

VOLUME 7 NUMBER 2 1980



AIA Education Group forges ahead. At the 1979 Ironbridge AGM the Society gave an enthusiastic welcome to the idea of a separate Education Group **Newsletter**. This was subsequently discussed at the December Council meeting and it was decided that, given sufficient 'copy' the first issue would appear as an insert in Volume 7 Number 2. Editor David Alderton went back to Norwich to prepare the ground.

The overall result was extremely satisfactory, so much so that it has been decided to hold over several conventional AIA Bulletin features and give pride of place to the Education Group's deliberations. We look forward with considerable interest to the next Newsletter and in the meantime invite you to apply to David Palmer for his March **AIA Education Conference**.

Editorial: Starting the editorial for the first issue of a new venture is not easy, especially for those with rather limited editorial experience. Can I, therefore, say that here is the first, but I hope not the last, edition of the AIA Education Group's newsletter, and that I shall endeavour as editor to respond to the wishes and needs of the readership.

The purpose of this newsletter is to provide a link between all those interested in teaching industrial archaeology at all educational levels from primary to post-graduate research, not forgetting continuing education. It is hoped that it will provide a means of drawing attention to information useful to teachers of industrial

archaeology, but that in addition it will provide a forum for the discussion of views and the promulgation of new ideas and approaches, and that it will be of as much assistance to those anxious to introduce industrial archaeology into their teaching, but who are uncertain as to the approach to use, as to those already actively engaged in the field, but anxious to extend their repertoire. It is intended that certain items should appear regularly: these include details of forthcoming courses and conferences, reviews of books intended for use in the teaching of industrial archaeology or especially useful for teachers, and a series of guides to the main sites of interest and of likely use for teaching purposes in a given area: in this issue Owen Ashmore has started the ball rolling with a survey of the Manchester area.

Otherwise, the future contents are very much in the hand of the readers. Letters and comments would be welcome: even more welcome would be articles (up to about 1500 words) on any aspect of industrial archaeology within the educational system. I hope for a mix of practical advice, accounts of work or projects undertaken, and more philosophical considerations of the role of industrial archaeology. Though certain issues of the newsletter might concentrate on the education of particular types of student, overall my aim is that all fields should be covered. What is certain, though, is that without readers' contributions the newsletter cannot long continue. The present issue inevitably consists of articles commissioned from my friends and acquaintances, but as a source of articles and comment the supply must inevitably diminish, leaving me without articles (and probably without friends).

Please send any contributions, suggestions or offers of material to me at Keswick Hall College of Education, Keswick, Norwich NR4 6TL (0603 56841). I would dearly like to be overwhelmed with a deluge of material in time for the next issue, planned for the summer of 1980.

David Alderton

Apprentice Training and Industrial

Archaeology: R G Round It may be difficult to see any immediate link between apprentice training and industrial archaeology. However, Eastern Electricity for some years have been assisting with practical industrial archaeology work as a means of developing apprentices and other young people. We have for some years sent apprentices and trainees on courses such as those offered by the Outward Bound Schools to further their individual development. There are, however,

very few places available. For some time we had been seeking suitable projects which had a connection either with the Electricity Supply Industry or the application of mechanical power for public benefit, that would provide for many of our young people a group activity which had implications of community service that would help to develop a sense of social responsibility, which is not easily introduced within the normal training syllabus.

In 1974 a subject for such a venture was discovered in the form of the disused beam engine driving a Fens drainage pump, known as the Stretham Old Engine, near Cambridge. This pumping station, which is of great industrial archaeological interest, is maintained by a preservation trust and discussions with the representatives of the trust revealed a mutual interest between their need to keep the pump in better shape and our wish to provide a development opportunity for some of our young trainees.

The Stretham Engine Project, as it became known, proved to be the start of a series of such projects. Altogether three projects were held at the Stretham Engine, in 1974, 1975 and 1977.

In 1976 another opportunity for help came to our attention at the Rural Life Museum at Gressenhall in Norfolk, where there was a large number of old machines, including a number of steam engines which required renovation and display. In total three visits have been made, in 1976, 1978 and 1979 to the Gressenhall Museum, during which time a great deal of restoration, display and building reconstruction was done.

Until this year (1979), the project had been restricted to apprentices who were being trained to work in the Electricity Supply Industry as electricians or electrical fitters, overhead line men or cable joints. In 1979 the projects were widened to include other young people, both men and women.

Both the Stretham Old Engine and the Rural Life Museum are ideal situations for the type of development activity we wished to undertake. Each provided a number of varied tasks on a sufficient scale to occupy a labour force of about 20 young people, working for periods of up to a fortnight, so that at the end of the time an identified task could be finished and the participants could see the completed results of their work. There is in each case, near to the work, a suitable site for camping, which is an essential part of the project.

The prime objective of these projects is the development in young people of a sense of

social responsibility and greater self-reliance through the use of their skills in the furtherance of some socially useful objective, which without outside assistance would not be realised.

The industrial archaeology, therefore, is only secondary to the main purpose, but as it has happened, so far the projects have all contained a large element of industrial archaeological work.

The advantages to the society or other organisations concerned with preservation or conservation that our development projects offer, is that they can have the services of a well organised and enthusiastic group of young people, strongly motivated and with good direction, which in the space of about 14 days can produce results which might take years with the often fragmented and intermittent activities of the part-time enthusiasts.

The organisation of the projects is important. Each is put in the charge of a young professional engineer who has had two or three years of field experience since his formal training, and he is assisted by three or

about the project, illustrating with colour photographs the work which has been done, a copy of which is presented to every member of the working group.

The six projects so far run have been fully successful in meeting both the objectives of Eastern Electricity and the organisation for whom the work has been done. As for the 200 young people who have taken part in them, almost without exception they have been reluctant to pack up their things and go back to their normal work, however gruelling and difficult the tasks they have been engaged on proved to be. It is significant that many of the apprentices who have taken part in the first projects have been eager to volunteer to assist in the running of the later ones.

We wish to thank the Eastern Electricity Board for permission to publish this article.

The Use of Creative Drama in Industrial Archaeology in Middle Schools: Mary Manning
With the emphasis in drama work in middle

discipline for this sort of work. Separate groups can work out sequences without disturbing one another, and the difficulty of making-up words in a way and in a dialect suited to the subject is obviated. The important thing is to give a better understanding to the children of what it was like to be alive and working in the period of time or in the industry being studied. Whole-hearted, imaginative acting will give them this.

Without visiting a site, drama work can be done to augment the knowledge of children. Scenes can be devised on themes of industrial history which make very dry reading in textbooks, for example the installation of machinery in a textile mill and the subsequent rioting and machine-breaking. On the theme of the introduction of farm machinery, children can mime reaping by scythe and, by contrast, reaping with the machines which have been developed since, or hand-weeding and hoeing being superseded by tractor drawn machines. In this

Apprentices working on Strettham Old Engine



Restoration of cattle weighbridge at Gressenhall Rural Life Museum



four engineers in training who are in their final year. For them the project is an opportunity for managing, organising and controlling. They are required to prepare a complete specification of the work to be done with schedules of materials, work programmes, including critical path programmes where necessary, and financial budgets. They also have the task of selecting the workforce from volunteers from craft apprentices who have just completed their first year of training, and from other young people who are not engaged in formal training courses. They also select from volunteers three or four apprentices, who are just completing their final year of training and who therefore have more advanced skills and the experience to act as chargehands for working teams.

The organisers are also responsible for making all the necessary arrangements for the establishment of the camp and its administration, and for organising leisure activities for filling in such little free time as the workforce has during the project. A final task for the organisers is the preparation of a brochure

and primary schools being on Creative Drama, it is possible to use its techniques to enhance the scope of many topics and themes, and this is especially so in the field of history.

The past, however recent, stimulates the imagination of children. By devising and action out scenes from any particular time, a much clearer idea of that time is engendered. For the under-thirteens, people and how they lived hold fascination. In introducing children of this age to industrial archaeology, I have found drama work of great help. For example, 12-year-olds surveyed a set of farm buildings near the school. To bring this survey to life, research was done into farm conditions of about 1900. The children then mimed, from their own ideas, scenes of farm work and cottage life. Smithing, ploughing, seeding, haymaking, weeding, cooking, laundering, etc were mimed, with the children so engaged in their theme that they complained of stiff backs and aching muscles. Having visited a lime-kiln, a class mimed the heavy work involved in lime-burning.

It has seemed to me that mime is the best

way farm work of 1900 with its emphasis on repetitive handwork can be contrasted with modern farming with its small labour force needing a knowledge of machinery and machine repairs.

In introducing work in industrial archaeology by any method in the primary school, it cannot be emphasised too much that it should not be tackled in isolation. Industrial history is one facet of the whole of history and should not receive undue emphasis just because it is a relatively new discipline. For the same reason, drama work of the kind described here should be part only of a continuing scheme, which utilises it as a means of enlarging the pupils' experience, and not pursued in isolation as a one-off gimmick.

Industrial Archaeology in the Manchester Area: Owen Ashmore: Teachers in the Manchester area are fortunate in having a great opportunity to develop an interest in the study of the local environment through the medium of Industrial Archaeology. Wherever the school or college is situated, there will be local evidence in the form

of the physical remains of industrial history, especially of the period of the Industrial Revolution and beyond. They may include domestic workshops (or weavers' cottages as they are often known), textile mills, both water-powered and steam-powered, and ranging in date from the 1780s to the 1920s, industrial communities and workers' houses, coal mines and colliery tramroads, engineering works, paper mills, corn mills, canals and railways. Particularly at secondary school and further-education level there is scope for fieldwork and recording and the possibility of obtaining advice and assistance from a number of sources, referred to below. Local libraries, especially in the major centres, have resources in terms of published material, trade directories and, above all, maps which will often be a starting point. The approach through Industrial Archaeology can also be combined with wider geographical, geological, scientific or architectural studies as part of a more general view of the environment.

For the teacher who wants help and information a short introductory reading list

North West Museum of Science and Industry, 97 Grosvenor Street, Manchester M1 7HF, (telephone 061-273 6636). The major industrial museum of the area with collections of textile machinery, steam and internal-combustion engines, machine tools, hand-paper making equipment, early photography, electrical and electronic equipment. Very valuable place to visit for anyone teaching the development of the factory system in textiles. The children can see spinning wheels, handlooms, spinning jennies, Arkwright water frames, a Crompton hand mule, and textile-finishing equipment. The Museum has an Education Service and can arrange classes and demonstrations (send stamped, addressed envelope for information). They publish pamphlets and Industrial Archaeology trails. For those not so near to Manchester there are collections of early textile machinery in **Tong Moor Library, Bolton** and the **Lewis Textile Museum, Blackburn**. Also of great interest is a museum on the site of an 18th-century woollen fulling mill at **Higher Mill, Helmshore, Rossendale**, but this is not generally accessible to school

museum with two reconstructed mines. Drift mine as in the 1930s with pit yard, blacksmith's shop, lamp room, fan room, part of a chain-haulage system, ventilation and pumping equipment. Shaft mine with pit cage, old workings with hand-getting equipment, modern face with coal-cutting machinery and hydraulic props, roadway prepared for shot firing. Will help to give children a picture of working methods and conditions.

Peak Forest Canal, Marple Good place for a towpath walk to see canal structures and engineering. Start from the junction of the Peak Forest and Macclesfield Canal, with roving bridge, bridge, warehouse and tollhouse, and nearby remains of limekilns built in late 18th century by local industrialist, Samuel Oldknow. Down flight of 16 locks with fall of 210 ft, past fine warehouse also built by Oldknow, to aqueduct over river Goyt, three arches, 100 ft above river level. Further out along the Peak Forest Canal is the site of the former terminus at **Buxworth**, with three basins, remains of wharves, limekilns, and start of Peak Forest Tramroad, horse-drawn

Quarry Bank Mill, Styal



Workers' houses, Oak Row, Quarry Bank



is given at the end of this article, which will provide a general idea of the nature and scope of the subject and of the methods involved. The Extra-Mural Department of Manchester University (Manchester M13 9PL) and the North-Western District of the Workers' Educational Association (College of Adult Education, All Saints, Manchester 15) provide every year evening courses in Industrial Archaeology, not only in Manchester itself, but in the towns of Greater Manchester and in parts of Lancashire, Cheshire and Derbyshire. The Manchester Region Industrial Archaeology Society (Secretary Mrs Anita George, 30 Kingsway, Worsley, Manchester) provides a meeting point for those interested in the industrial history and archaeology of the area. The Society arranges lectures during the winter, visits both within the region and further afield, and has two field secretaries, who, within limits, are available for advice to teachers contemplating a project.

There are many museums and places of interest within the region which teachers can arrange to visit. The list below is a selection of some of the major examples.

parties. **Quarry Bank Mill, Styal**, Wilmslow, Cheshire SK9 4LA (telephone — Wilmslow 27468). Fine example of former water-powered cotton-spinning mill and associated community. Mill built in 1784 by Samuel Greg and extended in early 19th century. The buildings, weir, mill race and wheel pit for large water wheel survive and are now being developed as a textile-history museum and study centre. The adjoining community includes rows of workers' cottages built in the 1820s, apprentice house for the boys and girls who worked in the factory, school, village shop and Unitarian chapel. Open most days throughout the year.

Nether Alderley Mill Very interesting restored water-powered corn mill of sixteenth-century origin near Alderley Edge. Two overshot water wheels one above the other, and fully-operative machinery. Owned by National Trust and open limited days and hours (enquiries to National Trust, Styal Estate Office, Oak Cottages, Styal, Wilmslow — telephone Wilmslow 523012).

Buile Hill Park Museum, Eccles Old Road, Salford (telephone 061-736 1832) Coalmining

railway, linking the canal with the limestone quarries south of Buxton. It is possible to walk much of the route of the tramroad and to see the former self-acting incline at Chapel-en-le-Frith.

Worsley A good place to study one of the region's first canals, the Bridgewater, opened to Manchester in 1761. At the Delph are the entrances to the great system of underground tunnels, eventually some 46 miles, giving access to coal faces at three different levels. Nearby is the Packet House and steps from which the passenger services to Manchester and later to Runcorn started. There is a pair of early dry docks, a warehouse and a former limekiln. It is worth going also to **Barton** to see the site of the famous three-arched aqueduct over the River Irwell, built by John Gilbert and James Brindley, replaced by the present equally important swing aqueduct, built in connection with the construction of the Manchester Ship Canal.

Liverpool Road Station, Manchester. Terminus of the Liverpool & Manchester Railway, opened 1830. Not at present open to the public, but likely to be developed as a museum site.

Two-storey passenger building and early ticket office, early goods warehouse. 1980 marks the 150th anniversary and there will be celebrations and exhibitions during the Summer culminating in the first half of September. The Extra-Mural Department of Manchester University is organising a week-end residential course about the railway (5th–7th September). Information Centre at the Station open Saturdays and Sundays or details from Celebrations Organiser, David Sumner, at Greater Manchester Council, Piccadilly Gardens, Manchester M60 3HP. Nearby is the Castlefield Terminus of the Bridgewater Canal, Central Station 1880 with one of the finest train sheds in the country, and the Great Northern Railway warehouse in Watson Street, with a system of road, railway and canal interchange.

Suggested Reading

Owen Ashmore **Industrial Archaeology of Lancashire**, 1969 (out of print, but available in local libraries, new edition planned).

a Pass Degree. No initial qualifications are demanded, but evidence is usually required of a candidate's ability to profit from the course. Many of the Certificate Courses are in subjects which appeal to professional interests, like Management Studies, but there are also more general interest courses such as those in British Archaeology or Ecology. The purpose of all Certificate Courses is to enable candidates to study a subject in depth: they are not intended to be a qualification for professional purposes.

We had already run several one year courses in industrial archaeology in Leicestershire and Nottinghamshire when we suggested to Leicester University that the subject would be a good one for a Certificate Course. The ability to interpret field remains comes with experience, and experience is a matter both of time and perseverance. The response has been good both in terms of numbers and of quality of work: there has been the normal drop-out to be expected of a three year course and some students still have to complete written work, but the first thirteen Certificates in Industrial

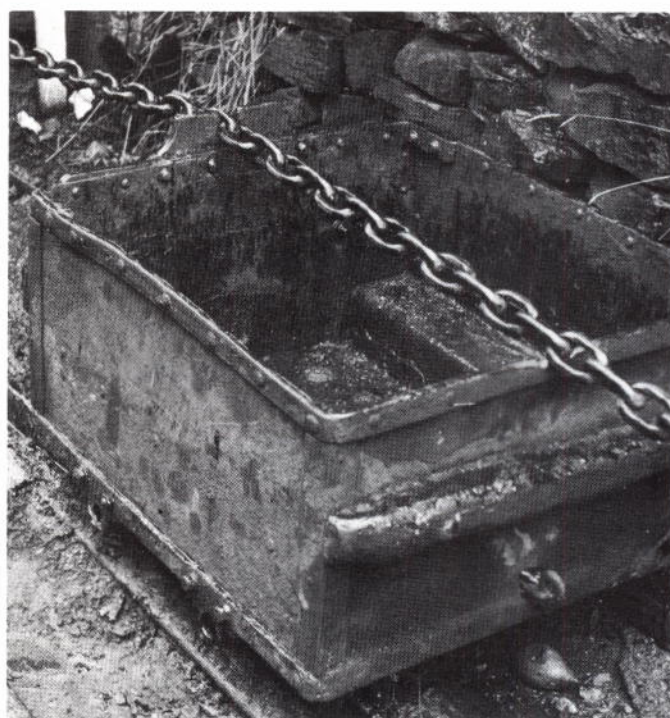
archaeology, to appreciate the needs of the class, and partly, perhaps, because of group resistance to outside lecturers. It would be interesting to know if tutors running similar long term courses have met with this problem. Assessment was the more difficult problem, since the traditional examinations by which most Certificate Courses were assessed were not always appropriate to a course with a large practical element. We did set an examination at the end of the first year course on field techniques, making use of photographs and drawings. For example, students were asked to examine four photographs and to identify the main feature in each — a waggonway, wheelpit, chimney and engine-house — and to suggest in what environments they might expect to find them. They were also asked to describe what steps they would take to record a building due to be demolished in three hours time.

The second year techniques course was examined by two projects, since it seemed senseless, for example, to ask students to write

Railway warehouses, Liverpool Road Station, Manchester



Coal tub and chain haulage, Buile Hill Park Museum



A D George **Introduction to the Industrial Archaeology of Manchester and South Lancashire** (Manchester Polytechnic)

J H Norris **Water-powered Cornmills of Cheshire** (Transactions of Lancashire & Cheshire Antiquarian Society, volume 75/76, 1969).

David Owen, **Canals to Manchester**, 1977.

Mary B Rose **The Greys of Styal**, (National Trust), 1978.

A Certificate Course in Industrial Archaeology:

David & Marilyn Palmer The Department of Adult Education of Leicester University has for some years offered a series of courses leading to the award of a Certificate or Diploma. These are normally of three years' duration and involve students in attendance on at least one evening a week during the academic year, in practical work or other forms of training, in the writing of essays and in sitting examinations or submitting work for other forms of assessment. The standard aimed at is that of

Archaeology were awarded in December 1979, five with Distinction.

Leicester Certificate Courses traditionally consist of a number of self-contained but related units, each of which can be taken by non-Certificate students as a normal evening class without the commitment to written work. Industrial archaeology lends itself to this kind of modular structure and we decided to run two main courses concurrently, each occupying a 1½ hour session for 30 weeks a year. One covered the techniques of the subject and the second, called the Themes Course, the content. An outline of the course is tabulated below, with the methods of assessment of each section of the course given in brackets. The two main problems in running the courses have been its wide range and its assessment. As an historian and an engineer, we were able to teach most of the course between us, but it seemed a good idea to invite other tutors to participate to give greater variety. This was not always successful, partly because it is difficult for tutors from other disciplines eg. economic history, with no knowledge of industrial

an essay describing various sources when they would be much better employed using them. For the conservation section of the course, they were asked to prepare a scheme for the conservation of an industrial site or monument and for its interpretation to the public. Some very interesting schemes were produced which were then sent to the relevant planning authorities for comment and for possible use. This proved very successful, and emphasises a further problem in a class where so much individual written work was demanded, the need to make students feel that they were doing something worthwhile and not just completing an exercise which had no further value. Copies of all the projects, including the third year studies of local sites, have been deposited with Leicester Museum of Technology and with Leicester Reference Library, and short reports based on these published whenever possible.

The course has involved an immense expenditure of time both by the tutors and by the students largely because of the choice of individual or group projects as a means of

assessment. But at the end of three years the students (not to mention the tutors!) had still not had enough! We are now organised as a research group, with several new people, which is engaged in the construction of an industrial sites and monuments record for the county — valuable work which the County Council has not the manpower to carry out itself. Additionally, the practical field week on a lead mining site in Wales aroused such interest that members of the class undertook a further week as volunteers in 1979 (see AIA Bulletin Vol 7, No 1, 1979) and several are going back again this summer. Do come and join us in Wales if you would like to learn field techniques in a practical way and at the same time contribute to the knowledge of ore-dressing processes in the nineteenth century.

The Formation of the AIA Education Group

Edwin Course: I am delighted to be writing this statement in the first issue of a Newsletter devoted to education for industrial archaeology. After a hesitant beginning, the Education

from eighteen members. It seemed that the best way to proceed was to convene a weekend conference, which would make it worthwhile for interested members to make long journeys. At the same time, to reduce travelling as much as possible, it seemed worthwhile to seek a meeting place in or around Birmingham.

The President gave his provisional approval, and after some problems, a booking was made at the North Worcestershire College of Education for February 1979. Papers were given on relevant subjects and a Business Meeting agreed on guidelines for future activities of the Education Group. Briefly, it was agreed to hold a national weekend conference, open to all interested in education for industrial archaeology, once a year, in March, at various places. In addition there should be a meeting linked to, or forming part of, the Annual Conference.

Because it was felt by Council that the meeting at the 1979 Conference might not give enough time for the consideration of

levels, and to provide a permanent forum for discussion on the teaching of industrial archaeology. It is anticipated that most activity will take place at local and regional level and it is intended to form between five and eight Regional Groups. The Central Committee will be responsible for an annual conference, the publication of a Newsletter, representation of AIA on educational bodies, research and advisory services.

BOOK REVIEWS

Under review are two of the series published by A & C Black in their Industrial Archaeology series, both written by Christine Vialls. One reviewer is an experienced teacher who has used an industrial archaeological approach for nearly ten years in her teaching, the other a second-year college of education student with a very good teaching practice record.

	Themes		Techniques Course
Year One	Social and Economic History of Britain c 1700 — 1900 (exam.)		Field Techniques (exam.)
Year Two	Power Extractive Industries Manufactures based on extractive industries. (exam.)	Practical Field Work	Conservation of industrial monuments and artifacts. Techniques of documentary research. (projects)
Year Three	Organic raw materials and their industries. Accommodation. Public Services Transport. (exam.)		Group projects involving field and document research, with individual guidance from tutors. (project)
IA Certificate Course Curriculum			

Group of the Association now seems to have achieved recognition and establishment, and it is perhaps an appropriate time to remind members of its story so far.

An ad hoc committee to discuss education for industrial archaeology met for the first time in Birmingham in May 1975. At the request of Council it was convened by Dr Michael Lewis. Initially this committee concentrated on further education, and a separate committee concerned itself with education in schools but at the Southampton Meeting in September 1976, it was agreed to combine the two committees. At the same time, I agreed to act as Convenor until such time as a more formal arrangement seemed appropriate.

A number of the people who had been invited to join the committee found great difficulty in attending it, and so it was decided to throw membership open to all members of the Association. To achieve this, I wrote a piece which appeared in Vol 5 No 1 of the Bulletin and received immediate replies

basic policy, a special meeting took place in London in July, 1979, attended by nine members. This enabled the Convenor to make a statement at the AGM, on the aims and functions of the Group. An encouraging feature of the proceedings at Ironbridge was that despite a relatively inaccessible venue and numerous counterattractions, the open meeting was attended by twenty two people. As was feared, lack of time precluded detailed discussion, but it was decided to seek authority from the AGM to proceed with the second conference, to be held in March, 1980, and to publish a Newsletter. These requests were later ratified by Council, and you are reading the first Newsletter. I also look forward to seeing you at the conference details of which appear in this issue.

Meanwhile, a summary of the aims and functions of the Group may be useful. Briefly the main aims are to stimulate interest in industrial archaeology through educational activities, to promote the teaching of industrial archaeology at all



picture by Mark Bundy

Bursledon Windmill

Blacks Industrial Archaeology Series. Roads

Christine Vialls. This book does not seem to me to be truly industrial archaeology: it is much more a synopsis of the history of roads in Britain and therefore belongs more properly in the sphere of social history. The last few pages do contain some information about roads in the recent, industrialised past, but far more space is spent on pre-history and on Roman times than on features dating from the end of the eighteenth century.

Many photographs bear no identification. A simple caption for each, giving location and site name would be of use to pupil and teacher alike.

Some sections are not entirely accurate. For example, on page 11, the statement is made that . . . 'monks were probably the only people who bothered to repair roads.' . . . Laws of as early as Edward II laid the responsibility for upkeep of highways upon the manor. No mention is made in the book of changes made in roads by enclosure, yet such enclosure roads form the greater part of the minor roads in the country today.

The vocabulary employed seems suited to perhaps the 8–9 year old and yet the content is geared to older children. Probably this was a brave attempt to introduce industrial archaeology to primary and middle school children, when interest in the discipline was just awakening. However, as an industrial archaeologist myself, I deplore the final paragraph in the book. 'If you keep your eyes open and search in libraries for information about roads, you too will be an industrial archaeologist.' . . . A great deal more goes into it than that.

I M Manning

Crossing the river. *Christine Vialls*. A & C Black, 1971. The book is well structured and well balanced, and has a good coverage of the different ways of crossing rivers. Its greatest asset is its picture content, which will make it suitable for all levels of ability in the middle school classroom. The explanations to the side of each picture are short and to the point, and because of this would not appear daunting to the child. The posing of questions within these explanations would give a child opportunities for thinking more deeply about the subject.

The book would be ideal as a reference book, and has a clear and concise index for this purpose. It has been structured, nevertheless, in such a way that it could be used as a workbook and followed systematically, though much of the book's freshness and appeal would be lost if used in this limited way. However it is used, the book cries out for personal enquiry and discovery through field trips. It would be invaluable in preparing children for such trips because it demands the necessary type of thinking. Children need to develop critical minds, and the book should lead them to ask why there are so many types of bridge, the reasons for the choice of particular sites, etc, and help them formulate intelligent answers.

The book would also be useful for its illustrations of types of bridge possibly not within reach: the pictures are of high quality, although colour would have increased the appeal. Diagrams explaining how various mechanisms work should prove invaluable to both pupil and non-mechanically minded teacher. The models shown are simple and small enough to be made in the classroom, and would help children gain understanding of the workings and construction of the real thing. The book encourages the active participation of the children in finding out specific information from local people, and encourages the use of maps, drawings and diagrams to explore and explain the subject.

The book could be used to stimulate interest and enthusiasm either on a class or individual basis, and one of its strong points is that it tries to get the children thinking about the subject in a variety of different ways and through different mediums. To make the most of its possibilities, the teacher would need to supplement it with extra material, preferably local, but it would make an ideal stimulant for a project. I think I would find it most useful.

Julie Ireland

Contributors

Professor Owen Ashmore, University of Manchester
Dr Edwin Course, University of Southampton
Miss Julie Ireland, student at Keswick Hall
Mrs Mary Manning, teacher at Norwich
Mr David Palmer, University of Aston
Dr Marilyn Palmer, Loughborough University
Mr R G Round, Eastern Electricity Board.

EDUCATION GROUP CONFERENCE

The Second Annual Conference of the AIA Education Group is to be held at the University of Aston on the weekend of 22/23 March 1980. If the education group is to be a success, those interested in the use of industrial archaeology in education should make every effort to attend, for it is at this conference that the basic details of the Group's organisation will be worked out. The time and venue have been chosen to be as convenient as possible for teachers in all types of education, and the programme (see below) has been made as broad as possible.

Programme

Teaching Industrial Archaeology

22 March

2.00pm	Registration
2.30pm	Welcome to the Conference
2.45pm	'Industrial archaeology within schools'. Bill Thompson & John Crompton
3.45pm	Tea
4.15pm	'Industrial archaeology within further education' Marilyn Palmer, Edwin Course, John Marshall, Walter Minchinton
5.15pm	Teaching the techniques of industrial archaeology. David Palmer
6.15pm	Discussion forum: contributions invited from the floor.
6.45pm	Break for dinner
7.00pm	Dinner
8.30pm	'Presentation for adults'. Joan Day
9.30pm	End of proceedings.

23 March

9.30am	'How much History do we need? Janet Spavold
10.15am	'Spreading the word'. David Alderton
11.00am	Coffee
11.30am	Business meeting
12.30pm	Conclusion
12.45pm	Lunch
2.00pm	Optional visit to Birmingham Science Museum or Sarehole Mill.

Accommodation is in single study bedrooms with washbasins. The cost will be £19.00 (£17.00 for AIA members) for residential participants, £9.50 (£7.50 for AIA members) non-residential but including meals except breakfast. A booking form is in this Bulletin, copies may be obtained from Mr D S Palmer, The University of Aston, The Sumpner Building, 19 Colehill Street, Birmingham B4 7PB. Bookings must be made by 29 February.

Affiliation of Local Societies to the AIA:

At the 1979 AGM in Ironbridge a resolution proposed by Chris Irwin was carried by the meeting proposing that the Council should report back to the 1980 AGM which a scheme or schemes for the affiliation of local IA Societies to the AIA.

The Council will be considering their proposals at council meetings throughout the year and any member or members wishing to express a view for or against the principle of affiliation — or indeed the method by which this might be implemented and operated — should write to the Secretary at the following address: Prospect Villa, Greenbank Road, Devoran, Near Truro, Cornwall.

Bursledon Windmill John Reynolds of the Hampshire County Architects Department and Dr Gavin Bowie of the Hampshire County Museum Service have supplied the following note:—

The present brick tower mill was built in the mid-18th century on the site of a former postmill, and last worked in about 1907. Until recently, the mill lay derelict without cap or sails. The cap fell into disrepair, and was finally boarded over and covered with asphalt to form a roof, and this has insured the preservation of most of the internal machinery.

There were never many windmills in Hampshire, as the chalk streams generally provided abundant and reliable waterpower, and water mills were cheaper to build and maintain than windmills. Hence comparatively few were built, and Bursledon is the only remaining complete tower containing any machinery, although a few pieces have been incorporated in the restoration of Charlton Windmill, near Petersfield, as a private dwelling.

Bursledon Windmill is also important nationally: much of its wooden machinery has survived unaltered since the 18th century, whereas most windmills were altered in the 19th century, to incorporate more durable cast iron components. It also complements Bembridge Windmill on the Isle of Wight, as it is taller, has an extra pair of millstones, and had a gallery for setting and reefing the common sails. At Bembridge the sails revolved on an iron shaft — at Bursledon the windshaft is all of timber, a rare survival. The existing mechanism for turning the cap into the wind, on the other hand is more advanced than that at Bembridge — but parts of an earlier curb with wooden cogs can still be seen.

Some 'first aid' repairs have already been carried out at Bursledon, and props have been inserted to support the floors which were in imminent danger of collapse. The present phase of work is concerned with making the windows and doors weathertight, with the careful removal of the remains of the cap to await restoration, and with the construction of a temporary roof. The final aim will be to restore the mill completely, retaining as much of the original fabric as possible, and for this it will be necessary to employ skilled millwrights. It is fortunate that an early photograph survives which shows the working mill in considerable detail, and this will be of great assistance in reproducing the appearance of the missing cap and sails. It is hoped that other photographs may perhaps come to light now that restoration has begun.

Grateful thanks are due to Mr and Mrs Jenkins, owners of the mill, who have offered every encouragement and to Mr Stevens of Bitterne, nephew of the last miller, who has made land available for a workshop and store.

The work to date has been generously financed by the Hampshire Buildings Preservation Trust from its own limited resources, but much more will be needed to complete the work and it is hoped that local and County-wide interest may lead to the formation of a Trust.

Editor's Note

Contemporary photographs can be of inestimable help in restoring windmills such as that at Bursledon, and county record offices can often help in this respect. Another valuable but little-known archive is the collection of

topographical water colours painted by the Lincolnshire artist Karl Wood between 1920 and 1950. As well as painting bridges, inns, houses and castles, Wood travelled throughout Britain recording windmills as he found them, and more than one thousand of his windmill pictures were purchased in 1977 by the Lincolnshire Museums Service. Each picture is annotated with the mill's location and date of painting. Many of them date from the period immediately prior to World War II, and anyone wishing to consult this extensive collection should write to Mr A J Gunstone, Director of Lincolnshire Museums at The Old Barracks, Burton Road, Lincoln LN1 3LY.

Another nationally-important archive of windmill (and watermill) topography is the Simmons collection housed in the Science Museum Library at South Kensington. Herbert Simmons compiled over 200 folders of information on British mills and these, supplemented with 300 maps and over 2,000 photographic negatives, can be consulted on written application to the Keeper of the Science Museum Library, South Kensington, London SW7 5NH or by personal application Monday-Friday 10.00–17.30.

Special Interest Groups: At the 1979 AGM it was agreed that the formation of special interest groups should be encouraged and members were asked to let Walter Minchinton know of particular areas which could be developed in this way. So far the following suggestions have been received:

- 1 **Cider IA Group:** anyone interested in locating and recording old cider machinery (mills, presses, etc) are asked to let Walter Minchinton know. Contact has already been established with firms in the industry. A recent relevant publication is Stanley F Baldock, 'A report on a preliminary survey of farmhouse cider-making equipment in the county of Devonshire', *Devon Historian*, 19 (October 1979) 2–8.
- 2 **Chemical Industry Group:** anyone interested in the IA of the chemical industry is asked to get in touch with David Tomlin, 13 Albert Road, Church Lane, Eston, Cleveland TS6 9QN. David himself has written on the salt industry: see his three articles 'Teeside salt drilling/pumping rig', *North East IA Society Bulletin*, 11 (1970) 20–2; 'The boreholes and saltworks of the Tees Estuary', *Cleveland Industrial Archaeologist*, 7 (1977) 37–46; and 'The Cleveland Salt Company', *Cleveland Industrial Archaeologist*, 9 (1978) 23–30.
- 3 **The Re-use of Buildings:** the adaptive use of buildings, as the Americans describe it, is obviously a subject of wide interest. Professional expertise would be particularly welcome. Will members interested in this group kindly get in touch with Keith Falconer, School of Humanities and Social Sciences, University of Bath, Claverton Down, Bath BA2 7AY.
- 4 **Oral History:** in order to understand how machinery operated, the conditions in which work was carried on and the organisation of industry, other recording of sites and processes need to be supplemented by oral accounts. A number of people are interested in this field. Would anyone interested in the establishment of an oral history IA group please get in touch

with Walter Minchinton. A volunteer for convenor for this group would be welcome.

Together with the Education Group, whose plans are given separately in this *Bulletin*, this list makes quite a promising start. Council hopes that members will do their best to make these groups effective.

Could suggestions for further groups be sent to me, with, if at all possible, the name of a convenor, for publication in future *Bulletins*. My address is: Amory Building, University of Exeter, Exeter EX4 4RJ.

IA Collection: University of Exeter Professor Minchinton writes as follows:

Rather to my surprise, Kenneth Hudson once asserted that there was a complete collection of the publications of British IA Societies in the Department of Economic History, University of Exeter. I only wish that this were the case. Through my Department I try to subscribe to every publication published by a British IA Society but sometimes publications escape my notice. Could I therefore invite all British IA Societies to send me a single copy of each of their publications as they appear if there is not already an order or subscription from my Department? Please invoice to the Department of Economic History for my attention. I must naturally reserve the right to decline a purchase and in such a case will return the publication but I hope I may never need to exercise this option.

News from Flanders: Next year Belgium will celebrate the 150th anniversary of its nationhood, and the various provinces are deciding how they will contribute to the national celebrations of this event. A substantial sum has been set aside by the Belgian Government to finance the jollifications. Limburg, which is the least industrialised of all Belgian provinces, has decided to spend its allocation of national funds on highlighting the industrial monuments of the province, and has appointed Adriaan Linters, a active AIA member and a frequent visitor to our conferences, as Project Director. His office is at Begijnhof 39, B–3800 SINT-TRUIDEN, Belgium, telephone 011 676579.

Industrial archaeology is developing on the same pattern in Belgium as in many other European nations, with a few individual enthusiasts and evening class groups organising themselves into local societies, out of which eventually evolves a national society. Many members of the local Ghent-based group WIARUG are now members of VVIA, the Flemish Association for Industrial Archaeology (there is as yet no corresponding association for French-speaking Wallonia). VVIA publishes a lively newsletter, the third issue of which includes details of the Association's enquiries regarding the Belgian National Museum of Industry, founded by Royal decree in 1828 and built up energetically and imaginatively during the 19th century.

Since the 1930's, however, the museum's collections have all disappeared, it is believed through a blend of pilferage and neglect, and VIVA's enquiries have met with silence from Government departments. There is now no national museum of technology nor engineering in Belgium, a sad reflection on a nation whose splendid engineering products, bearing names like Cockerill, Anglo Belgian Company and Walschaerts are to be seen at work all over the world.

VIVA awards from time to time its wooden spoon award for the daftest example of preservation Ghent's municipal museum is the most recent winner; while turning a blind eye to the destruction of locally important cotton-making machinery in its environs, the museum has recently acquired at great expense for its textile collection a medieval silk-weaving loom originating in Venice. Ghent was never a silk-manufacturing town, so this acquisition, although perhaps prestigious on account of its rarity and its associations with medieval Venetian life, can have little significance for textile workers in and around Ghent who, like their fellows in Lancashire and New England, can watch the cotton industry being swept away within a decade or so in the face of competition from India and the Far East.

At least 40 railway stations are threatened with demolition in Flanders, a third of which are of historic or aesthetic importance, and the scheduled station buildings at Antwerp Central and Aalst (dating from 1851) are also likely to come down. Industrial archaeologists have much to campaign for in this part of Belgium and VVIA's lively and well-informed newsletter is at the forefront of their campaigns. Further details from Vlaamse Vereniging voor Industriële Archaeologie, Post Box 30, PO Maria Hendrikaplein, B–9000, GENT – 12, Belgium.

Steam Compressor preserved at John Dalton Building, Manchester Polytechnic: David

George writes:— The machine was donated by Messrs Courtaulds on the closure of one of their man-made fibre mills at FLINT a few years ago. It was manufactured by the Refrigeration Co London about 1898 and comprised originally a 15 ft bedplate fixed to a concrete base. The estimated weight of the bedplate was ½ ton. The compressor cylinder is of approximately 20 ins diameter, the crankshaft 5 ft long and the piston rods and cross head guides 2 ft. The largest item is the flywheel which is cast in two halves wedged together giving 7 ft 6 ins diameter. When removed from the mill there was a belt drive from an electric motor and considerable piping, which did not form part of the rescue. The purpose of the engine was through steam power, to produce compressed air for plant operation.

The removal and transportation was done by Albert Butterworth of Shaw after an initial survey by Dr George Read and Mr David George of the John Dalton staff. The construction of the concrete plinth and the re-erection of the heavy sections was arranged by the Buildings Division and Educational Services of Manchester Polytechnic. The final re-erection, cleaning and painting was done by John Chorlton of the Department of Mechanical Engineering.

Steam on the Renfe Readers planning to visit Spain may be interested to know of the last remaining scheduled steam service, linking Villablino with Ponferrada in the province of Lear in the north-west corner of the country. A train leaves Ponferrada at midday each day for the 40 mile journey, the timetable allowing no less than 2½ hours, for there are 14 intermediate stops and a climb of nearly 1000 ft is involved. The return journey from Villablino begins at 15.30, and with a predominantly favourable gradient takes seven minutes less, arriving at Ponferrada at 17.48. The other distinction claimed by this service is that it is the only one in Spain still offering three classes of travel, the others following general European practice in providing First and Second only.

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Exchange and Mart The Herefordshire Waterworks Museum Trust has recently been offered by the Hereford and Worcester Health Authority various items of steam plant which regrettably they have no use for. The Trust has generously offered to make these available to other interested steam museums. Details are as follows:

2 — Weir pumps 5" x 7" x 12" vertical of 1952. Used since new in a hospital boiler installation and mounted on a common bed-plate although they could be separated.

Complete and probably reasonably sound mechanically although not suitable for further commercial use. Available for inspection at the Herefordshire Waterworks Museum, by arrangement with the Honorary Curator, John Townsend, telephone 0981-250644.

2 — Oil fired (originally coal) 'Halifax'-type boilers by Hartley & Sugden of 1934 at the General Hospital, Hereford. 4000 lbs/hour. One out of use for some time, the other has a 12 month limit on insurance for commercial use. Available for inspection by arrangement with Mr C W Sheldrake, District Works Officer, 24 St James Road, Hereford HR1 2QT

Exchange and Mart: Derbyshire's recently established County Museum Service has undertaken to restore the workshops on the estate at Elvaston Castle in the north of the county. A National gas engine, which drove machinery in one of the workshops was sold when the estate was broken up but fortunately the Museum Service has succeeded in locating it and buying it back. The engine now lacks its gas-bag anti-fluctuator valve; can any of our readers help with information on a similar installation from which the missing valve might be copied, or better still by notifying the Derbyshire Museum Service of an existing valve that they might acquire by gift or purchase. Please write to

Maggie Heath, Senior Administrative Assistant,
Derbyshire Museum Service, Resources Centre,
Kedleston Road, Derby DE3 1GT. Telephone
0332 371921.

'IA Journals' — Set Sought: As a result of a fire in his department Dr S M Linsley is looking for a complete run of 'Industrial Archaeology' as published by Lombarde Press, David and Charles etc. Anyone with a set to donate or sell is asked to contact Dr Linsley at The Department of Adult Education, The University, Windsor Terrace, Jesmond, Newcastle upon Tyne, NE1 7RU.

Alcester and District Local History Society

As a result of one year's field work, this local history society have produced a guide to the industrial archaeology of the lower Arrow Valley, Warwickshire which highlights the large number of industrial remains to be found in a relatively small and agricultural area encompassed by the villages of Studley, Alcester and Bidford. The 30 page booklet contains information on such elusive industries as a vegetable drying factory, estate saw mills, marlpits, village blacksmiths, and telephone exchanges. There are also detailed lists of the more usual industries such as water- and steam-powered mills and transport systems. The booklet price 75p inclusive of postage is obtainable from Mr G E Saville, Ferncumbe House, King's Coughton, Alcester, Warwickshire and cheques should be made payable to the Alcester and District Local History Society.

Lavenham, a Town Guide The Suffolk Preservation Society at Little Hall, Market Place, Lavenham, Sudbury, Suffolk have produced a booklet describing walks around Lavenham priced at 60p. It is lavishly produced and the illustrations by Christina Newns are exceptional for town guides. The format of the publication allows the text to be read at the same time as the map, a most useful innovation for guides of this sort. The format and cover are most suitable for slipping in a pocket and are also likely to resist several showers of rain.

The Hawarden Bridge, Shotton, Chester — Iron and Steel Works of Messrs John Summers & Co.

An off-print of an article by P S Richards with the above title is obtainable from the County Archivist, Clwyd Record Office, Old Rectory, Hawarden, Deeside, Clwyd. This first appeared in the Flintshire Historical Society Journal Volume 25, 1971-2, and back copies of the Journal are also available from the County Archivist.

AIA Bulletin is published by the Association for Industrial Archaeology. The Association was established in September 1973 to promote the study of Industrial Archaeology and encourage improved standards of recording, research, publication and conservation. It aims to assist and support regional and specialist survey and research groups and bodies involved in the preservation of industrial monuments, to represent the interest of Industrial Archaeology at a national level, to hold conferences and seminars and to publish the results of research. Further details of the Association and its activities may be obtained from the Membership Secretary Association for Industrial Archaeology, The Wharfage, Ironbridge, Telford, Salop TF8 7AW England (095-245 3522).