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THE ARCHAEOLOGY OF WHERE YOU WORK

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Most people still think of archaeology in terms of digging, which is a pity, but understandable, since so many of the more dramatic archaeological discoveries, such as the ship-burial at Sutton Hoo, or the great Roman villa at Chichester, are made only by removing large quantities of earth and rubbish in order to get at what lies buried below. But it is the evidence below the soil that is the archaeology, not the excavation needed to reach it. A medieval town-wall or a Greek temple are no less archaeological because they are above ground. It is only the spectacular successes of such notable diggers and prehistorians as Sir Leonard Woolley and Sir Mortimer Wheeler which have made archaeology almost a synonym for excavation. The word has narrowed considerably in meaning over the past fifty years. Before that, archaeology was a very broad term – the study of old objects – and these objects could be farmhouses or docks or coalmines just as easily as hill-forts or round barrows or lake-village hut-circles. The essential thing was, and is, that you are discovering tangible historical evidence on its original site. This is the difference between history and archaeology. History can be studied anywhere, in libraries, museums, photo-albums, film archives, wherever the material happens to be preserved. The basis of archaeology, however, is field-work, discovering and looking at buildings and equipment where they were used.

Sometime during the past twenty years – the exact date is still being argued about – the phrase 'industrial archaeology' was thought up, as a way of drawing attention to the important, but not very well understood, fact that a great deal of the evidence needed for building up the history of industry and technology could only be found by people who were prepared to go out and search for it. It is a name that has been argued about a great deal – and strongly opposed, incidentally, by quite a few professionals whose minds had become so conditioned to thinking of archaeology as a subject stopping at the Middle Ages that they felt, and said, very loudly – that it was impossible to put the two words 'industrial' and 'archaeology' together and make sense.

That battle, however, has been won. Industrial archaeology is now firmly established as a proper and desirable subject.

* *David & Charles, Dawlish, Devon.*

Definition

Last autumn, as proof of its respectability, Industrial Archaeology was chosen by the BBC to be the theme of a series of ten half-hour television programmes, under the title of *Industrial Archaeology: a Guide to the Technological Revolution in Britain*. The pamphlet produced in connexion with the broadcasts can still be obtained from the BBC for 3s. 6d. It is the best short account of what those concerned with the subject are trying to do and of the range of material they are working on. It contains a book-list, and a number of useful addresses. 'Industrial archaeology', writes Professor Jack Simmons in his introduction, 'may be broadly defined as the scientific study of the physical remains of industry in the past—provided we never forget that the past is continuous with the present'. This is a good short definition. Expanding it a little, we could say that industrial archaeology is the on-the-spot aspect of the history of technology. It takes in bridges, roads, canals, harbours, railways, factory buildings, quarries, coalmines, sewage works, foundries, steam-engines and machinery and technical equipment of all kinds—survivals that should be recognized and adequately recorded, before the bulldozers and the scrap-merchants get busy on them.



Fig. 1. Temple Meads Station, Bristol.

But industrial archaeology is not just grubbing around after unfashionable bits and pieces. It is not a form of antiquarianism. It is first and foremost a humane study, interested in things only because

people made them and people used them. To have any real right to exist, it must be always trying to find fresh clues as to why technological changes happened, and happened when they did. It deals with small things like saw-pits and man-hole covers and lifts and ancient central-heating systems just as much as with large things like docks and cotton-mills and railway viaducts. It believes that why and how are as important as what, and that the most essential part of the research-worker's equipment is an uninhibited, free-ranging curiosity and imagination that gives him or her – there are a lot of hers in industrial archaeology – the ability to recreate the life and activity of the past from the apparently dead and often fragmentary objects that have somehow escaped destruction. To justify its existence, it must somehow provide facts which libraries and archives cannot provide, it must stimulate the imagination in some special way, and it must not only be aware of technological growth and change, but welcome them. Properly applied, it is a dynamic study, with past and present continuously and imperceptibly fading into one another.

Interested Amateurs

The enormous richness of Britain's industrial heritage means that it is quite impossible for all industrial archaeologists to be professionals or even academics. In Russia or Sweden or Canada, on the other hand, this could just be possible, because industrialization is comparatively recent, and the surviving evidence is correspondingly thin on the ground. But during the past five years or so it has become clear that, in this country, the bulk of the work involved can only be done by a wide range of people in their spare time. There are simply not enough professionals to do the job, before the material vanishes. The main problem is therefore a dual one, first to recruit the right kind of amateur field-workers and then to brief them adequately and maintain their morale. Their interests, one has constantly to remember, are just as likely to be in engineering or architecture or photography as in social or economic history. And it is wise to emphasize the word 'interests'. These people are volunteers, following the subject for pleasure. They are not collecting material for doctoral theses.

Experience has shown that enthusiasm for what is essentially a practical subject is very easily killed by well-meaning and academically-minded people pressing absurdly hard the view that, to be acceptable and fruitful, any field-work has to be preceded by a course of lectures covering, at the very least, social and economic history, surveying techniques, the history of industry and technology, and the history of architecture. This is nonsense, of course. Nobody is ever completely prepared for the tasks he does, and any attempt to insist that field-work must be delayed until the people concerned have acquired a background

which is both wide and deep is futile. There must obviously be some preliminary instruction, or preliminary reading, but enthusiasm makes up for many deficiencies which might otherwise be serious, and a great deal of the knowledge that is genuinely needed can be picked up informally as the on-site activities go along. Whether they are children or adults, a good many people, perhaps most, learn best like this, anyway, because what they learn has a clear purpose, right from the beginning. They can select what they want, knowing why they are selecting it.



Fig. 2. *Early industrial housing: some is still in use.*

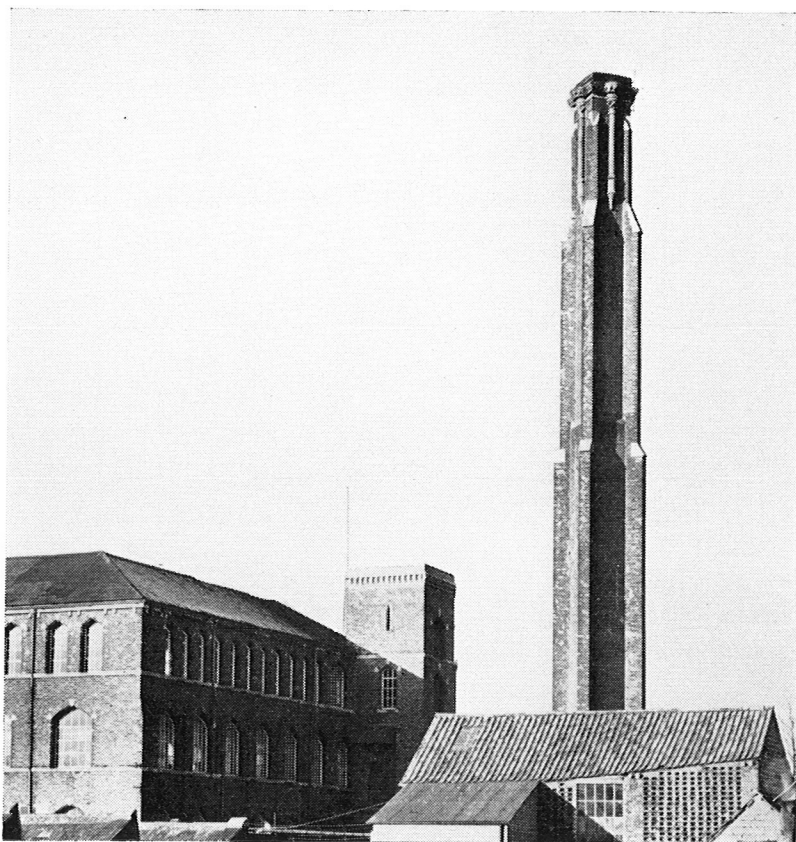


Fig. 3. *Beautiful factory chimney, Trowbridge, Wilts.*

It is helpful, perhaps, to distinguish between two equally good reasons for taking an active part in industrial archaeology. One may do so either with the hope and intention of adding to the stock of human knowledge, or, and this seems to me equally valid, in the belief that one has found an agreeable and stimulating method of educating oneself. In school-teaching terms, it is just as sensible and profitable to try to lead boys and girls towards a feeling and fondness for history by getting them to measure up toll-cottages or prowl round derelict water-mills, as by telling them stories about the Black Death, Cecil Rhodes or George Washington. They may very possibly discover nothing that is new about water-mills, but they are extremely likely to learn a number of things that are interesting to them personally and to enjoy themselves a good deal in the process. And precisely the same goes for adults.

Research Projects

In quite a number of cases, however, spare-time enthusiasts – this seems a better term than amateurs – may be able to add to their enjoyment by carrying out research of real value. In Manchester, Gloucester and Bristol, for instance, well-organized industrial archaeology groups are making complete surveys of their areas and collecting a great deal of previously unknown information about old industries and transport systems. In Essex, Mr. D. W. Hutchings, of Rainsford County Secondary School, Chelmsford, has had a number of boys working on the recording and photography of buildings belonging to the early days of existing local firms. And in Hampshire, the group responsible for the excavation of one of the most notable and most shamefully neglected industrial monuments in Britain, Henry Cort's ironworks at Fontley, where the puddling process was first used, has included a number of boys still at school, among them Stephen Weeks, a sixth-former at Portsmouth Grammar School, who has made himself an expert on Cort and who has appeared several times on television in this connexion.



Fig. 4. Fulling Stocks.

Unwasted Efforts

My own experience in working with several groups suggests that the most powerful cause of waning interest and disappearing morale is a feeling that the weeks and months of hard work will be ultimately wasted because there appears to be no properly organized system of filing reports and making them available to other people who might find it useful to consult them.

The Council for British Archaeology has made an attempt to deal with this situation, by preparing standard record cards, which can be obtained either directly from the Council, at 8, St. Andrew's Place, Regent's Park, London, N.W.1, or from local groups. The field-workers enter on the card brief details of the quarry, canal, lock, steam-engine or whatever else it may be, giving the Ordnance Survey grid reference, the present condition of the object in question, its date, skeleton history, and the facts of its present ownership. A photograph is added wherever possible. The completed cards are sent to the Council in London, where they are copied and indexed before being returned. This allows one set of cards to be kept centrally, in London, and another in the area where the research was carried out.

Today's History

As might be expected, perhaps, some areas have contributed a great deal of information for this national survey and others practically nothing. Interest over the country as a whole is very unevenly spread. More workers are needed, especially in Devon, the South-East and East Anglia. Even so, a considerable collection of record cards has been accumulated in the three years during which the scheme has been operating. The work has been supervised by Mr. Rex Wailes, the indefatigable Consultant in Industrial Archaeology to the Council for British Archaeology, in association with the Ministry of Works, and as a result Mr. Wailes has been able to provide the Ministry with particulars of an impressive number of important sites for possible scheduling and preservation. The emphasis so far has been heavily on survivals of the eighteenth and nineteenth centuries, the classic period of the Industrial Revolution, but it has become increasingly evident that it is unwise to restrict investigation in this way, since much of the most important, and often most threatened, material may belong to a period much closer to our own time. From the point of view of building up an adequate history of technology, it is just as necessary to record or preserve evidence of the beginnings of, say, the aircraft, petroleum, electronic and synthetic-fibre industries, as of coal, iron and railways. The fact that the earliest monuments of these 'modern' industries may date from perhaps 1900, or even 1940 is of no significance. Whatever the conventions of 'pure' archaeology may be, there is no time line

that industrial archaeologists are banned from crossing. Each industry has to be measured against its own lifetime. The more recent the beginnings of technology are, the more rapid the rate of obsolescence is likely to have been, and the more probable it is that the early plant will have disappeared. This is why it is so necessary to have as allies and fellow-enthusiasts people who actually work in these various industries. No-one else can have their detailed and up-to-date knowledge of what there is on the spot, and when it is likely to be scrapped.



Fig. 5. *Boiling Willows. A basket-making process.*

Time is not, alas, on the side of industrial archaeology and, for this reason, it is very necessary to create an informed public opinion as quickly as possible. The main tasks are three – first, to persuade and teach people to use their eyes, second, to encourage the development of a sense of discrimination, so that the right things are valued for the right reasons, and thirdly, to prevent material of really outstanding significance from being destroyed. We need to reach the point where to demolish the Iron Bridge at Coalbrookdale or Brunel's Temple Meads

station at Bristol becomes as unthinkable as demolishing Westminster Abbey. At present, the remains of early industry and transport are still, most unfortunately and illogically, regarded as being of an altogether lesser order of importance than religious and political remains, and, for that reason, relatively expendable. A proper scale of values must regard any of man's really great creations as being worthy of preservation and cherishing, partly as an act of respect – there is something peculiarly horrible and suicidal about the wilful destruction of any kind of masterpiece – and partly because the majority of people are more impressed by an outstandingly fine church or steam-engine itself than by a photograph of it.

But, even so, for reasons of finance and common-sense, industrial archaeology must necessarily be concerned a great deal more with discovery and recording than with preservation. Superannuated mills, bridges and machines demand very large sums of money, if they are to survive weather and decay for another fifty years, and it is obvious that public money on the scale that is needed for this can and should only be forthcoming in the case of exceptionally important monuments. Some of them may be saved by private contributions – the Abbey Dale Forge at Sheffield is a good example – or by having a substantial proportion of the restoration work carried out by unpaid volunteers, under skilled direction, a method that has been curiously little used so far in industrial archaeology, although it has great possibilities, and is common enough, of course, in prehistoric or medieval archaeology.

Before Destruction

One can hardly emphasize too often that there is little point in preservation for its own sake. It is natural for everything, people and objects alike to die and disappear. Anything that is kept from decay and destruction, whether in a museum or on its original site, must be made meaningful to as many people as possible. Dead buildings and dead bits of machinery are useless. There are, of course, many different ways of bringing them alive. One, used successfully by the Americans and the Danes, is to have craftsmen actually using reconstructed equipment in the traditional way, so that visitors have technological history dramatized for them. Another is to add working models to an exhibit which is too old or fragile to be allowed to work itself. A third method is to fill what might otherwise be an empty, dull and meaningless building with sufficient contemporary material to bring it to life. The very least one is entitled to expect is imaginative labelling and putting in context of what would otherwise be an unintelligible fossil.

Industrial archaeology needs efficient public relations as much as industry itself does. The subject has to be sold, both to the people who own the material and to the public. Technological remains have to be shown off and properly presented. It is not sufficient merely to permit them to exist a little longer.

A vital part of what we might now call industrial archaeology's sales campaign is to get everybody to see that their own industry or profession has archaeology built into it. None of us can escape from the evidence of the past, for the good reason that we are surrounded by it all the time in the course of every working day. It may not be the very remote past and because of this it is easy to forget how interesting and significant many of the unexciting survivals we take for granted and hardly notice may be to the historians of fifty years from now. They need to be noted and photographed while they are still there. And a few choice examples of the real period pieces deserve to be kept and cherished for posterity to marvel at. Examples which readily come to mind of objects of this type are Victorian lifts and safes, early typewriters and copying-machines, the first generation of fork-lift trucks, outdated X-ray machines and ancient concrete mixers. Few of these things can be preserved on the original site, but, before they go to a museum, they should be photographed in their old home, so that the object itself can always have a context picture with which it can travel to its new home. Often, the photograph is all that will be permitted to survive, so that it becomes doubly important to take it.

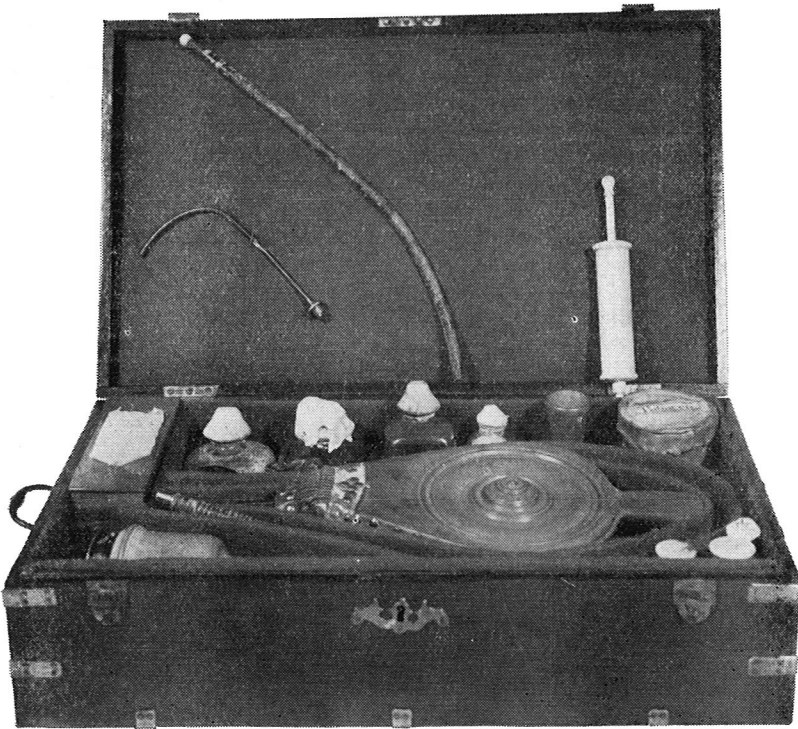


Fig. 6. *Scrap heap!*

Code of Junking Practice

The really enlightened firm, of course, would carefully photograph, for the record, one example of each type of equipment before it was junked, and each building before it was pulled down or modified. This is what we should push for, a civilized and sensible Code of Junking Practice. But it will take some determined crusading to get it.

* * *

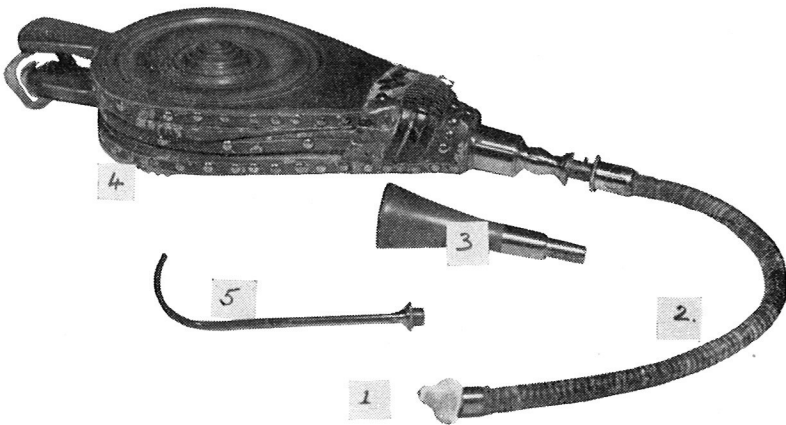


(Courtesy Min. of Aviation, Waltham Abbey, Essex.)

Fig. 7. *Resuscitation Apparatus.*

[Fig. 7. This resuscitation apparatus is believed to date from 1797 or earlier and belongs to the (now) Ministry of Aviation's Explosives Research and Development Establishment at Waltham Abbey, Essex. It is in an excellent condition. (Accompanying it, apart from the directions reprinted below, is a report from the Royal Humane Society for 1797, giving instructions to the public. The most pertinent instruction is 'WHAT THOU DOEST - DO QUICKLY'.) It is typical of

apparatus which should be being recorded by occupational health departments in particular, items being found in most unusual places (such as a bleeding bowl, found in use for paper clips), and all the items which are now being discarded, differing types of tourniquets, sterilizing apparatus, syringes, carrying and rocking stretchers, irrigation apparatus and many others which should be recorded before destruction. The cards for this recording cost 5s. per 100, see p. 91. Occupational Health Nurses, if unable to participate fully, are in an excellent position to act as observers, passing information to local groups of industrial archaeologists. — Ed.]



(Courtesy Min. of Aviation, Waltham Abbey, Essex.)

Key: see also directions for use, p. 97.

- (1) Short thick ivory pipe, to fit nostril.
- (2) Short flexible tube.
- (3) Box mouth-piece: for breath of healthy person.
- (4) Bellows: if atmospheric air preferred.

Fig. 8. *Resuscitation Apparatus detail.*

Circa 1797

‘Description, and directions for the use of the Apparatus for the recovery of the apparently drowned. Recommended by The Royal Humane Society; and made (by their appointment) by J. H. Savigny, Surgeons’ Instrument Maker, No. 120, Pall Mall (corrected to 28, King Street, Covent Garden), London.

The instrumental parts contained in these chests being intended for the double purpose of inflating the lungs, and conveying the fumes of tobacco, or other herbs, into the body, it may be necessary to explain the mode of connecting them, in order that these effects may be produced; for the former, the short, thick Ivory Pipe, constructed to occupy the whole of *one* nostril, while the other is closed by pressure of the fingers, is to be screwed into one end of the *short* flexible Tube, and the Box Mouth-piece (if the breath of a healthy person is employed), or the Bellows (should atmospheric air be preferred) to the other. If, from contraction or adhesion of the epiglottis, the introduction of the short ivory Pipe into the nostril should prove insufficient, it is to be removed, and the curved Silver Tube screwed on in its place; which, introduced through the nostril or mouth, and passing beyond the glottis, overcomes every impediment, and accomplishes the intention. For the latter, the Bellows, or Mouth-piece, which ever may be preferred, or at leisure, is to be connected with the upper part of the Brass Box (inclosed in wood), filled with the herbs or tobacco, whose lower extremity must be fixed to one end of the *long* flexible Tube, and, to the other, one of the Ivory Pipes for the rectum, as the most convenient size shall determine. The herbs being lighted, by the insertion of a piece of burning Tinder, or by the Flame of a Candle, directed upon them with the curved Silver Tube, their fumes will be ejected by the action of the Bellows, or Breath. Under the Bellows will be found a Syringe, with a flexible Tube, for conveying a small quantity of stimulating liquor into the stomach of the patient. The other Compartments, Boxes and Bottles, in the Chest, are intended to contain the necessary Spirits, Drugs, Salt, Cloths, etc., that may be required.’