ALECSTEY - THE BIGGEST BUNGLE SO FAR

In 1962 the important Roman town of Alcester, [two thirds of which lay undisturbed beneath agricultural land], was selected by the nation as a monument worthy of preservation, and was given the maximum statutory protection short of actual guardianship. Eight years later the County Planning Officer of Warwickshire ignored this and designated the land for development formally backed by his County Council. In doing so they vastly enhanced its money value, and put the Nation in a position of potential liability to the Marquis of Hertford, should it wish to continue to safeguard this important part of its archaeological heritage.

Subsequently when a planning application came before Stratford District Council, it refused to acknowledge the Nation's desire to protect the monument as grounds for refusing the application. All representations by D.O.E. and other bodies were disregarded. In fact the District Council operating in a geographical area renowned for planning controversy even supported an attempt to develop an additional area which had not even been zoned for development.

Dr. Raymond Lamb, Warwickshire County Archaeologist, now takes up the story.

"The existence of a Roman town beneath the present town centre and the fields around Alcester has been known since the eighteenth century. The extent and importance of the remains, however, have become clear only since the 1920's, when a local antiquary, Mr. B.W. Davis, began to make records of stray finds and to carry out small scale excavations. During the 1950's, after the death of Mr. Davis, this work was carried on, in a much more organised way, by H. Hughes of the University of Birmingham Extra Mural Department."

"In 1962..."
EXPERIMENTAL ARCHAEOLOGY AND THE BUTSER ANCIENT FARM PROJECT

Experimental archaeology can be sensibly claimed to be fundamental to the progress of archaeological thought and practice. Especially is this so with reference to prehistory and modern methods. In fact, experiments have been conducted for as long as archaeology has been practised and it is only relatively recently that this has been subjected to rigorous scientific controls. As a general description, experimental archaeology is the use of archaeological evidence or even technology itself, whether it is physical or chemical, to determine the relationship of different disciplines and studies of modern technology and model building, cultural anthropology to thermodynamics.

In basic terms it seeks to ask the question of how and why of the 'what' that is recovered by excavation and fieldwork. In the early stages of this process it is often necessary to borrow techniques from a multitude of different disciplines but only insofar as those disciplines are applicable. A great danger is presented by the over-application of techniques beyond the limits of the available evidence and question involved. For example, there is always the attractive invitation offered by the techniques of modern geography to apply landscape-interpretational models which, within the present acquisition of data from prehistory, cannot be logically supported.

Experimental archaeology is most easily understood when presented in the form of a scientific formula. The formula consists of four elements: initial and of the greatest importance is the archaeological data. The second element of the formula consists of the interpretation of that data, the explanation offered by the excavator of the material recovered. The explanation, in reality, is only an hypothesis based upon the specific site evidence and comparable material from elsewhere. It is a matter of growing concern that the majority of excavation reports are, in effect, the presentation of an hypothesis and not the record of an excavation containing detailed information about and description of the data recovered. The data is to be measured. Similarly one can hypothesise a process that 'must' have happened although there is no archaeological evidence as yet. The manufacture of charcoal fuel was vital for the production of metal and yet there is virtually no evidence of its manufacture in the archaeological record. An experiment to produce charcoal.
In basic terms it seeks to ask the questions of "how and why" of the "what" that is recovered by excavation and field work. In the examining process it is often necessary to borrow techniques from a multitude of different disciplines but only to far as those disciplines are applicable. A great danger is presented by the over-application of a technique beyond the limits of the available evidence and question involved. For example, there is always the attractive invitation offered by the techniques of modern geography to apply "landscape interpretation models" which, within the present acquisition of data from prehistory, cannot be logically supported.

Experimental archaeology is most easily understood when presented in the form of a scientific formula. The formula consists of four elements. Firstly and of the greatest importance is the archaeological data. The raw evidence achieved by excavation and field work supplemented only rarely by fragmentary documentary sources. The second element of the formula consists of the interpretation of that data, the explanation offered by the excavator of the material recovered. The explanation, in reality, is only an hypothesis based upon the specific site evidence and comparable material from elsewhere. It is a matter of growing concern that the majority of excavation reports are, in effect, the presentation of an hypothesis and not the record of an excavation containing detailed information about and description of the data recovered. The present state of archaeology, lack of finance and forced salvage operations, is serving to produce more and more such hypotheses unsupported by accurately recorded data. It is of vital consequence that such data be recorded in order to allow the possibility of re-interpretation. Total excavation is total destruction. The archaeologist is in an envious condition and at least there is the possibility of exhuming the latter's mistakes. It has been said in the pages of this journal by Mr. Philip Barker, a founder of TESOUC, that excavation is the examination of a site in cubic centimetre by cubic centimetre. The assumed second half of that statement is clearly correct and should be similarly recorded cubic centimetre by cubic centimetre.

The logical third element of the formula introduces the experimental phase. The hypothesis offered by the excavator should be subjected to rigorous empirical testing, ideally at one to one scale. The purpose is to assess the validity of the hypothesis. It must be emphasised that one is dealing only with the testing of the hypothesis, not historical truth. Indeed, historical truth is a concept difficult to accept even with documentary source evidence. The major value of data is to be measured. Similarly one can hypothesise a process that 'must' have happened although there is no archaeological evidence as yet. The manufacture of charcoal fuel was vital for the production of metal and yet there is virtually no evidence of its manufacture in the archaeological record. An experiment to produce charcoal is constructed, the process carefully monitored and the effects of the process which may survive archaeologically are minutely recorded. Armed with this comparative material the excavator is better equipped to observe whether such evidence is available. In this way, by providing 'comparanda', the experimenter is focussing attention upon the new which may exist but have previously been recognised or even seen.

Occasionally one can achieve a "spin-off" from an experiment designed to test a totally different hypothesis. For example, there is considerable doubt as to how prehistoric pottery was made and there are various systems which need careful examination. One particular system, known as the pit-clamp, has been tested extensively at the Ancient Farm. The clamp consists of a shallow bowl dug into the ground surface some 45 cm in diameter by 15 cm deep.

The bowl is lined with straw, dried pots are placed in position and covered with dry and green timber. Thereafter a covering of turf is positioned before firing. The resultant pottery from this process, fired in a reducing atmosphere, bears favourable comparison with prehistoric pottery. How trapped in the interstices of the chalk rock. The firing destroys many of these but a proportion, in one case over a thousand seeds, was beautifully carbonised and thus in state which could survive.

The range of experimental work is considerable and the applications of the basic formula outlined above are virtually infinite. However, one significant factor that emerges from all experimental work is the inadequacy of the prime data. Both methods of its acquisition and the systems by which the acquisition is recorded. It is of great importance to recognise that archaeological data as achieved represents its final functional phase and the information present, especially in the case of a pit, may bear no relation to its original function whatsoever. Similarly it is of little value to concentrate upon artificial material, whether it be decorative brooches, the province of the art historian, broken tools or animal bones if the structural evidence is ignored. In this situation one counts as a structure postholes, pits, ditches, gullies and any feature which is cut into the ground. Physical evidence like stone walls and timber beams are accorded the minutest of inspection and recording details but the posthole or pit is regularly regarded as the repository for 'useful artifacts' with little or no attention paid to its structure. Yet the wall of a pit may well provide the ephemeral traces of evidence which would explain its prime function. It is the close scrutiny of the minuscule which will facilitate improved interpretation. It is only when the micro-situat-

Experimental archaeology has already made a significant contribution especially in this last aspect of focussing attention on retrieval and recording techniques. However, this is only the beginning. The cyclical formula of prime data, hypothesis, experiment, experimental data leading to validity and probability assessment serves to remind us of the unquestioning acceptance of archaeological theories that pervade the subject at present.

It is according to the principles of the above formula that the Butser Ancient Farm Research Project was set up in August 1972. This project is unique in British if not in World Archaeology in that it seeks to reconstruct and operate an economic working unit an Iron Age farmstead dating to approximately 300 B.C. It is the intention to explore all the aspects of such a farmstead, reconstructing buildings and processes, plant cultivation and animal husbandry as evidenced by the archaeological and documentary sources. The establishment of a reference archive of such material and comparable ethnographic evidence is regarded as a critical and integral part of this project.

The project is situated on Little Butser, a spur to the north of Butser Hill in Hampshire. Approximately fifteen acres of land will ultimately be under the control of the farmstead but at present only thirty acres are in use comprising the spur itself and its wooded slopes. The land is provided by the Hampshire County Council. Initial funding of the research was made by the Ernest Cook Foundation.

Inevitably the following paragraphs summarise but a little of the work achieved during the past three years at the Ancient Farm. Pressure of space precludes a fuller and more detailed exposition. The object is, however, to indicate briefly the areas of research at present in hand. Further articles about the farm and relevant findings are planned for future editions.

The farm was occupied during the Iron Age period and the extent of that occupation is being steadily examined. Two field monuments, an unusual dished-platform and a 60m length of unfinished ditch are the clearest indication of that occupation but subsequent examination of apparently sterile areas have indicated much more extensive evidence. This is of particular concern when there has been placed in the context of other sites with little clear field evidence or evidence to clear evidence at all. The excavation has concentrated upon examination of develop-
ment areas prior to reconstruction work and upon the major feature, the ditched platform. Prior to any work on site a photogrammetric survey was also undertaken as well as the establishment of ten fixed datum points. Various techniques have been used in the excavation process the most important of which has been the approach from the grass surface downwards (see below). Attention has also been paid to recording techniques including the use of a photographic gantry tower costing less than £10 which allows mosaic and stereoscopic photography.

The major concern during the past three years has been the construction of two houses and a field system and the acquisition and domestication of the appropriate livestock in order to set up the farmstead. Ultimately it is planned to build four houses and attendant structures within a ditched and banked enclosure with field systems and paddocks radiating from it. In real terms, however, the whole farmstead will be the first outdoor scientific laboratory researching into archaeology. Each of the component structures and every process will be a research experiment in itself. The complete farmstead similarly being a full-scale experimental project. In brief, the whole and each of its parts is the subject of the most rigorous research.

Within the compass of this article, it would be impossible to catalog or even to mention in any detail the findings and implications of the work achieved to date. Consequently only three specific aspects of the research programme are dealt with below. However, the establishment of the farmstead is some way toward completion. A great deal of data has been already achieved concerning the crops of the period and their yield factors, sowing and ploughing techniques, the domestication and taming of cattle, potential grass economy, timber and leaf economy, and vegetation bandy. There is considerable need to stress that all these agricultural programmes must be the subject of many years of research work if any accurate statistical information is to be gained. It is totally without meaning, for example to discuss yield figures for various types of cereals unless these have been achieved over several consecutive years and under carefully recorded details of treatment and climatic conditions. A bald figure of x cwt or bushels per acre is singularly meaningless. Perhaps the research programme which has yielded the most significant results to date has been that devoted to the problems of the storage of grain in underground silos. The feature of the pit an common on programme can seek to answer. The life-span of a grain storage pit is one such key question. In the light of the present experimental data which includes a detailed mycological study of both stored product and pit wall, it is most unlikely that there is a terminal life span for a pit. This factor also increases the difficulty of pit interpretation. However, there is a distinct possibility of ascertaining some pit functions from the study of experimental pit walls. The establishment of Nussbauma obtained from a monitored life-cycle of a pit is a clear and vital aspect of experimental archaeology.

The most impressive visual aspect of the research programme to date is the reconstruction of two round-houses which form the nucleus of the farmstead. The reconstructions are respectively based upon ground plans drawn from Maiden Castle in Dorset and Balskirk in Hampshire. The former is a post built structure six metres in diameter with interwoven hazel wattle walls. The central post-hole as recorded by the excavator was utilised for a central support for the apex of roof. That this interpretation is correct is demonstrated by the latter structure which is over nine metres in diameter with an unsupported roof span. It is always necessary to emphasise that reconstruction is in no way a replica. Rather it is one possible physical structure which is postulated from the archaeological evidence. It would be quite wrong to think of such structures as being real Iron Age houses. The nature of the basic formula of experimental archaeology can, perhaps, be best seen in this kind of reconstruction work. One is interested specifically in validity and probability judgements.

The Maiden Castle Round-house, completed in 1973, has been subjected to a careful monitoring programme with some fascinating implications. In order to construct the house over thirty trees were used, seven tonnes of daub and one tonne of thatch. This last item, according to the cereal research programme, represents the straw from over an acre of land. If one accepts the standard yield figures obtained for the prehistoric period this amount of straw would be drawn from over four acres. Yet this house is representative of the smaller variety. Woodwork was of the simplest kind utilising only the axe-cut friction plate joint with raw hide lashing. Again the hides of three cattle were required in the construction.

The completed structure has achieved a degree of validity in that it has successfully withstood four hurricanes and, during the winter of 1973-74, over a metre of rain. Despite this excessive rainfall, no drip trench has formed under the eaves. However, since the house was used for the storage of grain during the winter periods, it became obvious that the major problem is the grass itself and the capillary water arising from the walls. Their activity has palpably altered the 'archaeological evidence' in that a gulley has been created around two-thirds of the circumference of the house producing what might be interpreted as a 'construction trench'. The presence of Rattus rattus has been recognised in the Roman levels at York and one suspects that it is only a matter of time before this prehistoric presence is identified. Even failing that, zoologists suggest that the pole fulfilled the present role of the rat before its appearance. One further aspect of the structure has been the creation of a shallow depression immediately outside the doorway. This has been caused by the eaves drip and the passage of frost. This last observation has been instrumental in the location of a doorway in the recent excavation of a round-house at Skipton in Yorkshire.

The selected evidence discussed in the previous paragraph serves to underline the value of establishing 'comparanda' of vital significance to the interpretation of excavated sites. There is a much greater need for the multiplicity of interpretation, the recognition of a number of potential explanations for any particular feature.

The second round-house project, which has only recently been completed is entirely different in concept and construction. It depends upon the hypothesis of a timber-frame structure utilising sophisticated joinery of the neolithic date including mortice and tenon joints, scarf joints and wooden pegs. The roof structure, based upon five major rafters and a pentagonal ring, supports two tonnes of reed thatch. The most important element of this reconstruction is that a central post is not a necessary integral feature for a house of this size. More likely it is possible to span even greater distances. It is worth noting that the ground area of this house is greater than the average modern house and yet is still only in the medium size range of Iron Age houses. The round-house with cone-shaped roof is not only an elegant structure but also demonstrates a considerable degree of engineering sophistication.

Finally, since experimental work always focuses attention upon the raw archaeological data, one specific research project has been implemented at the Ancient Farm to seek improved methods of excavation.

The process of turf removal prior to excavation especially on sites with a shallow soil cover can be a potential distortion of the available evidence. It would be advantageous to excavate literally from the grass surface downwards. The natural grass turf and the root-bonded topsoil. However, if the process of photosynthesis can be stopped, the grass will die and the roots rot away. By covering the area due to excavation with a layer of black plastic sheeting or similar
Within the compass of this article, it would be impossible to catalogue in detail all the findings and implications of the work achieved to date, although only three specific aspects of the research programme are dealt with below. However, the establishment of the farmstead is some way toward completion. A great deal of work has been achieved concerning the crops of the prehistoric period and their yield factors, sowing and ploughing techniques, the domestication and training of cattle, the development of stock economy, timber and leaf economies, animal control and husbandry. There is considerable need to stress that all these agricultural programmes must be placed in context of many years of research work if valid statistical information is to be gained. It is totally without meaning, for example to discuss yield figures for various types of cereals unless these have been achieved both over a period of several consecutive years and under carefully recorded details of treatment and climatic conditions. A broad average figure of x cwt or y bushels per acre is singularly meaningless.

Perhaps the research programme which has yielded the most significant results to date is that devoted to the problem of the storage of grain in underground silos. The feature of the pit so common on many Iron Age sites on a variety of soils, continues to present great problems for interpretation. From documentary evidence it is thought that some pits were used for the storage of food and that of these pits some were used for the storage of grain. It is worth stating at this point that not all pits are for grain storage. It is quite wrong even to adopt this interpretation as a first option. By examining a number of variables involving shape, size and type of lining against the specific constants of climate and stored product, it has been possible to establish that seed grain can be successfully stored in a pit. The accepted theory that grain stored in a pit was for consumption and could be broached and sealed like a larder door has been largely disproved. It is always necessary to ASCERTAIN some pit functions from the study of experimental pit walls. The establishment of comparable obtained from a monitored life-cycle of a pit is a clear and vital aspect of experimental archaeology.

The most impressive visual aspect of the research programme to date is the reconstruction of two round-houses which form the nucleus of the farmstead. The reconstructions are respectively based upon ground plans drawn from Maiden Castle In Dorset and Balsbury in Hampshire. The former is a post-built structure six metres in diameter with interwoven hazel wattle walls. The central post-hole as recorded by the excavator was utilised for a central support for the apex of roof. That this interprets key of a central post-hole is probably in error as demonstrated by the latter structure which is over nine metres in diameter with an unconditioned wall face of x cwt or y bushels per acre is singularly meaningless. Rather it is one possible physical structure which is postulated from the documentary evidence. It would be quite wrong to think of such structures as being real Iron Age houses. The operation of the basic formula of experimental archaeology can, perhaps, be best seen in this kind of reconstruction work. One is interested specifically in validity and probability judgements.

The Maldon Castle Round-house, completed in 1973, has been subjected to a careful monitoring programme with some fascinating implications. In order to construct the house over thirty trees were used, seven tonnes of daub and over one tonne of thatch. This last item, according to the research, programme, represents the straw from over an acre of land. If one accepts the standard yield figures offered for the prehistoric period this amount of straw would be drawn from over four acres. Yet this house is representative of the smallest variety. Woodwork was of the simplest kind utilising only the axe-cut friction plate joint with raw-laid lashing. Again the hides of three cattle were required for the construction.

The completed structure has achieved a degree of validity in that it has successfully withstood four hurricanes and, during the winter of 1973-74, over a metre of snow. Despite the excessive rainfall, no drip trench has formed under the eaves. However, since the house was used for the storage of grain during the winter periods, it became infested with rats which lived under the walls. Their activity has palpably altered the 'archaeological evidence' in that a gulley has been created around two-thirds of the circumference of the house producing what might be interpreted as a 'construction in concept and construction. It depends solely on its integral feature of the use of straw, the modern roof, and a pentagonal ring beam supports two tonnes of reed thatch. The major implication of this reconstruction is that a central postural feature for a house of this size. Mathematically it is possible to span even greater distances. It is worth noting that the ground area of this house is greater than twice the average modern house and yet is still only in the middle range of Iron Age house plans. The round-house with cone-shaped roof is not only an elegant structure but also demonstrates a considerable degree of engineering sophistication.

Finally, since experimental work always focuses attention upon the raw archaeological data, one specific research project has been implemented at the Ancient Farm to seek improved methods of excavation. The process of turf removal prior to excavation is now a basic operation of the use of a shallow soil cover has always seemed to be a potential distortion of the available evidence. It would be advantageous to excavate laterally from north to south. The major problem is the grass itself and the root-bonded topsoil. However, if the process of photosynthesis can be stopped, the grasses will not away. By covering the area prior to excavation with a layer of plastic sheeting or similar opaque material for a period of twelve weeks, photosynthesis, the way in which plants convert sunlight into energy, is stopped completely and the resultant area can be trowelled immediately. This allows all artifacts to be plotted in their spatial context and texture changes to be recorded from the outset. The longer the period the area is covered the better. The ideal time span being twenty-four weeks. Since in the rural situation, such advice was for rescue excavation is common it would seem to be a potential answer to increased data recovery.

As has been stated above this article is necessarily brief and extremely selective in content. The intention has been to indicate the nature and role of experimental archaeology and to confirm that this peripheral discipline of passing interest but fundamental to improved interpretation and excavation technique. In this respect the Butser Ancient Farm Research Project, unique in its conception and execution, the first open-air scientific research laboratory for archaeological studies, is of key significance.

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