| Author | Andy Bates |
|-----------------|---|
| Author Status | University of Newcastle upon Tyne |
| Nature of Paper | Journal Article |
| Journal Edition | The School of Historical Studies Postgraduate |
| | Forum e-Journal, Edition Three, 2004 |

Archaeological Reconstructions: an Experiential Approach to Archaeological and Historical Research

Introduction

The reconstruction of archaeological artefacts, as a branch of experimental archaeology, forms an approach to archaeological and historical research which allows the practitioner to experience first hand something of that which the maker and user of the original artefact would have thought and felt during its creation and period of usage. This must of course be conducted in a spirit of academic enquiry with rigorous methodologies being applied at all times. Work undertaken leading to a successful reconstruction may be subdivided into several stages:

Research

The first stage of any project must be to examine the origin of the artefact proposed for reconstruction; to look at its historical and geographical provenances, the materials from which it was made, wear or damage acquired during its useful life and the purpose(s) to which it was put. The information gathered may come from many sources;

• The study and interpretation of historical texts. For example *Ælfric's Colloquy* (an 11th Century instructional and educational document which was used in monastic schools forming a dialogue between master and pupil and which was written in both Latin and Old English). (Ed. Garmondsway 1978). Here we find the section below which describes the trade of the 'shoe-wright' or leatherworker. (Terms describing leather items in italics.)

Þu, sceowyrhta, hwæt wyrcst þu nytwyrnessæ? You, shoe-wright, what do you make which is of use?

Ys, witodlice, cræft min behefe þearle eow ond neodþearf. Truly, my craft is very useful and necessary to you.

Hu? How?

Ic bicge hyda ond fell, ond gearkie hig mid cræfte minon, I buy hides and skins and prepare them using my skill,

Wyrce of him *gescy* mistlices cynnes, *swyftleras* ond *sceos*, (I) make from them *footwear* of various kinds, *slippers* and *shoes*

Leperhosa ond butericas, bridelpwancgas ond geræda, flaxan Leather leggings and leather bottles (i), bridle straps and trappings, flasks

Vel pinnan ond higdifatu, spurlebera and hælftra, pusan Leather bottles (ii) and leather bottles (iii),spurleathers, halters, bags,

Fætelsas; ond nan eoper nele oferwintran buton minan cræfte. *Leather vessels*; and none are willing to see the winter through without my craft.

An analysis of the above tells us at the very least that late Anglo-Saxon people were aware of at least three types of shoe and of four types of leather bottle or flask. It also illustrates the ubiquity of leather in the period, it being used - when lined with pitch - for drinking vessels, a usage which persisted until the 19th Century and the love of which was captured in a ballad of at least 17th Century date, the refrain of which runs,

'I wish his soul in Heav'n may dwell

That first devis'd the leather Bottell'.

(I carried out a reconstruction of an Anglo Saxon leather bottle in 2002 which was based on a ceramic original clearly inspired by a leather model. This is now in the possession of the Bamburgh Research Project. A similar example can be viewed in Waterer 1968, Pl. 93.)

- The analysis of contemporary representations of artefacts in other media (cf. the bottle above). For example, Fig 1. shows a Bronze Age ceramic 'Boot-vessel' from the Museum of Azerbajdzjan, Baku (Waterer 1968, PI.42). This is evidently based on a leather original as the stitching and lacing are delicately picked out in white slip and clearly illustrate the extremely viable methods of construction and of closure. I have reconstructed similar boots using predominantly this model. (Milfield Henge Reconstruction Project 2000. Also Fig. 4.)
- The study of original tools and their usage. For example, in Buckinghamshire County Museum at Aylesbury there is displayed a Bronze Age 'Beaker' burial excavated from Ravenstone Quarry (Allen in Bucks Archaeological Journal 1978), consisting of the distinctive beaker itself, three flint blades, a bronze awl point and a flat wooden stick 7 to 8 inches long and about 1 inch wide in the centre. This stick has a distinctive 'S' shaped curve in the middle and it is this which, to me, denotes its purpose. It is exactly the same shape as a piece of equipment used by early modern shoemakers known as a 'turnstick' (Salaman 1986, 180). This was used to fabricate a type of footwear item known as a 'turnshoe' the sole and uppers of which were stitched together inside out, then soaked in water. The resulting softened shoe could then be turned the right way round using the turnstick, one end of which would be inserted into the toe of the shoe, the other lodged against the shoemaker's abdomen and pressure applied therewith, thus leaving the hands free to manipulate the leather for turning. This method of construction removes the stitches - which would otherwise guickly wear through - from contact with the ground and thereby extends the life of the shoe. An obvious deduction from this is that Bronze Age people – in this area of the country at least - wore turnshoes, a style which persisted in Europe until the 16th Century and the introduction of the welt and the heel. This assemblage of tools also carries other implications and raises further questions. For example, is this the tool kit of a shoemaker or of a general leatherworker? Was there any distinction? (cf. the Anglo- Saxon 'Sceowyrhta' who also made bags and bottles.)

Why are there no needles with the kit? Were they perishable (the wood of the turnstick survives) and therefore possibly of an organic material such as hogs' bristles which are used even today by shoemakers? Does the burial with the beaker indicate the societal prestige in which this person was held because of their skill? The deductions which can be drawn from such an assemblage of tools appear almost endless.

• The examination of artefacts themselves in order to determine the original methods of construction used. For example Fig. 2 shows two pairs of child's' clogs. The first is a Northumbrian Clog of a date around 1910 which is in the possession of a private collector. The second example is the result of a commission by English Heritage which was fabricated by me after an analysis of the original. This allowed me to determine the materials used (beech sole, cowhide upper, linen thread, steel irons and a brass toepiece) and the methods of construction. The sole of the original even showed signs of its wearer's overpronation and still carried some early 20th Century manure!

Execution

The second stage of the reconstruction of an artefact is to take the results of the research and to translate these via the medium of manual ability into a physical object. Given the antiquity of some of the objects this naturally means that many antiquated and traditional skills will need to be studied, practised and mastered before this can be done. I have had to reacquire and demonstrate the skills below, occasionally with the aid of a professional such as the saddler under whom I studied (Mr Morris Savage of Fencehouses, Co. Durham).

- Bone and horn working (used to reconstruct an 8th Century Anglian comb from the 'Bowl Hole' cemetery, Bamburgh Castle, now on display in the Archaeology Museum in the castle).
- Leatherwork (items from Neolithic to modern).
- Woodwork (the clog soles above, knife handles etc).
- Metalwork (a copy of the late Roman cavalry helmet found at Deurne, Holland, made for the then English Department, University of Newcastle upon Tyne, illustrated in the Undergraduate Prospectus 1993).
- Flint knapping (Palaeolithic spears used in a final year research project by a Newcastle University student).
- Other more esoteric skills such as medieval calligraphy (Fig. 3; a reproduction of the front page of the Old English poem 'Beowulf'), the making of prehistoric glue, the preparation of green animal hides and so on.

<u>Analysis</u>

The third stage of the reconstruction of an artefact is the analysis of the process of its production and a consideration of the object itself, specifically its form and its function perceived within the context in which the original was made and used. Through this analysis, conclusions can be drawn which are integral to one's perception of the person or culture by and for whom the artefact was made and to one's understanding of the manufacture and usage of the artefact itself.

- As described above, one becomes aware that largely forgotten and marginalised skills have been reacquired. This in itself can often be justification enough for carrying out the process of reconstruction, in that one discovers a 'continuum of craft'. (cf. the Bronze Age leather working tool assemblage and its continuity, in slightly varied form, through to the present day. There is also still in use a traditional saddlers' crescent-shaped knife called a 'half-moon knife', the form of which can be traced back to Egypt of C.1450 BC (Waterer 1968, PI.5). This also bears comparison with the traditional Inuit 'Ulu' knife, used for similar purposes (Mears 1997, 23).) The realisation of one's becoming part of this continuum is almost a by-product of the process of reconstruction, one which slips in under the guard of one's consciousness. It allows one to acquire an almost subjective appreciation of that which began as an objective study.
- It is possible to acquire a more comprehensive grasp of the nature of the traditional materials used, the labour involved in their acquisition and the value which they would embody for the original user or owner. (For example, having retrieved an epidotised tuff block from Langdale, Cumbria, and then spent the best part of a week shaping one of them into an axe-head with a diamond-edged angle-grinder blade (Fig. 4) (hardly a traditional method but one tried for speed!) a genuine appreciation was gained for the people who originally sat in the Langdale factories at the top of scree slopes knapping the axe blades then polishing them to a high gloss using only manual pressure and a sandstone block. I and a colleague working in combination did not even begin to approach the polish of the originals using mechanical means and Langdale can be a very inhospitable place in which to work. How hard must it have been for the original makers?) The amount of energy and time expended in the manufacture of each axehead must have been phenomenal and is therefore indicative of the status which must have been attached to these objects and to their possession.
- Through the act of creation of the artefact one is able to gain quite literally first hand knowledge of how the artefact would have been used. Through shaping it, gauging it for size and weight, experimenting with various materials with which it might be utilised or by using it in different environments, one is able to draw from an authoritative and experientially based standpoint certain firm conclusions as to the article's usage. A critic having had no involvement in the process of construction is less well equipped to do this. (For example, an academic (nameless for obvious reasons) once commented on an artefact found in an early 6th Century Anglo-Saxon grave excavated in the south of England. This artefact was made from bone and looked exactly like a traditional forked clothes peg. He stated (despite any evidence (to my knowledge) for such a practice anywhere in Britain, or anywhere else for that matter) that the peg was probably used by Anglo-Saxon persons wore clothes, I would suggest that this item was probably a clothes peg. Thus the value of the experience of anyone who has ever carved a clothes peg or hung out washing!)

The above can be combined with other areas of enquiry, such as ethnographic comparison, in order to 'flesh out' the evidential base. (For example, the Ulu knife above and the fact that the 'Boot Vessel' in Fig. 1 bears remarkable similarities with the footwear of certain Native American peoples of the 19th Century.) Such conclusions, whilst largely conjectural, are built on the bedrock of experiential investigation and as such will be of tremendous value to and form an invaluable component of archaeological and historical research.

Conclusions

In April 2000 a project was undertaken in Milfield, Northumberland whereby the above principles were put into practice and then extended into areas well beyond the usual remit of archaeological experimentation. Under the direction of Dr Clive Waddington of Newcastle University thirteen individuals came together to reconstruct a Neolithic wooden henge close to the site where the original was excavated by Dr Waddington some years earlier. It was decided that the participants in the project would undertake this endeavour whilst living in conditions as close as could be determined to those thought to have been experienced by the original builders.

The methodology stated above was adhered to in the most rigorous manner. Textual analysis was clearly inappropriate given the era being reconstructed but the Baku 'boot-vessel' was studied as a representation of footwear of the approximate period as were original flint tools and also clothing worn by the 'Iceman' "Ötzi" found frozen high in the Alps (Spindler 1995).

Other areas of research were also explored. Where archaeological evidence grew thin comparative ethnographic material was substituted, such as clothing worn by certain Native American hunter-gatherer/ agriculturalist peoples of the C19th.

Further to this each member of the team was allocated a particular area of research to investigate and to bring to a useful level of practical skill. These included basket weaving, herbalism (studied by a participating medical doctor under a practicing herbalist), cookery, flint technology and clothing, the latter being my speciality (see Fig. 4). These skills were then put into practice by each member of the team, some being taught to the other participants. For example, each person constructed their own set of boots and clothes which were then worn by them for the two weeks duration of the project and which generally performed extremely well under what were to be the most extreme conditions. The team also had to learn to utilise antler picks, digging sticks and shovels made from cattle scapulae in order to construct the henge itself.

The skill of cooking en masse in friable ceramic vessels and on stone over an open fire had to be rapidly learned and the previously acquired expertise of some members of the group in fieldcraft was invaluable in shelter construction, animal carcass preparation and wild plant recognition and utilisation. The analysis of the results of the above undertakings assumed many forms. Dr Waddington was able to monitor and record the process of construction of the henge and was thereby able to calculate hypothetically how long it would have taken the original builders to dig the ditches and erect the enormous posts, the number of people necessary, the amount of resources required in the way of food and so on. These conclusions will in time lead to important deductions about the structure of Neolithic society in this part of Great Britain.

Antiquated and marginalised traditional skills were reacquired by members of the team such as flint knapping and basket weaving. An appreciation was gained of the materials which would have been used by the original Neolithic builders. For example, the construction of a pair of Neolithic boots using flint blades, a bone awl and bone needles, conducted under a rough shelter in the rain, proved to be a far more intense and indeed meaningful undertaking than would have been the case working with modern materials under modern conditions, more especially so as the boots were then to be worn and relied upon by the maker.

Through utilising the tools fabricated for the project a practical, experiential knowledge was obtained with regards to their application in various environments. For example, the stone axe (Fig.4) was used to clear trees in a small area of woodland where the participants' shelter was then to be built. It was found that the axe head of tuff was just as efficient as a steel axe (also used for comparative purposes) and required to be sharpened after felling probably four to five

small trees (G.B.H. 18"-20"), whereas the steel model benefited from being sharpened after felling only one such tree.

Other less easily measurable information was gained from the physical sphere, this time largely anecdotal but of no lesser importance for this. For example, the April during which the project was conducted turned out to be the coldest and wettest since records began; temperatures dropped to minus 4° C and rain was constant with a northerly wind for four days. The participants lived with these conditions stoically and without complaint for the whole period, with the exception of one night where – in order to avoid incipient hypothermia – the majority of the party was ordered by the medical doctor to spend the night in a nearby cottage. Even then three of the party continued the experiment and remained on site and, despite their all being experienced 'outdoorsmen' (one in a military capacity), all three endured the most difficult physical conditions of their lives. An unexpected result of this was that after the completion of the project the party all experienced a vastly increased resistance to cold. For myself, when I returned home I could not close a single window as it then felt uncomfortable not to have air moving around me and I could not put on the central heating as the raised temperatures were unbearable. This state of affairs lasted for two years, much to the consternation of the people with whom I was living, and it persists to some degree to this day. This suggests to me that the human body is not fully adapted to an existence in heated and air conditioned homes, offices, shopping centres and cars and in a healthy individual and under the right conditions it will revert to its natural state of being within a short space of time.

The participants also discovered that they fell into a routine whereby they naturally ate six or so meals per day, this being found to be the most efficient method of supplying fuel to a body which is working constantly. This work, this expenditure of energy, was not only the building of the henge, which was almost literally back-breaking at times, but also the day to day business of living; gathering wood for the fire, maintaining the shelter, hunkering down to eat, constantly moving to stave off cold and every action, however small, requiring an energial output of some kind.

The above are physical matters; some empirical, some purely anecdotal but all able to be measured and recorded in some way. Thus far the enterprise had moved beyond the usual boundaries of a reconstruction project by effectively utilising its participants as its subjects to some degree. It could also be said that the participants were both their own subjects and simultaneously their own observer and recorder in their own study, as they observed physical effects which they underwent. This requires a certain reflective capacity in an individual and carries echoes of Malinowski's (1922, 1-4) notion of 'participant observation', a methodology which he advocated for use by anthropologists working closely with 'native' peoples whereby the anthropologist would live side by side with their subjects, interacting with them as a member of their community whilst simultaneously observing and recording them from a mentally distant and detached viewpoint (though in my example the participant clearly acts as both anthropologist and 'native').

In the case of this project less tangible results were also obtained, these from realms more usually thought of as psychical or spiritual. Firstly, the party was delivered of a freshly shot roe-deer for consumption. This had been gutted but still required preparation by way of skinning, beheading and so on. Two of the participants in the project skinned the animal with flint blades whilst three others assisted. In order to facilitate this, the carcass was strung up from a tree. (As an aside; the temperature was so low on that day that I sliced through the cold-numbed tip one of my fingers with a razor-sharp flint blade and did not notice.). At this point, the five persons present, none of whom professed adherence to any religion, spontaneously and with no preparation, held a small, intimate and intense ceremony of thanks to the soul of the deer. Whence came the motivation for this manifestly spiritual act? It served no practical purpose; if anything it delayed access to the meat, yet it was felt by all to be absolutely necessary. Was this an echo of an emotion which must have been felt by our Neolithic ancestors, created by our immersion in a similar physical and

mental environment to theirs? Was it an archaic upthrust from some area of the collective unconscious, accessed via the privation of cold and constant hunger and the intense emotional milieu? I am not able to say, I have reached no firm conclusion as to the provenance of this phenomenon. Yet it was real.

Similarly, in my own psyche I observed a slowing down and a mental clearing out. After a short while the buzzing swarm of day to day distractions which I hived in my modern, western psyche dispersed. Thoughts of bills to pay, work undone, appointments in the future all evaporated leaving only notions concerned with the present such as finding warmth, food and shelter. This in no way impaired my intellect; on the contrary, it left plenty of space for reflection and for observation and consideration of myself, my colleagues and my environment. This at the time was all that was necessary and desirable for existence.

Finally, the three who sat out the black and cold of the darkest night of the project, hunched wet and shivering round a pitifully small fire, experienced things which are at present beyond my ability to convey in words and so must for the moment remain hidden and taken on trust. I would however assure the reader that these also were very real, shared and beyond the scope of rational thought.

The above latter three examples are of psychical experiences engendered by participation in an archaeological reconstruction project and originating from sources beyond the bounds of what would be considered usual or possibly even acceptable to a rational mind. Western scientific analysis has depended until now upon divisionist and reductionist thinking and repeatable and measurable empirical experimentation, collecting that which is apparently verifiable and discarding that which is not or that which is beyond its comprehension in the material world. History is littered with the bones of creative thinkers, crushed underfoot because they dared to consider the space beyond the sealed casket of dogma. Even the advances made in the field of depth psychology in the C19th and C20th by such luminaries as Jung and Freud are still viewed askance by some with the suspicion normally reserved for the supposed ravings of 'witch doctors' or 'medicine men'.

Even so, Western science is not above plundering the treasure chest of the actual medicine men of indigenous cultures no matter how irrational the origin of a particular gem. For example, at the "Earth Summit" at Rio in 1992, ethnobotanists and anthropologists gave evidence that a massive 74 percent of the modern pharmacopoeia's plant-based remedies were first discovered by 'traditional' societies (which still have not been and almost certainly will not be compensated for the discovery) (Narby 1998, 38-43). The pharmaceutical companies taking then synthesising these plant based remedies neglect to mention that the qualities of the majority of these plants were discovered by native people participating in hallucinogenic experiences and during these being informed *by the plants themselves* of their properties. Narby quotes ethnobotanist Richard Evans Schultes who states of the medicine men of a region of Colombia, "One of the most renowned is Salvador Chindoy, who insists that his knowledge of the medicinal value of plants has been taught to him by the plants themselves through the hallucinations he has experienced in his long lifetime as a medicine man." (Narby 1998, 41-42.) Does this devalue to modern surgery the efficacy of, for example, a muscle relaxant derived from curare? Clearly not.

Whilst I am not advocating the regular consumption of hallucinogens to further creative thought, it is evident that modern Western science will adopt substances (and presumably concepts) as it sees fit if they can be of practical use to it, even if the origin of that item's use in human society is thought by Westerners to be found in phenomena more usually associated with mental disorder, such as hallucinations or talking plants. These origins, I suspect, are then conveniently ignored or suppressed.

It is that which follows then which I believe such an archaeological reconstruction as occurred at Milfield in a frozen and sodden April 2000 has to offer to Western investigative thought;

meticulous academic research, craftsmanlike execution of acquired skills, total commitment to necessary tasks and these undertaken in a spirit of mindful self-observation and assessment. And all of the above carried out with a mind open to less palpable physical sensations and, more imprtnatly, to experiences of a spiritual and psychical nature, for these nebulous entities can bring with them awesome, unearthly insights which, when wedded to the methodologies of Western science, have the potential to increase human knowledge and experience way beyond the bounds of current rational comprehension.

Whence emanate these psychical experiences it is still not possible to state with any degree of certainty. It is quite feasible that their origin is in the landscape, in the unconscious of the individual or in that of races as a whole. It is also plausible, as some so-called 'primitive' peoples would profess, that everything – including this paper – is occupied by a spirit which communicates with us in imperceptible ways. At any rate, it is my firm belief that archaeological reconstruction, and Western investigative thought as a whole, can only benefit from new methodologies which lend equal credence to the physical and to the psychical, the objective and the subjective; the article in 'New Scientist' and the myth or dream. And with thoughts of dreams of Benzine molecules and of sub-atomic particles 'performing' for the observer, it remains to state only this; that the investigator now becomes as one with his or her subject. Hence my role in the content of this paper.

Bibliography

ALLEN, D., The Excavation of a Bronze Age Beaker Burial (Bucks. Archaeological Journal Vol. 138 1978).

GARMONDSWAY, G.N., (Ed.) Ælfric's Colloquy (Exeter 1978).

JUNG, C.G., Memories, Dreams, Reflections (London 1995).

MALINOWSKI, BRONISLAW, Argonauts of the Western Pacific (New York 1922).

MEARS, RAY, World of Survival (London 1997).

NARBY, JEREMY, The Cosmic Serpent (London 1999).

SALAMAN, R.A., A Dictionary of Leatherworking Tools 1700 - 1950 (London 1986).

SPINDLER, KONRAD, The Man in the Ice (London 1995).

WATERER, JOHN W., Leather Craftsmanship (London 1968).

Illustrations



Fig 1: shows a Bronze Age ceramic 'Boot -vessel' from the Museum of Azerbajdzjan, Baku.





Fig. 2: childrens' clogs

| SPET DE EAD DE | |
|--|--|
| JEAL LE LAR DE | |
| namzen dazum beod cyninza | |
| brym zeppunon huða æbelinzaf ellen | |
| ppemedon opz scyld scepinz sceapene | |
| preazum mono 5 mæzpum mædo fezla | |
| opzeah ez lode copl syddan cepet peaps | |
| peusceape punden he bæs proppe zebad | |
| peox under polonum peopomyadum bah | |
| obt him æshpyle þapa ymb fizzendpa | |
| open hnoupase hypan scolde zomban | |
| Tyldan Free Job cynunz. dæm enpepaper | |
| oprop conned zoouz in zeapdum hour zod | |
| sende polce zo prope pypendeppe on | |
| zeaz Fhie op druzon aldoplasse lanze | |
| hule him bef lipper puldpef pealdend | |
| popoldape popzar beopulp par breme | |
| blæd pide spranz scyldes apepa scede | |
| landum in Spa ficeal Jeonz Juma zobe | |
| Zepypceau ppomumpeohzipzumouredep | |

Fig 3: a reproduction of the front page of the Old English poem 'Beowulf'

3



Fig. 4: axe-head with a diamond-edged angle-grinder blade