

Archaeological reconstruction: illustrating the past

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IFA Paper No. 5



John Hodgson

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Edited by Andrew Dutton

The author

John Hodgson’s early training was in fine arts and sculpture. This, together with ten year’s practical experience as the estate carpenter and woodsman at Allington Castle, Kent, has given him a lifelong interest in the working of all kinds of materials and the ways in which they interact with their environment.

In 1984 he worked with Wessex Archaeology on the Greyhound Yard site in Dorchester, and has remained closely involved with archaeology ever since. After a period with Southampton Museums he started working as a freelance illustration and design artist, and has since been contracted to a wide range of professional bodies: archaeological units, County Councils, government agencies and private companies. He has continued to be closely involved with archaeological fieldwork in the south of England which, he considers, informs and gives a greater authenticity to his design work.

John is also a part-time lecturer at Bournemouth University, teaching various aspects of graphics and reconstruction drawing for students of Archaeology and Heritage Conservation. At present, he is researching the history, nature and function of archaeological reconstruction drawing for his PhD thesis.

His knowledge and experience of this field is therefore both theoretical and very practical. As a working artist he has created texts, artwork, artefacts and designs for printed publications, museum displays, film animation and ceramic murals. As an archaeologist, he has hands-on experience of fieldwork and knowledge of the theoretical frameworks behind it. The combination fits him very well for writing this introduction to an art which, although complex and problematic, is the most immediate interface between the archaeologist and the public.

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INSTITUTE OF FIELD ARCHAEOLOGISTS PAPER NO. 5

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Introduction

Recent archaeological debate has recognised the need to make the results of our research more accessible. My own experience has been that employing a 'third eye' through which to view the findings of excavation and research significantly enhances the interpretation of the archaeology and thereby makes the results much more accessible to both the lay person and the professional archaeologist. I refer of course to the skills of visually reconstructing the past through the many and exciting new media that have recently become available.

Within archaeology, the contribution of the illustrator has long been undervalued and has tended to be exiled to the periphery of the interpretative process. The modern illustrator offers considerably more than his or her predecessor and gives informed archaeologists a potent and varied tool with which to present their findings.

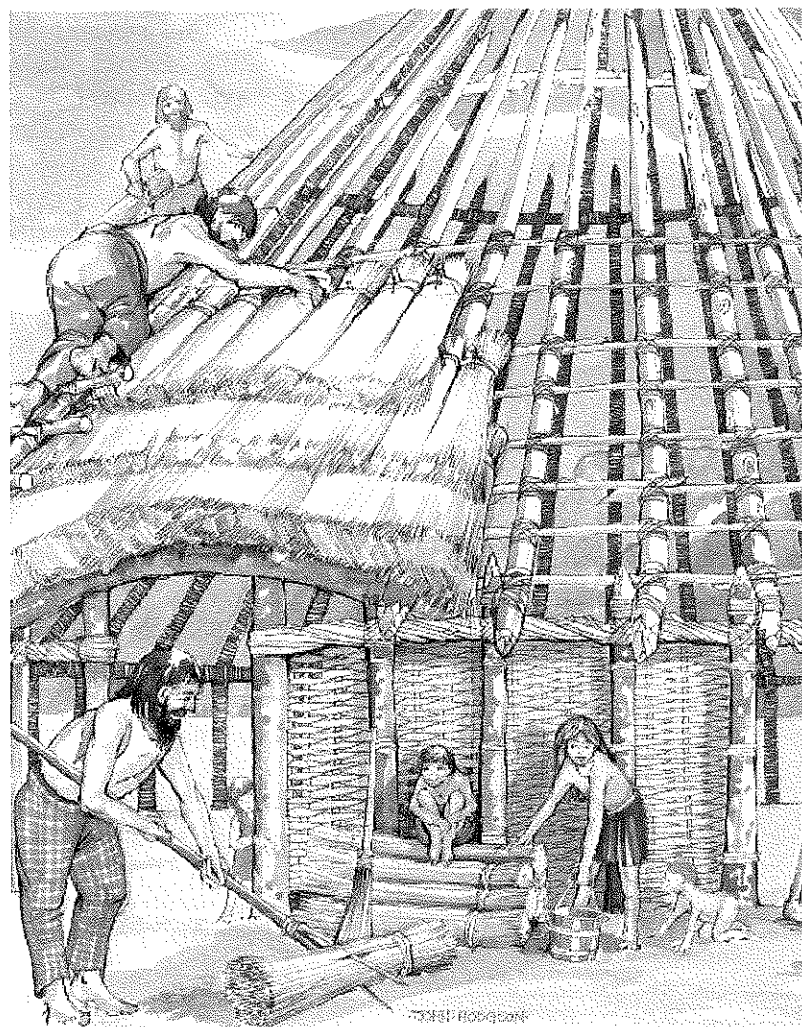
For myself as a child, it was *visual* representations of the past that took hold and influenced my own perceptions of human history and it is apparent that the way we

present our evidence today has the power to influence present and future generations. Although the mind set of our ancestors is lost to us forever, these visual images affect the way we feel about the past and, as archaeologists, our responsibility is clear: we have to get the image right, or as near as our knowledge will allow.

Many people are familiar with Alan Sorrell's enigmatic and thoughtful representations that were to become synonymous with the way in which the past was presented to visitors at many public monuments in the care of the then Ministry of Works. These and similar illustrations represent the few surviving examples of imaginative work commissioned to enlighten both public and professional opinion alike, but within the public domain these were often accompanied by text that failed to inform in the complementary manner expected today.

In this volume John Hodgson demonstrates the potential for recreating scenes from the past, whether incorporating entire landscapes or depicting more personal moments from human history, often in circumstances where the archaeological evidence is far from complete. This ability to bring the past to life is a tool that future archaeologists, with an eye to any form of publication, ignore to the detriment of themselves and the consumer. Today's viewing public both accepts and expects visually stimulating media as a matter of course.

Andrew Dutton
AAI&S Technical Papers Editor



Construction of an Iron Age house
© John Hodgson

ARCHAEOLOGICAL RECONSTRUCTION

Definition

This paper is concerned with pictorial representations of archaeological sites, specifically those that attempt to show an area as it may have appeared in the past, when the excavated structures, artefacts and other features were working components of a society. While 2-D reconstructions – drawings, paintings, prints and screen images – are the main subject, some mention is made of other media, mainly for their potential as source material for the artist.

Introduction

Reconstruction occupies a unique and sometimes uneasy position among the various disciplines that make up archaeological illustration. It is different in kind, because it interprets rather than records the findings, it uses 'fine art' techniques rather than those of technical drawing, and it is superfluous to the site report that conveys the findings to the rest of the archaeological world. In these respects, archaeology could manage quite well without it.

In other ways, reconstructions are of crucial importance. At a time when there is probably more popular interest in archaeology than ever before, they are one of the most potent and meaningful ways of conveying the science's findings to the general public. Technical illustration and mapping convey information very accurately, but they need expertise to understand them fully – and, except to specialists, they are not exciting.

Representations of the site as it was – the huts rebuilt, people resurrected, clothing and weapons new again – make a powerfully attractive image which is easily retained in memory, having both a factual and an emotional appeal. They can also contain a surprising volume of information in a small space, help to simplify and explain complex sites, and make the crucial difference between the inaccessible and the comprehensible.

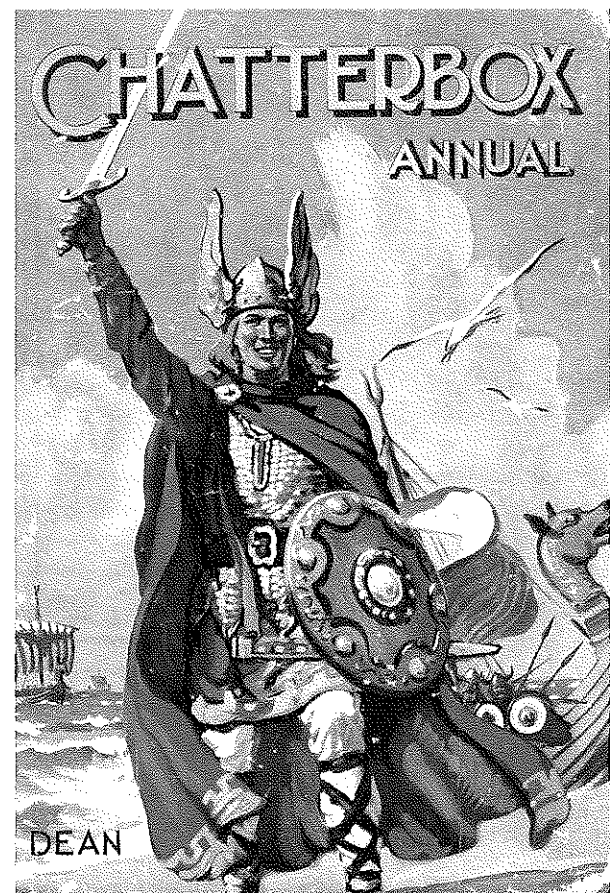


Fig 1 Vikings: Cover illustration to 'Chatterbox' Annual, c. 1953. Images like this have been instrumental in forming popular concepts and icons. The fact that they were encountered at an early age, but were not part of a formal education process, probably made them all the more effective.

Purposes

The urge to make a reconstruction from the amassed evidence seems to be as old as archaeology, or even antiquarianism. William Stukeley's pictures of Avebury and Stonehenge rebuilt are valid reconstructions from his findings; the extrapolations of an extremely acute intelligence. Acquiring a collection of facts seems to invite speculation about what they may infer, and this process can have several applications.

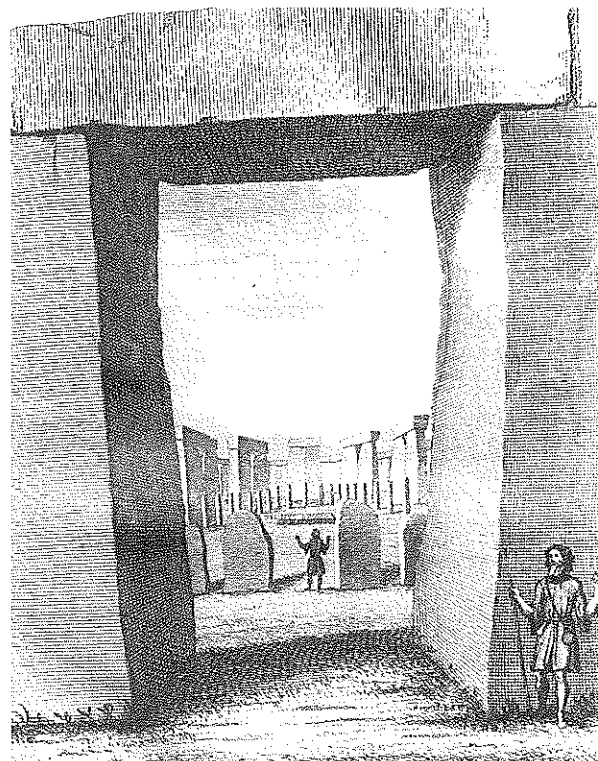


Figure 2 Stonehenge, William Stukeley. Stukeley made complex deductions from his fieldwork, which he presented in a graphic format. These illustrations move beyond the straightforward depiction of what is to be seen, and into the speculative dimension of the reconstruction.

Experimentation

Theories can be explored and expounded in a number of different ways. Although we may be most familiar with the spoken or written word, sketches and 'working drawings' are a very common tool with, for example, engineers and designers, or in fact anyone whose imagination has a visual or spatial bias. In archaeology, the practice can help to clarify findings in several ways. It can test the viability of theories, such as a possible construction that may seem quite sound as a mental picture but which is demonstrably unsound when 'committed to paper'. It can also trigger the discovery of unexpected explanations for features that would otherwise remain obscure.

These applications are essentially part of the archaeologist's methodology; an aid to the construction of theories, they remain in this role unless the archaeologist is also a competent artist. This is by no means unknown, but is not common.

Information

While interpretation is a part of an archaeologist's job, perhaps the larger part is concerned with making the findings, recording them and communicating them to the rest of the profession. Technical illustration, mapping and photography are useful for recording and collating the archaeological resource and for communicating with fellow-professionals, but communicating with the general public is a different matter.

There are many reasons for making this communication work, from educational to recreational to providing an attractive finish to a commercially-funded package. The problem remains of how to convey highly technical information to a lay audience, as the technical graphics used for recording are not readily available, intelligible, or necessarily interesting, to any except specialists. This is where the reconstruction is particularly useful, as it can cope with a large number of functions. For example:

- Visual interest. Some archaeological sites appear to consist only of slightly different areas of flat mud; if there are few finds or features a reconstruction can supply visual excitement
- Finds such as tools or clothing can be shown in context; this makes far more sense to the viewer than showing the objects in isolation
- Isolating time phases. In a chronologically complicated site, a series of drawings showing the development of the phases or highlighting one particular phase makes it comprehensible

- Showing relationships: all sites have geographic, economic and social links with their surroundings, a factor that can be graphically demonstrated in a reconstruction

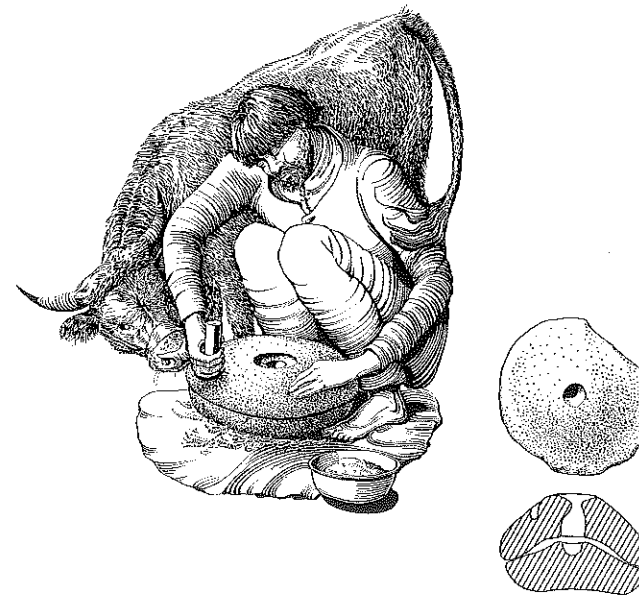


Figure 3 Judith Dobie: Quern. This has become a classic example of a complete illustration: showing the function and human context of an artefact as well as its dimensions and structure.

Aspects of the site

After the decision to make a reconstruction, a primary consideration is which aspects or functions of the site should be depicted. For instance, a village can be seen as a collection of housing units, as an economic centre, or as an element within the communication and transport network. Similarly, a landscape can be seen in terms of its hydrology, its food production, etc.

All these factors interrelate, but it is helpful to consider priorities. A reconstruction has to be structured and to function like any other work of representational art, and pictures operate best when they have one main and few subsidiary subjects. It is necessary to select which factors will be the most important in the context of the book, display or programme where the reconstruction will be seen, to avoid cluttering the picture – and obscuring the issue – with unnecessary detail. If there are too many factors it may be wise to consider a series on different themes instead of just one picture.

Information required

Once a particular aspect or aspects of the site have been decided, this will influence the choice of data for constructing the picture. The quality of this information is important. A well-drawn, graphic image may grab the attention and be very memorable, but if it is factually incorrect it is failing in its main purpose. The popular image of a Viking still has his winged helmet, thanks to generations of comic annuals. For archaeology if not for popular iconography it would be better forgotten!

Locations

To make a reconstruction, we assume the existence of a 'window' in which we can re-create a scene from a different time and place. Owing to the nature of static pictures these time/space co-ordinates need to be specifically located.

Temporal Location

This applies at several different levels.

Time of day: Dawn, day, dusk or night may each be appropriate for a particular application, and much more use could be made of the possibilities. Use of lighting and shadows for better modelling of the picture, or to emphasise some features, can be manipulated by the assumed position of the sun.

Season: The seasonal changes of a landscape may give important clues to its use; eg haymaking in early summer implies stock rearing, winter ploughing prepares for arable crops, etc. There are many other applications, such as the possibilities of snowfall for tonal contrasts or the fact that buildings may be seen through trees when the leaves are down in the winter.

Year/Period: Because of the mobility of the natural world, any still picture can only be a 'snapshot' of one particular instant. However, there are two kinds of approach to this location:

- *Instant:* The depiction of one significant instant, where the field is narrowed to one particular date and time of day. This would be used if a particular **event**, such as the crisis of a battle, was the main subject of the picture: it often occurs in scenes from political history.
- *Period:* While the picture still portrays an instant, it is what might be called a 'typical instant' – for example, a scene of life in a Late Bronze Age settlement, where all the activities are part of a daily, repeated routine.

The instant might be applied to any date over a wide time-span, and is typically used for scenes of economic or 'everyday' activity.

Spatial Location

This involves the selection of the particular area to be portrayed. While this may be pre-determined by the context of the project (if this is site-specific), there is still plenty of room for choice. If, for example, the subject is a small village, the reconstruction might take the form of:

- A general view, showing the relationship of the village to the surrounding countryside
- A view of the village only, showing its internal structures
- A close-up in the village itself with the opportunity to show detail such as costume, tools etc

An important aspect of the spatial location is the choice of viewpoint, which can vary in two planes:

Horizontal axis of 360 degrees: in other words it becomes possible to move all the way around an object to choose the desirable viewpoint. This may be:

- The most visually pleasing angle

- Placing the most interesting features in the foreground
- Losing problematic or unknown areas in the background
- The angle that includes the greatest number of relevant items
- The angle that best explains the structure of the subject.

Vertical axis of 90 degrees: In most situations viewers see objects at their own level, look down on them in plan view, or take some angle between the two.

- Eye-level: gives the viewer a sense of immediacy and involvement with the picture, and can show small objects, costume etc in great detail. However, it is not possible to show overall relationships (eg street layouts)
- Plan view is too removed from normal visual experience to have many pictorial possibilities, and is mostly used in technical drawing
- 'Bird's eye view' – about 45 degrees – is a compromise between the two. It is excellent for showing the layout of a site but the effect on the viewer may be distancing and impersonal

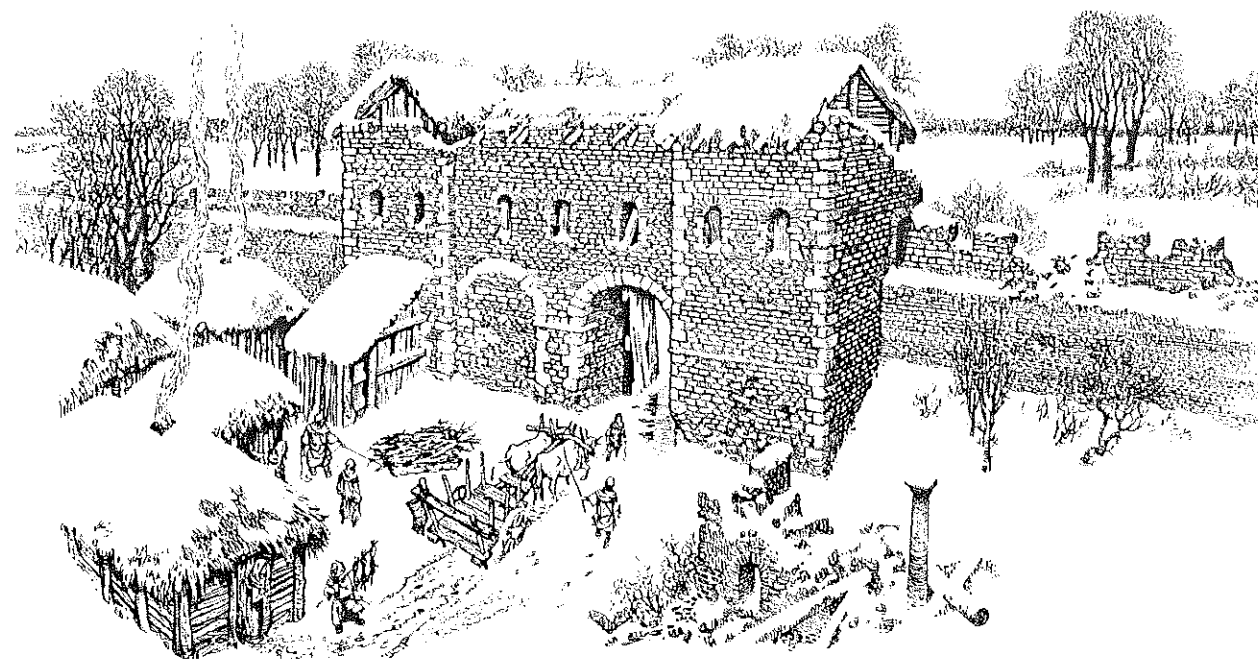


Figure 4 Cripplegate in the late Saxon period, Peter Jackson. This example, from a delightful series by Jackson, is a rare example of a reconstruction illustrator using seasonal weather. Most reconstructions depict an undifferentiated 'fine day'. In addition, Jackson always peoples his scenes with real, lively characters and human situations that the viewer can relate to.



Figure 5 Capture of Vienna, 1848, Victor G Ambrus. From *Under the Double Eagle*, Ambrus & Lindsay, Oxford 1980. Ambrus' formidably skilful draughtsmanship always depicts 'real' people in historically accurate settings. This is an example of the portrayal of an actual event, rather than an undifferentiated period, so the content of the picture is constrained to the military action.

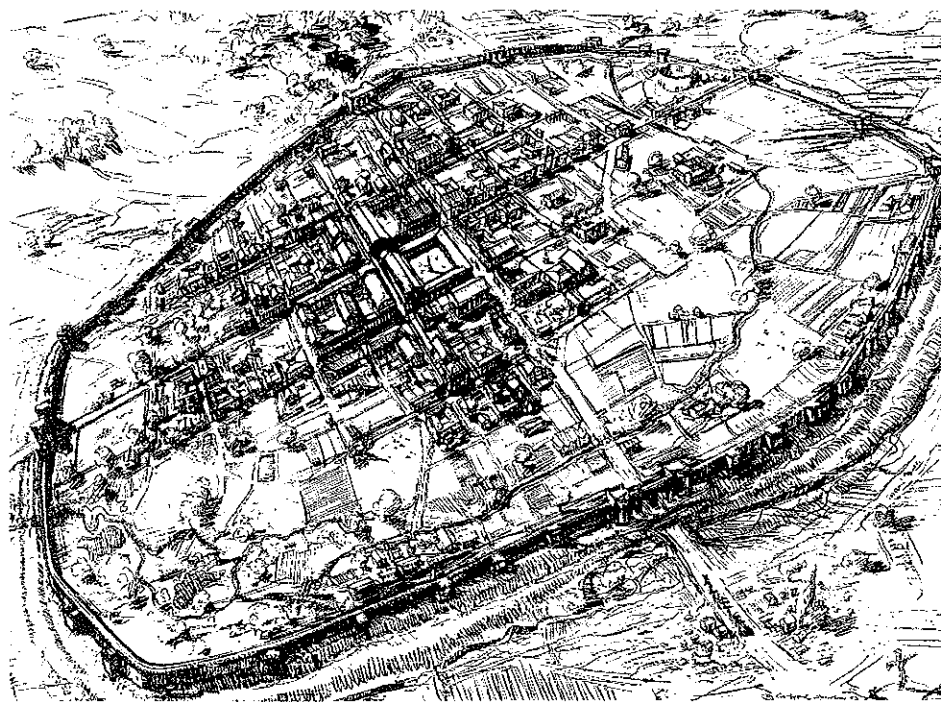


Figure 6 A farming settlement of c.4000BC, Giovanni Casselli, c.1970. By permission of the National Museum of Wales. Unlike the specific event depicted in fig 5, this scene may be typical of any day throughout a wide period of time. The illustrator can, in fact, invent the happenings of a 'typical day' to show whatever activities, structures etc may be required.

Content

Consideration and choice of the time/space co-ordinates will give the main framework of the picture. This now needs filling out with large quantities of content, which can be broadly categorised as:

Figure 7 Casper Johnson: Roman townscape – Medieval townscape. These examples illustrate a number of points. The high view-point shows the structure of the town very clearly, while retaining the visual interest that would be lost in a map. The sequential approach of the two pictures illustrates the process of development within the town. Finally, the free yet detailed handling of the medium gives an impression of the balance between fact and conjecture.



Landscape

The landscape is of central importance to the human story because it sustains it, supplying food, materials and contexts for activities – actors always need a stage. It is appropriate to give due weight to this and not relegate the landscape to the role of mere 'background'

There is a subliminal feeling that landscapes are stable and unchanging in character, whereas they are actually a collection of dynamic elements capable of profound change. Disparity between the normally slow rate of such changes compared to human lifespan probably accounts for this. For a reconstruction of any specific period it is necessary to know what changes may have occurred. These may be of natural or man-made origin.

- The effect of geological and climatic change tends to accumulate as the period recedes in time, although sudden events such as storm damage and volcanic activity are also possible. The stability of any scene will depend to a great extent on local geology: a landscape of granite crags will be much more stable than river meanders in a coastal valley. Climatic change results in fundamental changes to the ecosystems, and effects on tree species are especially distinctive and noticeable.

- Human occupation also has marked effects on the landscape's appearance. This is very apparent with activities such as land clearance for farming and the making of field-boundaries, but can also have less immediately obvious effects, such as clearance of deadwood for firing.

Buildings

Buildings and other structures are often a prominent element, or even the main subject of reconstruction.

If the building still stands, the chances of making a valid reconstruction of its original appearance (or of one of its phases) are fairly high. In other cases, these subjects demonstrate a major difficulty of reconstruction: the only firm surviving evidence is the foundations, which were invisible anyway; all the rest of the structure is conjectural. Buildings of this kind are a major argument for producing a number of alternative, equally valid, hypotheses.

Generally the main structure is extrapolated from foundation traces, and its appearance deduced from a number of sources. Fragmented building material provides clues to the construction; for example, tile fragments in

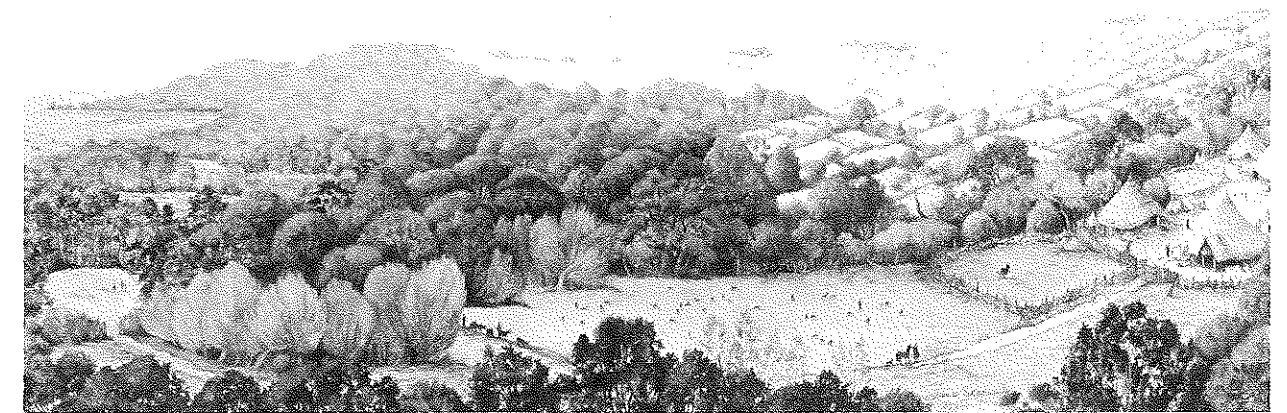


Figure 8 Bleadon in the late Iron Age, Jane Brayne. Landscapes can be the most demanding of reconstructions, for they require knowledge of the natural ecology of a landscape as well as an understanding of the impact of settlement. Changes which result from this interaction are fundamental and often subtle.

sufficient quantity imply a tiled roof. More evidence can be found in parallel examples which are still standing, or in contemporary illustrations.

Sites containing only a few buildings may be fairly simple to reconstruct, but urban sites with many superimpositions can be rather more difficult. It is important to discover which of the structures may represent contemporary groupings, otherwise an overcrowded scene (which never actually existed on the site) may result.

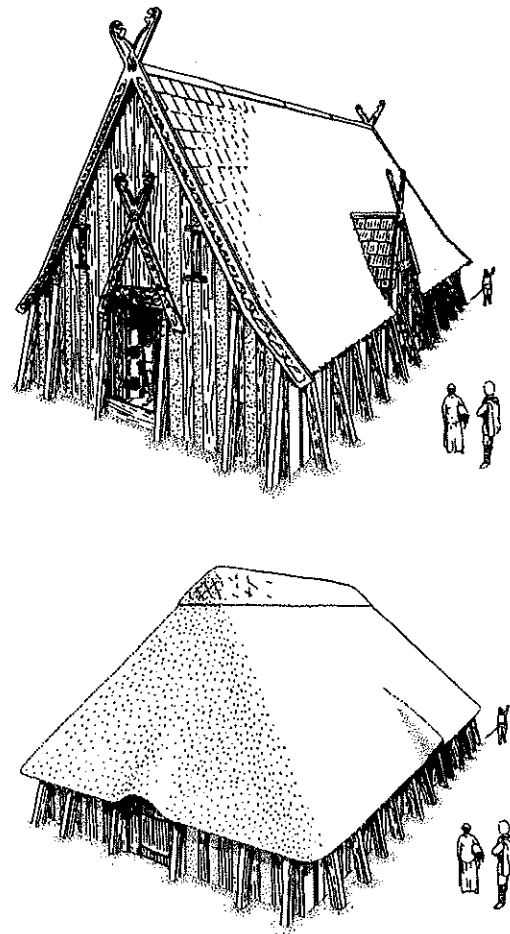


Figure 9 Simon James: Cowdery's Down. This is now a classic example of alternative reconstructions, an approach which is still underused. These 'alternative realities', based on identical data sets, have very different characters and apparent status. The spectrum of possible interpretation can, for most sites, be very broad.

People

If 'archaeology is about people, not things', then human figures should certainly be present in a given reconstruction. The factor deserves a lot of attention, not least because human figures are the element with which the audience will feel greatest empathy. Even purely architectural reconstructions use figures to give scale, but they can offer much more: trading, farming, craftwork or the wearing of clothes, using artefacts – all express the purposes for which the finds retrieved from an archaeological site once existed.

When peopling a scene, there are many aspects that need to be known and expressed.

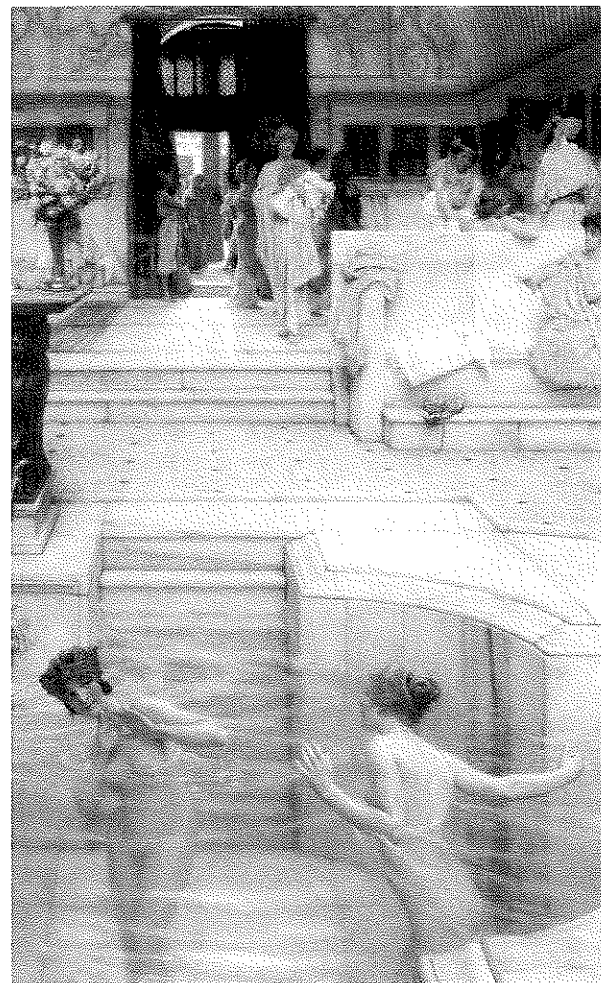


Figure 10 Alma-Tadema: A Favourite Pastime, 1909. Many of the works by the nineteenth century 'History painters' have remained current and influential to the present day. The works of Alma-Tadema have been an acknowledged source of material for film-makers, from Cecil B De Mille's *Cleopatra* (1934) to Ridley Scott's *Gladiator* (2000).

Reconstructing the physical appearance of the site's inhabitants is a complex process. Broad characteristics such as ethnic type, and the physique resulting from the people's diet and lifestyle, should be ascertainable from the evidence: more detailed idiosyncrasies of figure and feature are another matter.

If the site contains skeletal material, it is possible to extract facial likenesses that have a high degree of probability (Prag & Neave, 1997); however, the work is specialised, highly skilled, lengthy and, not least, expensive. A more accessible route might be to extract details such as height, build, injuries and illness, dentition and basic facial characteristics from the specialist's report on the bones, and to incorporate these features into a 'projected person'. Even this might seem a disproportionate effort, but the input is reflected in a more convincing result.

It can happen, in reconstruction drawings, that the people in the picture tend to look rather flat and lifeless when compared to their surroundings, which are often drawn much more vigorously. This may be partly due to unfamiliarity with drawing figures or to a feeling of awkwardness in intruding 'conjectural' figures into a scene composed of elements for which there is hard evidence; embarrassment at revealing one's imaginings is a common response.

In any case, the reason such pictures look false is that they reverse our usual experience; as humans ourselves, we see human figures as the most important and dramatic component of any scenario. Thus a scene which uses 'real' people – developed characters which the artist has created – will be more convincing and involving for the audience.

It is surely legitimate to use appropriate people known to the artist as initial models for these characters. There would appear to be no such thing as a 'period face'; if twenty-first century clothing and hairstyles are applied to Holbein's portraits, the faces look 'modern'.

Artefacts

The artefacts that we find in archaeological settings are usually the old, broken or worn-out rejects of a society, most suffering further degrees of corrosion or other degradation before we come across them. A mental reconstruction of the object is necessary, using expert advice and more complete examples of similar finds, before we put it in the hand of the reconstructed character.

While we know, consciously, that the people in our drawings were inhabiting the modern world (from their point of view), there can be an unconscious wish to

'antique' certain aspects – to make them look a respectable age, or even to fit in with our own taste. An honest drawing of a brand-new Roman villa for example, complete with fake stonework painted on the plastered walls and multicoloured tiles on the roof, might look unspeakably vulgar to us. It is as well to be aware of the tendency.

Animals

Some of the same comments apply here as to human figures. An artist who always goes wrong over the hind legs of cows, should perhaps draw some real ones; then it will cease to be a problem. Analysis of animal bone will give information on what species were found on the site (either live or as meat carcasses), and environmental evidence may well imply the presence of others.

In the case of domestic animals, it is important to remember that early breeds were very different from their modern counterparts, at least, in the Western world. Since the improvements to feeding and breeding instituted around the eighteenth century, all livestock, including poultry, have become larger and heavier. The relative size and age of these animals can also be deduced from their bones; some rare breeds, such as the Soay sheep and Dexter cow, can give clues to their appearance. The appearance and weight of the animals would also have varied with the seasons, according to the keep available. In addition to studying individual animals, the habits and patterns of a group are useful to know. Sheep, for example, are rarely found dotted over a field at regular intervals.



Figure 11 Plough team (Author's photograph). Reference photographs of activities are invaluable. The bodies of both people and animals are shaped by the task that they are performing in specific and characteristic ways.

Activities

The setting of a picture – its landscape and buildings – provides a space in which something can happen; forestry or farming, warfare or childcare; any of an enormous spectrum of activities.

The first step is to establish which activities would be likely, and who would be doing them. Unconscious assumptions about gender roles, and age roles too, are very easily made on the basis of the artist's own society, rather than that of the subject's (see below, 'The impartial view').

To convey these happenings convincingly it is not enough just to include the tools and materials; the process itself must be examined. When someone is holding a baby or splitting a log, their body's shape and actions are dictated in a specific way by the task they are performing. These items of body language are recognised by the audience if they are included, or give an unnatural or stilted appearance if omitted. Familiarity with the task that you are depicting helps; so too does observation and analysis of other people performing it.

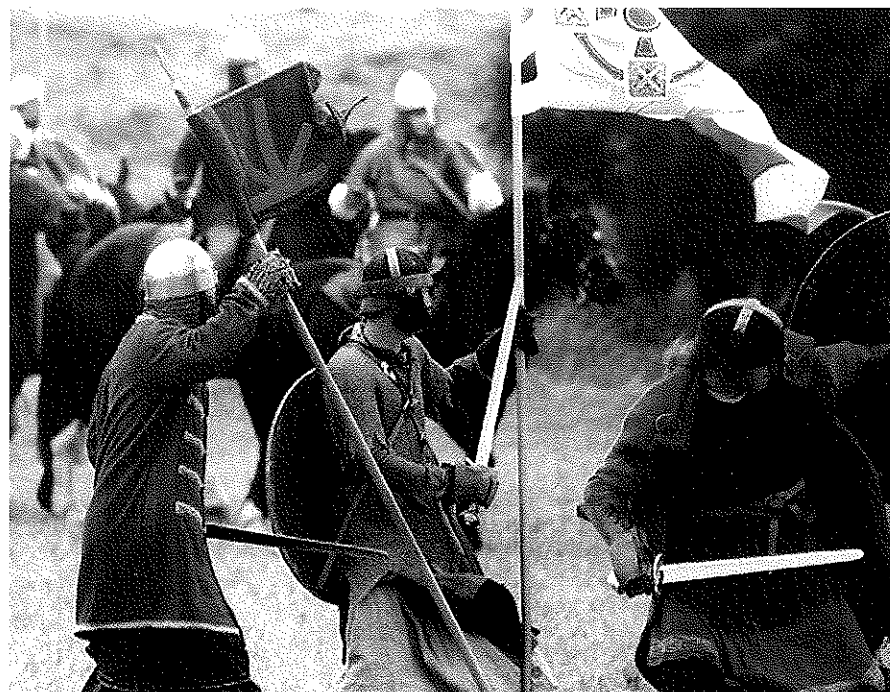


Figure 12 Re-enactments can provide a range of information, but most importantly they show how costume and artifacts look and work in the context of activities.

Information sources

A reconstruction requires a surprising amount of information. Some of this is site-specific and will only be needed for one piece of work (eg the dimensions of a particular building). Much is more generally applicable and, once acquired, is useful time and again.

Whatever data is assembled, it should be of reliable quality. Unusual or radical opinions may be groundbreaking or merely idiosyncratic; unless you have the expertise in the relevant field to make an informed judgment it is probably best to stay with the consensus opinion. Having said that, it is also necessary to be aware of changes and developments in the main body of archaeological interpretation, rather than staying with outmoded concepts in your reconstructions. The archetypal Roman road paved with large stone slabs is a misconception, yet it happens.

Many kinds of source can be used, including:

- Interviews with the archaeological supervisor of the site, and other relevant experts. These work best if you have a checklist of points on which you need information; it makes sure that you cover what you need without wasting anyone's time, though you should stay alert for any interesting new material that might occur in the course of conversation
- Reading the site report, and other reports of comparable sites. These can often complement each other by filling in missing details

- Local archives, estate maps etc can give valuable data on property and field boundaries, land use and many other factors
- General reading on the period in question can give a 'feeling for the period'; this is not exactly quantifiable but it helps the process
- Reference works on details such as costume, architecture etc: the good ones are well researched and quite invaluable. The question of costume contains a number of problems however; for example, the fashionable portraits often used as source material only show the dress of a small portion of society, which was consciously different from that of their social inferiors. Overall, the problem of sources becomes worse the further back in time; thus the evidence from waterlogged, frozen or desiccated deposits where fabrics may be preserved is of great importance.
- Contemporary illustrations give valuable insights once you have deciphered the 'graphic language' that the artist used. Proceed with caution however: artists sometimes painted as they wished rather than as they saw, and conscious anachronisms were not unknown either (Pointon, 1986,30)
- Re-enactment by various societies may not exactly recreate the past, but many of the members take great pains with the accuracy of their equipment and it does give the opportunity to see garments, tools and weapons in actual use. A lot of insight into the behaviour of artefacts can be gained in this way; for example the way heavy natural fabrics fall and fold. One thing that cannot be reproduced – except, perhaps, by professional actors – is the stance and body-language of a person engaged in a real action: two people who are genuinely trying to commit grievous bodily harm upon each other look very different from a couple engaging in a 'friendly' bout
- Intentional plagiarism of other people's reconstructions is both morally and legally indefensible. However, artists can hardly help being aware of each other's work and have always influenced each other; often in areas such as composition where the influence may be genuinely unconscious. What is more serious – and damaging – for archaeological reconstruction is the practice of copying artefacts, not from illustrations of the originals but from other reconstructions: this can lead to a kind of visual version of the game of 'Chinese Whispers', where each copy becomes less and less like the original. It can also grossly distort the facts, as in certain school textbooks where every Iron Age warrior appears to have a copy of the Battersea Shield. Wherever possible, original items or first generation representations are the best source.

The impartial view

One of the most difficult problems encountered by the reconstruction artist is the question of chronological projection, of projecting images, styles or values from our own period and society onto those of past cultures. It is very easy to see this factor operating in many Victorian illustrations, where the gender roles of the nineteenth century middle class are frequently projected onto 'cavemen' this does not mean that we do not make similar transitions without noticing it. From popular film sources it is very easy to see the difference in Roman soldiers portrayed in the 1960s from those in the 1980s. Our surrounding culture is, by necessity, part of our raw material for picture-making of all kinds; it is also part of our mental equipment as an audience, with which we observe and comprehend images.

This may seem to imply that the projection is inevitable, and that reconstructions must be continually remade for each generation. While there is some truth in this, the fact that total impartiality is impossible does not mean that some degree of it cannot be achieved. Awareness of the problem, and conscious effort to compensate for it, can achieve a great deal.



Figure 13 A Family of the Stone Age, Bayard. If the costumes of this group were converted to those of Victorian England, the poses and implicit family structure would be immediately recognisable. However, the implicit messages of our own era will eventually become apparent, however impartial our reconstructions seem at present.

THE ARTWORK

Having assembled the data, the process of creating the artwork can begin.

Media

A wide variety of materials and techniques are available, each having its own particular application. While this paper is mainly concerned with two-dimensional artwork, it is worth considering the full range of possibilities: some of them may be sources of data and images from which drawn reconstructions can be made.

Full scale replicas

Some attempts are made to reconstruct the past at full scale. These may be experiments in the recreation of total lifestyle (the BBC's Iron Age Village), of events (re-enactment societies such as the Vikings, Regia Anglorum, Ermine Street Guard or Sealed Knot), or artefacts (replica vessels such as 'Brendan' and 'Matthew'; the Weald & Downland Museum, flint-knapping *ad infinitum*).

Some criticism is expressed of the unavoidable intrusion of 21st-century mentality into these exercises, which weakens their validity for archaeologists. However, they can provide useful material – both visual and factual – on how things looked, weathered and worked in their environments, and also about the processes by which they were made. The projects require considerable knowledge and practical expertise, and the larger artefacts need correspondingly large spaces and budgets (both for initial building and upkeep).

Computer modelling

In certain areas such as the design of ship's hulls, this technique can save industry large amounts of development time and money by creating a virtual model of the product, which can then interact with a virtual environment. In this way, potential problems show up early in the design process and modifications can be made at proportionately little cost. The technique is certainly an attractive and relatively low-cost alternative to full- or small-scale models in the real world; its only drawback would be the lack of unforeseen factors which often have some bearing on the answer – a computer programme only contains what the programmer has put into it.

Film and video

This can be like having a full-size reconstruction with actors, giving the effect of a full-colour reconstruction with the added dimensions of movement and sound – a medium with a lot of audience involvement, and one which they are accustomed to watching. Much depends on the motivation behind the filming: historic (and prehistoric) settings have always been popular with the cinema industry for their dramatic and visual possibilities, but accuracy has always come second to the demands of the film as an art form. Educational films and videos tend to reverse these priorities: evocation of the period is their main aim rather than an adjunct to a dramatic presentation.

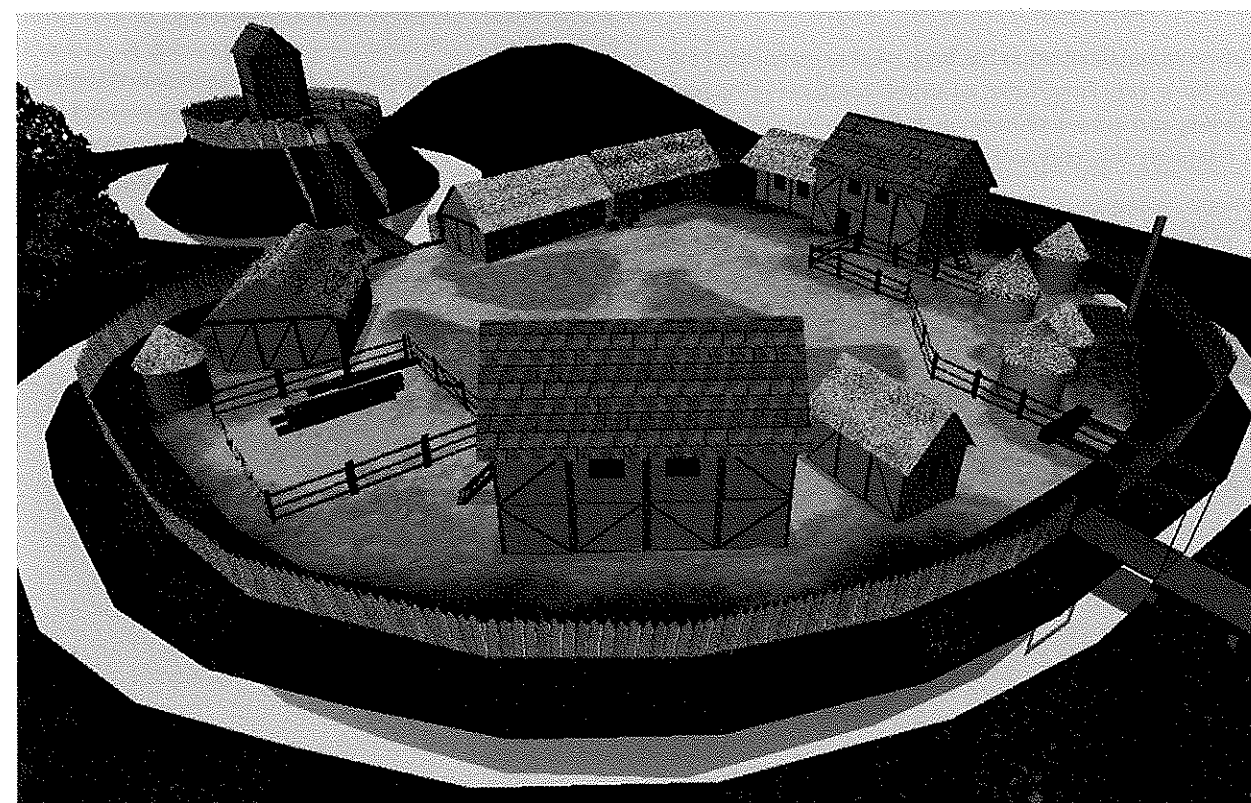
Scale models

In effect a reduced version of the full-sized reconstruction. Models do not have the presence and character of a full scale replica, but they are easier to assimilate at a glance, and they can show complex structures and relationships very clearly. A well-researched and constructed model is a skilled and lengthy task, and may be expensive.

Computer graphics

One of the major advantages of the use of computer graphics for reconstructions is that perspective representations of the subject area – contoured landscapes, building foundations etc – can be constructed directly from the planned data, without the necessity for the artist to plot ground plans onto perspective grids and project the scene by hand. This saves time but it is not actually different in kind from conventional drawing.

The main difference is the computer's ability to achieve a mobile viewpoint on the finished artwork, to travel around the scene in both horizontal and vertical axes and to enter the scene – for example, to enter structures. This medium takes archaeological reconstruction both into and beyond the area of cinema, for as well as being mobile the scene is controlled by the audience, although this interactivity only applies if the audience consists of one person at a time. The flexibility of the medium means that it is also ideal for interacting with film and video footage, for example, the superimposition of a reconstruction onto a view of the site.



Figures 14 and 15 Computer generated material from Mike Pringle: a fortified Roman town and a Norman motte. The major advantages of computer graphics lie in its interactive, mobile and flexible nature. However, 'stills' can be isolated from a more complex creation for particular purposes, and in fact the process can be used solely to produce still images.

Quality of image has been, and to some extent still is, a problem because audience expectation is so high. Comparison with state-of-the art graphics in mainstream film and TV (which is achieved by the use of equipment, expertise and budgets not commonly available to illustrators) can make less high-tech productions appear rather amateur by comparison. However, given the rate of progress in this field, this may not be so much of a problem in the foreseeable future.

One factor that may still be a problem is the temptation to show everything, whether the evidence is there or not. A conventional illustration, by its nature, has some areas that are hidden from the viewer because other objects interpose; the artist can arrange for these to coincide with those areas that are doubtful or missing. This can no longer apply if the audience is, in effect, going to be swarming all over the scene. It would be possible for these areas to be rendered grey, or even insubstantial, but it seems that artists usually render every surface as if full information were available. This may well give a false impression of the extent of the data.

Drawing and painting

Conventional illustration has been used to reconstruct the past for a very long time, as in the tradition of history painting and in book illustration. It also has the advantages of relatively low cost and considerable adaptability.

Despite the advances of computer graphics, some artists prefer to use the conventional techniques that they are used to, or that they find more compatible or effective, for the actual creation of artwork: this practice may well continue in any number of fields. It is still worth being familiar with computer techniques because the two approaches can be mutually beneficial: the ability to construct the basic scenes easily from the technical data, and to shift the viewpoint to the ideal position, are valuable time-savers which don't actually impinge on the more creative processes. Also, conventionally produced pictures can be scanned into the computer for further modification or incorporation with other images.

Images

Images have different advantages and drawbacks according to whether they are in full colour or monochrome; choice depends on the situation.

Full-colour artwork

- Has greater visual excitement
- Can describe scenes from the 'real world' more fully

- Is more compatible when used alongside other coloured images (eg as a still in a video sequence)
- Does not usually reproduce well as a black & white image, unless it has been carefully constructed with this factor in mind
- Tends to be more expensive to produce and print

Monochrome (black and white) artwork

- Can give a very clear and positive image
- Is very versatile; can be adapted to many different uses and situations
- Is easily reproduced in any medium, with little loss of clarity (this is certainly true of line drawings; tonal gradation will normally need screening for reproduction)
- Can easily be adapted to provide a colour version
- Is cheaper to produce and reproduce
- Can tend to look dull alongside full colour work

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Citation of sources

The act of making a picture is a very definite statement, and one which is often taken at face value by the audience. They believe the implicit 'this is how it was' contained in the picture rather than the 'artist's impression' disclaimer contained in the caption.

If an archaeologist is making a written conjecture about the possible meaning and significance of a site, the article will bristle with references, parallels and closely reasoned argument. If an artist makes a pictorial conjecture from the same data, it is apparently sufficient to put 'Artist's impression' as a footnote. This may explain why reconstruction is not always regarded as a very scientific exercise by the archaeological profession; information sources are of widely varying quality, quantity and objectivity, and are never cited anyway. While both considerations of space and publisher's wishes may preclude a full citation of sources under a reconstruction, some effort to include at least the major sources might help the credibility of the practice. In the long run, a recognised system of quantifying the reconstruction's level of probability – if this can be achieved – would give the audience a much better indication of its value.

Style

The illustration profession as a whole contains a wide variety of styles, but archaeological reconstruction drawings are often conventional perspective renderings that can border on photo-realism. This is interesting because (as previously stated) the amount of data is frequently insufficient to form definite opinions about many aspects of the site, and yet the style chosen is one that implies certainty – a 'picture taken at the scene'.

A possible reason for this approach is that we have become very used to photographic images, and may find it difficult to relate to other styles. However, more formal and decorative styles of illustration have several advantages. One reason is that they are, much more obviously, graphic equivalents for a scene, rather than trying to be windows onto the scene itself. Perhaps this formality of style is a way of reinforcing the message that, even with the most painstaking research, a reconstruction is only one probable interpretation among a number of possibilities.

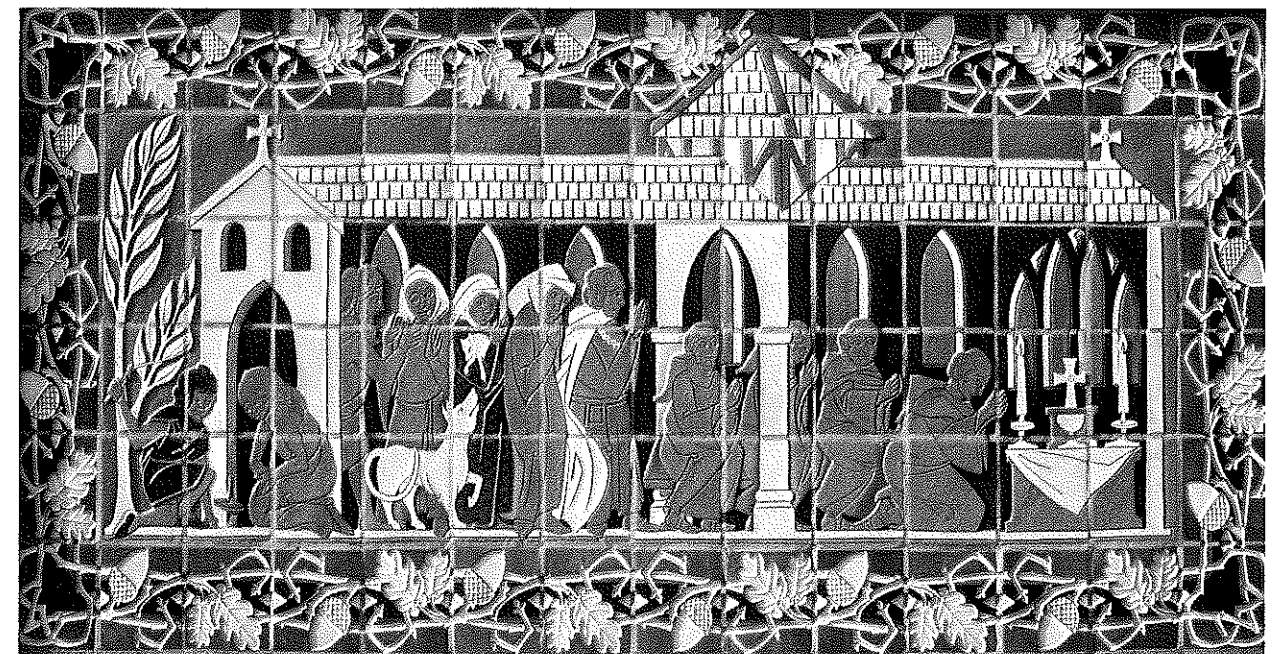
Styles can be chosen to reflect any period being depicted. This creates a period ambience for the book, display or other context, and can have other advantages; for example, the lack of perspective in medieval illustration means that the restrictions of viewpoint do not apply – a town can be shown in plan while its walls are shown in elevation in the same picture. There is still much scope for experimentation in reconstruction drawing, which could greatly enhance its effectiveness and applicability.

Future developments

Any applied art form is inextricably involved with its technology. The media by which ideas are communicated provide opportunities for illustrators; they also make constraints: thus the era of the wood engraving can be seen as the opportunity to perfect the art of linework, or as a time when fine gradations of tone were impossible. As the technology progresses these techniques do not die but they lose their primary status; they are sidelined, to be brought out for those occasions when their special attributes are exactly right for the purpose. Calligraphy is now a flourishing art but it is not used for book production.

The change which affects all illustrators at the moment is the shift from conventional to electronic publication, a fundamental change like the introduction of the printing-press. Books remained books however they were produced, but the possibilities of interaction and multi-layering of information make electronic publication a different art form.

Figure 16 The Friary Mural, John Hodgson 1980 – detail from a series of ceramic panels for British Telecom, Southampton. Adopting a 'Period style' can have a number of advantages over attempting photo-realism. Not least is the fact that this picture is unmistakably an imaginative construction; it does not imply certainty or pretend to be a 'photograph taken at the scene'.



There is no question that the electronic *presentation* of reconstruction graphics is now the dominant method. Far more people see these images on television than on the printed page. Many of them are conventionally produced items, but it is worth noting that the styles employed by the artists are very suited to the medium: full colour, good contrast, and working with tone and area rather than line.

But the real change is not so much in presentation as *production*. As discussed above, computer graphics are capable of a degree of complexity and flexibility that will make the medium the ultimate tool for conveying this kind of data. It is probable that the demand for conventional graphics in this field will decrease even for conventional publication, as it is possible to take a 'still' from a computer-generated sequence.

The change of process will not, of course, invalidate the requirements and constraints concerning the collection of data. If anything they will become more demanding, since the general public is becoming more aware, and more

knowledgeable, about our subject. Another, contributing, factor is the medium's greatest advantage – its flexibility.

Always, in the past, the artist has been tied to one interpretation – a 'best guess' scenario, where one interpretation from among many possibilities has been presented as 'the answer'. There is now the opportunity to present a far more fluid picture which is much more representative of the real situation – showing possibilities, rather than pretending to certainties. Also, we could show life as the process that it is; following a building or community through the stages of its conception, growth and decay, rather than presenting one point in the process as being the thing itself. The processes would require as much technical, design and creative skill as ever, and we may come closer to what we are trying to achieve.

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The Association of Archaeological Illustrators and Surveyors (AAI&S) was formed in 1978. Its aim is to promote high standards in the field of archaeological illustration and surveying and to encourage the adoption of these standards within the profession as a whole. Full membership of AAI&S is recognised by IFA as an important yardstick in assessing a high standard of competence in these fields.

Communication of ideas and techniques by its members is encouraged through publications and activities. These include a regular Newsletter, the Association's Journal (Graphic Archaeology) and technical papers, as well as the Annual Conference. The majority of the Association's membership is drawn from archaeological personnel who are based in the British Isles, however there are an increasing number of members in Europe and North America.

Further information can be obtained from: AAI&S, c/o Dept of Archaeology, Laver Building, University of Exeter, Devon EX4 4QH, or via our website aais.org.uk

Other technical papers available from AAI&S include:

Recent Research in Archaeological Footwear

The Illustration of Lithic Artifacts: a guide to drawing Stone Age tools for specialist reports

The Illustration of Excavated Window Glass: suggestions for methods and materials

The Illustration of Wooden Artifacts: an introduction and guide to the depiction of wooden objects from archaeological excavations

The Survey and Recording of Historic Buildings

Aspects of Illustration: Prehistoric pottery

The Institute of Field Archaeologists (IFA) is the professional body for archaeologists. It promotes best practice in archaeology and has almost 1600 members across the UK and abroad. Archaeologists who are members of IFA work in all branches of the discipline: underwater and aerial archaeology, heritage management, excavation, finds and environmental study, buildings recording, museums, conservation, survey, research and development, teaching, and liaison with the community, industry and the commercial and financial sectors. IFA publications include a quarterly magazine, a Yearbook, numerous Standards and Guidance notes, and technical papers.

Other technical papers available from IFA include:

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No 2 1999 Mhairi Handley Microfilming Archaeological Archives

No 3 2001 Margaret Cox Crypt Archaeology (electronic publication)

No 4 2001 Ian Oxley The Marine Archaeological Resource (electronic publication)



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