. 18th 1974 Mr N.C. Crawford was elected Chairman, Mr Bick became a Committee Member, and Mr M. Pountney joined the Committee in place of Mrs Smyth who could not continue. Otherwise the Committee and Officers remain unchanged in the year 1974-5.



EDITORIAL

Gloucestershire is not a county that springs to the mind in an industrial context. Yet in 1964, when the concept of Industrial Archaeology had barely taken shape, and indeed it was one of our members, Michael Rix, who is said to have first put the two words together and invented the term, a group of men interested in the subject and resident in the county, founded the Gloucestershire Society for Industrial Archaeology. New and old members alike will be grateful to Geoffrey Andrew for recording these beginnings in this issue of the Journal.

As a result in the year 1974 we have celebrated ten years of I.A. in Gloucestershire, and no less than eighty members attended the celebration dinner in Gloucester last March. During those years many people have worked on individual projects and for the Society. But a Society is more than its members, in being a continuing body, which will hold together. Although people come and go, what they do becomes part of the whole and the momentum continues when they are gone. The Society is the fly wheel to our faltering and erratic efforts.

One of the fieldwork projects in 1964 was the measuring and making of rough drawings of Gunn's Mill Furnace by a small group which included Warren Marsh, Mike Eastwood, John Strange, and Harry Townley. The idea being that the drawings, made by Warren Marsh, should be perfected in those long winter evenings that never materialise. It was with some consternation that the Committee realised in 1973 that almost ten years has passed and no results had been published. Ian Parsons kindly undertook to work up the drawings, and Mrs Smyth made various researches into Gunn's Mills; a change in her work meant that she was unable to continue and she and Mr Smyth have now left the county. We are all sorry to see them go, and to lose a very hard working Committee member, our loss is Cornwall's gain. It was at this point, somewhat dividently, knowing how

busy he is, that I approached Brian Cave, Director of the Field Study Centre at Mitcheldean, and asked if he would consider writing an account of Gunn's Mills. We are deeply indebted to him for the tremendous amount of time he must have put into researching the resulting paper, which forms the main article of this Journal. In drawing on all the mills on the Longhope, Flaxley and Westbury streams his work will be of great interest to a large number of our members, since it includes not only furnaces and forges but also corn mills and paper mills and some reference to tanneries. Our membership list can produce experts in many fields and realising the importance of Gunn's Mills, in its later years as a paper mill, we applied to Frank Harris of the Postlip Mill, Winchcombe, who shortly produced a history of the mill during its paper making days, to compliment the wider range of Mr Cave's article.

Since the bulk of this Journal was to be concerned with the Forest of Dean, it seemed reasonable to reproduce the introductory section of Rudder's "Gloucestershire", which includes this area, rather than continue straight through the alphabetical list of towns as in the last two issues.

The first area in Britain to be extensively worked for iron ore by the Romans was the Weald, but the second was the Forest of Dean. So in the Scowls, Gloucestershire can at least lay claim to some of the oldest Industrial Archaeological sites in the country. Let us hope that future members of the G.S.I.A. may well unfold that story, for what Henry Cleere and the Wealden Iron Research Group have done for Roman ironworking in the Weald, still waits to be uncovered in the Forest.

Most of our members will already have heard of the death of Mr L.T.C.Rolt last year. He was one of our earliest and most distinguished members and a pioneer in bringing Industrial Archaeology to the general public.

Members of the Committee join me in sending our felicitations to Mr J.F.A.Smyth, who since I wrote the first part of this editorial, has been awarded the O.B.E. in the new year's honours list. Also to Mr D.Morgan Rees, an old friend of the society, who is keeper of the dept. of Industry at the National Museum of Wales, who has also been awarded the O.B.E.

We should also like to send our good wishes for the future to Mr and Mrs Ballantine and their family, after all their troubles. We are so very pleased that Susan has been able to return from East Germany, and hope we shall again see her on some of our Spring excursions.

GSIA SUMMER EXCURSIONS

During 1974 Mr J.E.Tyrer undertook the onerous task of organising our visits through the Spring, Summer and Autumn, and we are very grateful to him, for it is no mean undertaking.

Apart from the outings mentioned here, there were several informal evening walks led by Committee members. I personally remember with pleasure looking at the beautiful old mill houses around Painswick, when a small group were taken round by C.H.A.Townley.

On July 10th our President and his wife, Mr and Mrs David Verey, welcomed members to Arlington Mill Museum, Bibury, where we spent a delightful evening looking over the many and varied exhibits in the wonderful old building and garden.

Editor.

THE BRENDON HILLS - 21st APRIL

We met our leader for the day. Mr R.J.Sellick, at the ancient port of Watchet in West Somerset and it was interesting to observe that the well protected harbour was still very active. Here also we saw the terminus of the West Somerset Mineral Railway, including the loco shed which is now a garage. From the port it was a long steep climb southward to Raleigh's Cross on the ridge of the Brendon Hills and what was once a miner's pub at this spot was our stopping place for lunch.

Sandwiches eaten we travelled westwards along the ridge to explore the remains of the iron industry and the W.S.M.R. At our first stop we walked round an abandoned village at the head of a long incline on the mineral railway and at our second we saw the substantial remains of a beam engine house at Burrow Farm iron mine. Further west another deserted village was seen at Gupworthy though luckily the terminal station of the W:S.M.R. had survived by conversion into a house.

Our final visit on the ridge was to locate the beam engine house of the Kennisham Hill iron mine, hidden away in the middle of a wood. Back in our coach we left the heights to descend slowly to the village of Roadwater to see the W.S.M.R. station, now part of a private garden. This ended the visit to a region new to our society, interesting for its iron mining and railway remains situated amidst attractive hill scenery.

G.N.Crawford.

WORCESTER AND THE DICK BROOK - 11th MAY

Our good friend Bill. Gwilliam (President of the Worcester I.A.Society) is always a memorable guide and on this occasion he was assisted by Don Barton , Secretary of the Worcester Society.

We first visited the Dyson Perrin's Museum of Worcester Porcelain, where many of our members were enthralled by the exquisite china. I found an 18th century two handled mug a particularly attractive piece, with pale green hops and leaves on a white ground and discovered that this pattern, known as 'Worcester Hop' is still manufactured today.

Mr Gwilliam showed us many interesting sites along the river, we stopped at the building where locos used to be made, and passed the old vinegar works, once the largest in the world.

We then went to one of the most interesting furnace sites in the country, on a tributary of the Dick Brook at Sharpley Pool, immediately below a great dam. Hidden for many years, the remains of a smelting furnace, used by Andrew Yarranton some time between 1652 and 1680, were only brought to light when the dam was broken by a great overflow of water and scouring down the valley, uncovered the remains of a furnace with a cylindrical inner section. Fairly recent excavations have revealed walls, well cut stone channels and timbers across the water channel.

It is thought that the famous Andrew Yarranton experimented with tin plate at an early period, and our next destination was the remains of hearths , some distance down the river, where parts of tinned iron shoe buckles have been found in considerable numbers.

A remarkably enjoyable day was terminated at a pair of flash locks leading into the River Severn, as the shadows were beginning to lengthen and the sun to go down.

A. Chatwin.

SOUTH WALES - 9TH JUNE

Our coach made good time along the Head of the Valley road and we were early at Dowlais to meet Ray Bowen, one of the two honorary members of our society and leader for the visit. After a quick look at a large open-cast quarry we saw what was left of Dowlais ironworks and then the site of the town's High Level station. Then down the hill to Merthyr Tydfil to see the remains of its ironworks together with two terraces of worker's housing. It was also at Merthyr that we had our lunch, though it did seem rather a depressed area with a brewery delivery strike on at the time.

We next followed the A 470 southwards down the valley past other ironworks sites, at two of which we stopped, and ill-fated Aberfan village, until reaching Quaker's Yard. Here we walked up the former track of the Pen-y-Darran tramroad to a well-preserved bridge where this well known tramroad crossed the river, well-known due to Richard Trevithick's locomotive which ran on this tramroad in 1804.

Ray Bowen then took us up the next valley to the west and our first stop was at Aberdare to see Brunel's station, complete even to its bell. Near the head of the valley our final visit was to the remains of Crawshay's extensive ironworks at Hirwaun together with the stone sleepers of the plateway.

Back once again at Dowlais we left Ray to collect his car. His vast knowledge of South Wales was, as usual, imparted with his great sense of humour and no trip would be complete without his impersonation of 'Monty', given this time at Dowlais Upper Level if I remember rightly.

G.N.Crawford.

LEICESTER - 6TH JULY

Leicester was the goal of last Saturday's excursion of the G.S.I.A. Leicester boasts no fewer than ten museums within its boundaries and visits were paid to two of them, both forming part of the Museum of Technology for the East Midlands.

At the Abbey Pumping Station Museum members were able to inspect four two-cylinder compound beam engines erected in 1890-91 by Gimson & Co. of Leicester. With a 15ton beam and working at twelve strokes a minute each was able to pump 208,000 gallons of sewage an hour and worked until 1965. Housed in the old boiler house was a fine collection of horse-drawn carts, wagonettes, and a horse-bus: early

motors and motor and pedal cycles, including a Pederson machine built by R.A.Listers of Dursley. Also in store pending restoration was boot and textile machinery, a huge steam excavator and four railway locos.

These locomotives will go into the Railway Museum when it is rehoused. At present the building in Stonegate, which was next visited contains two early Midland Rly. engines - a kirtley 4-2-0 and a Johnson single wheeler; a very early North Eastern electric loco and a Brush tank engine of 1906. Along the walls was a splendid series of photographs of the building of the Great Central's London Extension from Annesley Junction to Marylebone.

After spending a couple of hours seeing other places around the city centre members were taken to see the site of the Foxton Incline on the Grand Union Canal. This was opened in 1900, when traffic had already begun to fall off and by 1911 the lift was no longer economic and was closed. Still visible is the track bed of the rails upon which the two 80 ft long caissons were hauled up broadside on ; and the lower part of the old engine house. Nearby the staircase of ten locks, which the lift had made redundant but was repaired in 1911, was busy with four or five pleasure craft, while three more waited their turn to ascend. Nowadays the passage takes an hour compared with the eight minutes needed by the lift!

N.C.Ferry.

SHEFFIELD - 7TH SEPTEMBER

The G.S.I.A. fulfilled a long-standing desire when they paid their first visit to Yorkshire . Despite the rain the visit to Elscar Colliery, the Top Forge, Wortley and the Abbeydale Industrial Hamlet was greatly enjoyed by 45 members.

At Elscar they saw one of the few Newcomen Atmospheric Pumping Engines still in existence. Built in 1787 it was last used in 1923 during a breakdown of the later electric pumps.

Wrought iron was made at the Top Forge, Wortley from 1640 to 1912. From 1838 onwards the forge concentrated on railway axles and chains. It was claimed that a Wortley axle had never failed in service. The forge is now being restored by the Sheffield Trades Historical Society.

At Abbeydale Hamlet steel was made by the Huntsman process and used for the manufacture of scythes and other agricultural edge tools. The visitors were able

to see a crucible furnace being fired and the tilt forge hearth being kept bright by a two-cylinder water-powered blowing machine. In several small hand-forges various kinds of ironworking were being demonstrated. A comprehensive exhibition of steel-making through the ages was brought right up to date by the inclusion of an 'Avon' Turbot jet engine.

The very successful visit was organised by Mr Harry Townley.

N.C.Ferry.

BY NARROW BOAT TO SHARPNESS - 5TH OCTOBER

The trip to Sharpness Docks was so popular that it had to be run in duplicate on Saturday and Sunday. Both days were 'sell-outs' and despite the boat's capacity of 50 a few would-be passengers had to be disappointed.

'Skipper' Tony Jones provided an interesting commentary on places passed by the canal and on its history, enlivened by personal reminiscence. At Sharpness, a guided tour of the docks was led by Mr Jonathan Thomas who was a mine of information about the working of the docks and the wide range of goods handled. Some of these intended for animal feeds or fertilisers were extremely distinctive in odour, to say the least!

N.C.Ferry.

THE CHEW VALLEY - 20TH OCTOBER

The last excursion of the year to the Chew Valley in Somerset was led by Bristol I.A. Society member Mrs Joan Day, a well known writer on local industries. The tour commenced with a visit to the source of the Chew at Chewton Mendip; here in 1846 the recently formed Bristol Waterworks Company tapped the source of the river to provide a supply of pure water to the city. Much of the original pipeline is still in use, supplemented by a second pipe in 1884. The reduction in the flow of water in the river because of this abstraction meant that the development of industry along the valley was restricted. Even so, the Waterworks Company was forced by Parliament to build two "compensation" reservoirs to store surplus water in winter and then release it in summer to ensure a supply for the several corn mills on the stream.

The next call was to the first of these reservoirs, at Litton; here there was a short hold up until a friendly farmer brought his tractor to extricate the coach which had become bogged down in soft ground.

Chew Valley Reservoir was planned in the 1930s but construction was delayed by the war and it was only opened some 20 years ago. A former paper mill at Herriott Bridge has disappeared; half a mile down stream Stratford Mill was removed and re-erected at Blaise Castle, Bristol, but Moreton Mill, where gunpowder was made between 1730 and 1800 is now beneath the water of the lake.

The party then visited the ochre mines near Winford and the colour works of Winford Red Ltd. These ceased production in 1973 when loss of cheap local coal through the closure of the North Somerset Coalfield made them uneconomic.

After stopping at Pensford Station to walk along the track bed of the former North Somerset and Bristol Railway over the magnificent viaduct, the last port of call was to the old tannery at Woollard. This was originally a monastic foundation and probably dates back before the Norman conquest. Here Mrs Cross, the present owner, conducted the visitors round the site which was completely overgrown, until she began to clear away the undergrowth and restore the old water channels.

N.C.Ferry.

REGIONAL I.A. CONFERENCE

The Annual Conference of Western I.A.Societies was held at Exeter University on March 30. (1974)

Before lectures commenced on Saturday morning there was a short tour of Exeter, which I was unable to join, but with several G.S.I.A. members managed later in the day and on the following morning, to see some of the town's ironwork, the Waterloo Bridge, the excellent Maritime Museum and the nearby old warehouses used as background to the popular T.V. series "The Onedine Line".

The Conference was opened by Prof. Walter Minchinton, chairman of the Exeter I.A. Group. Alan Mazonouricz spoke on "The Exeter and Crediton Canal" (Exeter I.A. Group), Brian Nicholls on "Bedford housing in the West County" (Devonshire Ass. I.A.Group), R.L.Burgess "Lead Mining at Charterhouse" (BIAS) and John Stengelhofen "The Cornish China Clay Industry" (Trevithick Society), Anthony Jukes and C.Robins Williams "The Rumney Railway to the Rudry Ironworks" (Oxford House I.A.Society).

Our own contribution was I.M.Parsons on "Compiling a Gazetteer" outlining some of the problems we met in

producing the Gazetteer of I.A. sites in Gloucestershire, which had been inspired by "I.A. in Devonshire".

One of the most interesting talks of the day was "The Somerset Brick Industry" by Brian Murless which sent the GSIA contingent home on a very circuitous route visiting a number of abandoned brickworks, including a great round Hoffman kiln at Poole, Wellington, like an industrial Albert Hall. The central stack was surrounded by a circular kiln for firing bricks, with an outer surround of rail tracks for transport. Upper drying rooms must have been at least 160 ft across with a wooden roof with iron tie bars. There were hoists for taking the bricks up and down, wooden shutters that lift upwards along the top story for ventilation, and iron handles sticking up round the stack for controlling the dampers of the kiln.

Amina Chatwin

THE OLD METAL MINES OF MID-WALES David E. Bick.

A3. 52pp, illus. & maps. 75p Published by The Pound House, Newent, Glos.

As the rare copies of Dr. O.T.Jones' classic memoir become ever more dilapidated on library shelves without sign of an official replacement the need for further literature on the important Central Wales orefield becomes steadily more pressing, and this need seems now to be excellently met by David Bick's series, 'The Old Metal Mines of Mid-Wales', the first part of which is here noticed. Mr Bick has not, however, set out to cover the same ground as O.T.Jones, largely ignoring economic geology, but concentrating instead on a description of the more important mines, and a historical review. These aims have been well attained, and anyone interested in the area, or indeed in British mining in general, can hardly afford not to obtain the series. A most interesting discourse on water powered engines is included, as well as some biographical notes on the Francis family, once so prominently connected with the Cardiganshire mines, and on John Taylor.

A fairly extensive acquaintance with the area has not enabled this reviewer to detect any errors in Mr Bick's research, and indeed historical inaccuracies made elsewhere have been corrected. One might disagree with the implication that the ore deposits of the district end at a depth of 1,000 feet, and query whether John Kitto and his associates would have worked Frongoch for twenty years, getting 50,000 tons of blende therefrom, largely obtained by stripping the walls of old lead stopes, without making a satisfactory profit, but these are perhaps matters of opinion and do not justify one in carping at a very well worthwhile and accurate publication.

George W. Hall.

LECTURES PAST

It would not be possible here to list the many lectures we have had during the ten years since the society was formed, but it would not seem right to let this journal go by without some mention of them. These winter courses run in connection with the University of Bristol were begun in Stroud in 1964, and in 1966 it was decided to have an experimental course of six in Cheltenham. For a while lectures were also given in Gloucester, but it is the Stroud and Cheltenham ones that have continued to flourish and to attract new interest and more members for the Society.

Originally these lectures were entirely organised by Mr W.R.Taylor of Bristol University Extra Mural Dept. until his retirement in 1970. Since then the GSIA have had to find and book the lecturers, no mean task when it involves obtaining at least twenty-four speakers a year. The University provides the programme leaflets and the financial backing without which the courses would not be possible.

For several years Mr I.M.Parsons organised the lectures and now the task is in the capable hands of Mrs Mary Townley, who deserves our gratitude and thanks.

There have been talks on Slate, Stone, Marble, Iron, Copper, Brass, Silver, Gold, Glass, Silk, Tinplate, Brickmaking, Brewing, Textiles, and coinage. On bicycles, tramways, roads, locomotives and railways (including the G.W.R., Chester and Holyhead, West Somerset Mineral, North Eastern, and railways in the United States). On rivers, bridges, reservoirs, boats and pilots, and lighthouses; on canals, (the Llangollen, Stroud Navigation, Aire and Calder among others). On watermills, windmills, horse-engines, steam engines, furnaces and semaphores; agriculture and agricultural implements. The Industrial Archaeology of countries, Scotland, Wales; of counties, Hampshire, Worcestershire; areas, the Forest of Dean, Chew Valley, Nettlebridge Valley, Mendips; of towns, Poole, and villages, Chalford, Dudbridge and Blockley. Archives and the industrial history of individual companys. Industrial architecture. We have ranged wide from Roman aqueducts though medieval building techiques to aviation.

CHELTENHAM SAUCE!

Without throwing down the gauntlet to the Worcestershire I.A. Society, with whom we are on very good terms, may I reprint the following from the January Newsletter of the Cheltenham Society.

We have recently had a letter from a member, one of an old Cheltenham family who himself lived in Cheltenham from 1914 to 1931, which may be of interest to our members. "..... There used to be one (plaque) inside Nathaniel Smith's chemists' shop above the Rotunda commemorating the invention there of Lea & Perrins' Worcestershire Sauce (which ought therefore to be called "Gloucestershire Sauce" or, ideally "Cheltenham

Sauce"!)) as the inventors took their sauce with them to Worcester at a later date. The shop is now part of Barclay's Bank and the plaque no longer exists. When I discovered that it had disappeared I made enquiries at the bank and at Messrs Lea & Perrins and they did not reply, nor did they mention their Cheltenham connections in the broadcast they did on "Woman's Hour" Radio 4 not long ago..... I wonder if any member of your Society remembers the plaque and can vouch for the truth of the "Worcestershire Sauce" source at Montpellier Spa!....."

correspondence

ARISING FROM THE GAZETTEER

There are not now many copies remaining of the Gazetteer of I.A. sites in Gloucestershire published by the G.S.I.A. about a year ago. Many reviewers were enthusiastic about the publication, commending it for brevity, efficiency, and being simple to use, though one lady at the Exeter conference complained that she was not able to locate the sites from the sketch map and O.S. grid numbers while engaged in driving her car at the same time!

The following selections are from correspondence received by the Rev. W. Awdry, editor of the Gazetteer. I hope I may be forgiven for having concentrated on errors or controversial points, rather than eulogies, since it seems more constructive and up-dating.

Alec. K. Pope points out "that all the F.O.D. Tramroad mileposts (you refer to that at S0649119) have now disappeared. The last two were the $3\frac{3}{4}$ near Blue Rock railway tunnel, and the $4\frac{1}{2}$ near the Methodist Chapel at Cinderford Bridge. The latter was removed about 12 months ago, and is now, (I believe), at the Winchcombe Museum."

Charles Hadfield says "There are remarkably few slips in such a detailed work: in a careful reading I only noticed one of any importance. The architect Robert Mylne, who died in 1811, has been credited with work in 1827, the early 1830's and 1845. Against this, it is a pleasure to note the accuracy of the whole: for instance, that Siddington tower, universally considered locally to be 'something to do with the canal' is correctly given as a

former windmill, and that Ashleworth Quay is rightly described as a ferry point for towing horses as well as a village quay."

P.G.Rattenbury. "A small error has found a place on page 11 where the map reference quoted for the Monmouth Tramroad over-bridge across the Staunton road, (SO 545108) gives, in fact, the location of a railway bridge constructed by the later, Coleford Railway, and opened in 1883. There was, and maybe still is, a tramroad bridge in the immediate vicinity at SO 545111."

From Nigel Spry to the Rev. W. Awdry. Northgate Turnpike. "One point I would like to raise with you is the wording of the short note on the Northgate Turnpike on page 4. You say the road was from Gloucester to the Air Balloon, (i.e. the top of Crickley Hill) and bypassed Birdlip Hill and was opened in 1697. There is no evidence to suggest that a new road was built up Crickley Hill at this time. The 'Act' only established a new means of obtaining the money for the two sections of road already in use - the Birdlip section and the Crickley section. This is obvious from the preamble of the Act of 1698, (I think rather than 1697), which is reprinted on page 10 of the GSIA Journal for 1971. Page 6 of the same report by the way records that in 1704 the Birdlip road was still the main one to London."

From the Rev. W. Awdry to Nigel Spry:-
"I am most grateful for your correction about the Birdlip and Crickley Hill Turnpikes. This thanks to you will be put right in the next edition of the Gazetteer."

From Braban Public Relations Ltd, 43 Great Marlborough Street, London, to Rev. W. Awdry:-
"We were interested to read in 'The Citizen' of Jan. 23rd about your book on local industrial history. There appear, however, to be one of two mistakes in your text. For example, Musket's steel was alloyed with tungsten not titanium, and the process was bought by Samuel Osborn (no 'e'), not Joseph Osborne."

From the Rev. W. Awdry to Braban Public Relations:-
"I am of course, as Editor, prepared to accept responsibility for the mistake made by my informant (Tungsten, not Titanium); but I am not prepared to take responsibility for a mistake made by the Citizen's reviewer (Joseph Osborne instead of Samuel Osborn)!"

From a review by K.G.Ponting:- Woollen Industry.
"The present reviewer can only claim expert knowledge of the textile trade, which incidentally is included under 'Light Industries'. He rather feels it deserves a section

to itself when one recalls the great importance of the woollen trade in Gloucestershire industrial history. When another edition is printed, as will surely be the case, a few minor amendments to this section could be made. There were important sheep farms on the Cotswolds before the Great Famine of 1315/17, and water power was used for the textile processes of fulling before the 15th century. These statements are made in the general introduction and contradict those made in the 'Light Industry' section, which states correctly that Cotswold sheep were producing some of the best wool in Europe by the end of the thirteenth century, and that fulling stocks are first mentioned at Temple Guiting in 1185.

Fulling stocks were, I think, always powered by water wheels in Gloucestershire. If fulling was done by foot then the trough used was not called a fulling stock. In Holland windmills were used for driving fulling mills but not in the West of England. Therefore the statement that these stocks were probably powered by water wheels is misleading.

The important rotary shearing machine mentioned in this section was not actually invented in Gloucestershire - it came from America - but was fully developed in the county and, as stated, led to the invention of the lawn mower by a Gloucestershire engineer named Budding. However, by placing the account of this invention before the mention of the building of the first mills c. 1800 - 1820, an impression is given that it came earlier, which is not correct. The crucial invention that turned the previously patented idea of using a circular shearing machine into a practical operation was made by W. Lewis of Brimscombe in 1815.

More generally, Yorkshire was certainly producing a larger quantity of cloth than the West of England by the end of the eighteenth century. This century had been a great period of growth in the West Riding but of more or less stagnation in the West. Furthermore, the statement that the total output of cloth has barely declined (i.e. at the present time) is, I think, misleading. We have no very reliable statistics of the yardage actually manufactured c. 1800-20 but I suspect very much more cloth was produced in Gloucestershire then than now. Certainly the trade was, relatively speaking, much larger. Capital calculations are difficult to make but the Gloucestershire woollen trade at the time was probably using £3,000,000 of capital and if we multiply this figure by twenty, which almost certainly under-estimates the changed value of money so as to bring the figure to approximately today's equivalent, this would mean £60 million, a figure far in excess of

what is employed in the trade today. This was also, of course, far and away the largest industry then in existence in the county.

One small omission may be noted in the textile section, namely the round towers used for drying wool. The best of them is at Woodchester, within sight of Dunkirk Mill."

Some statistics supplied by L.F.J.Walrond to the Rev. Awdry in relation to the above review:-

1820's Cloth output	1,769,762 yards per annum.
1841 " "	1,151,280 " "
1971 Cloth output from three firms	
Strachan, Hunt & Winterbotham	360,000 yds
Playne & Longfords.....	310,200 yds
Marling & Evans	462,000 yds

1,132,200 yds

hence only 20,000 yds short of 1841 figure, or approximately 2%

Presumably the yardage produced in the West Country today if compared with the yardage of all cloth produced over the country would be very small compared with a similar comparison made in 1820, which raises the question of how much can be judged by statistics. Certainly anyone engaged in trade or industry today will be well aware that inflation means that returns on capital are almost negligible, that equally to judge the size of an industry by the capital involved could possibly be similarly misleading. (Editor)



It is hoped that all the above extracts and comments will be regarded by all those concerned, in the same spirit in which they have been selected, simply as an aid to controversy, interest and clarification. Editor.