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Summaries

Scientific experimental archaeology, a possibility?

Y.M.J. Lammers & J.P. Flamman

Although many enthusiastic people work in the field of experimental archaeology, a clear methodology does still not exist. Experiments are carried out; time, effort and money are invested, but the majority of actions lack archaeological hypotheses and feedback.

In this paper a setup for scientific experiments will be proposed, concentrating on the cyclic scheme presented earlier by Reynolds (1999) with special attention for the need to get back to the archaeological data. That is, depending on the similarity between the experimental results and the archaeological data it is decided to either end or continue the experiment.

In this light the distinction made in The Netherlands, between Educational and Experimental Archaeology will also be regarded and clarified.

The functional explanation of Neolithic toothed hoes in Europe

M.J. Kaiser

Toothed hoes are composed of a about 70 cm long wooden shaft, with a antler tine fixed to create an L- or T-shape. The original function, as well as the distribution area and the chronological/cultural extend of this object has not been satisfactory answered, up to now. Therefore it became to a dissertation topic, which was finished in February 2000. In my lecture (German) I will show my line of arguments for the functional explanation of Neolithic toothed hoes. My research encompasses formal-technological and experimental archaeological examinations, as well as comparing objects which are known from the archaeological, historical and ethnographical record.

From Experiment to Archaeology by Measurable Flintknapping

P. Kelterborn

Measurable flint knapping is a new research tool for lithic analysis. Its innovation is the introduction of engineered detachment machines and mechanical core fixations.

Replicative flint knapping remains the best tool to explore the overall method of ancient reduction processes, or the full life cycle of artefacts. Measurable flint knapping, however, considerably improves the range and depth of studies in lithic techniques, particularly if parameter research is employed.

The general features of this tool are first presented and compared with the research approach of replicative flint knapping. Measurable flint knapping is then illustrated by two practical cases. The first is measurable heat treatment and the second is measured ripple flaking for Gerzean knives.

Cremation - or- Study of fire-deformed equipment of burial graves of the Romano Barbarian period

R. Leineweber

The equipment of burial graves of the Romano Barbarian period ranges from intact to fire-deformed ones. Not all the equipment was burned at the stake with the same intensity.

A series of cremating experiments tries to give answers for changes, caused by the fire, of defined equipment made of pottery, metal, glass, bone, antler and rotten organic substances in dependence to its location during the cremating.

The experiments take place in the "Zentrum für Experimentelle Archäologie und Museumspädagogik" des Landesamtes für Archäologie Sachsen-Anhalt" in Mansfeld. Within the context of the interdisciplinary project anthropology, botany and zoology are equally involved as the archaeology of the Romano Barbarian period and the experimental archaeology.



The prehistoric artist as a sprayer??

A new hypothesis about color application in prehistoric painting

J.-L. Ringot

Many archaeologists tried to find out how prehistoric artists applied color to the walls of caves. They find a good deal of help by observing the methods of peoples who still do cave-paintings such as the Australian aborigines.

Different methods have been described, like spitting of the paint through a hole in a leather piece or spraying through a thin tube. Spraying with a spray-device gives much better results, which come very close to those we can observe on the original paintings.

We will never know if the Magdalenian artist used such a device... just as we will never know if they spit the color through a hole in a piece of leather.

Used pebbles in the Magdalenian layer of Andernach-Martinsberg an experimental approach

G. Schulte-Dornberg

In the material of upper Palaeolithic sites there are often pebbles with traces of use. The basic material of this examination are some typical specimen of the late Magdalenian layer of the site Andernach-Martinsberg (Rhineland-Palatinate).

Including ethnographical analogies led to some hypotheses of the function of pebbles. These were comprehended in experiments. The resulting use traces were recorded systematically and analysed statistically. The same procedure was applied to the archaeological material. The use traces of the artefacts and the pebbles used in the experiments were compared. The result is a classification of used pebbles for their morphology and their use traces. The comparison gave indications of the use of pebbles at the site. This will be shown with one special group of pebbles in the presentation.

Expedition Monoxyton 1995 and 1998

Radomír Tichý

In 1995 a circumnavigation of the Aegean Sea on a dug-out boat of a hypothetical design similar to a model of the archaeological find Tsangli was realized. Within 70 hours a distance of 290 km from Samos to Attica was covered.

In 1994 archaeologists from L. Pigorini Museum in Rome discovered in Bracciano Lake a dugout and excavated it. The canoe was dated back to the early Neolithic. The canoe was supposed to have been used for maritime navigation. The presumption was tested in 1998 during an extensive navigation of the western Mediterranean Sea with a replica of the Bracciano dugout. In individual sectors of the route a distance of 800 km was covered within 200 hours.

From the object to the mould

Is there a connection between the microstructure of a cast object and its mould material used?

E. Jochum Zimmermann

The question studied within the framework of the "Lejre Research Grant for Experiments in Archaeology 2000", was: in which way does the analysis of the cast structure of an archaeological object allow us to identify the mould material used? For this, casts in five different mould materials were carried out. The 10% tin bronze was cast into the moulds at about 1100°C. The moulds had been preheated to four previously set temperatures. All the casts were performed outdoors in order to come as close as possible to Late Bronze Age circumstances, as well as in the laboratory under modern conditions.

The experiment showed that differences between the mould materials can be identified by means of the DAS (Dendrite Arm Spacing) values and the cast voids. In further experiments in summer 2001 the data of this series has been expanded in order to support the already obtained results.

Archaeological find and experiment on the example of a late Bronze Age grave mound

D. Vorlauf

In 1988 at the 'Lanbergen' near Marburg a Urnfield Time - grave hill was experimentally rebuilt in the vicinity of a grave field of the same era. Until this moment already three hill grave fields of this period were excavated in a larger archaeological framework (1983 - 1987), but the processing of the findings was still in progress.



During the presentation, a critical approach will be taken to the question, whether execution of experiments during the processing of the findings of the original material itself are possible and useful. Furthermore the question will be addressed as to which extent the results of such an experiment can have a general validity.

Back to archaeology ... after 13 years of bronze casting experiments

M. Trachsel

The first part deals with different reconstructed casting installations, tried out in Zurich since 1989 by Walter Fasnacht and others, as well as those presented by other groups or people at different occasions in the 1990's.

The second part reviews archaeological structures, which based on experimental experience are likely to be traces left by bronze casting.

The third and last part presents the traces most commonly left by bronze casting and hints on how to treat them on excavation to gain more information about prehistoric casting techniques.

Experiences with replica warp weighted looms

A. Jones (with substantial input from P. Rogers)

This paper briefly summarizes the research and rationale that led to the York Archaeological Trust (YAT) building replica warp-weighted looms at the Jorvik Viking Centre, Archaeological Resource Centre (ARC), JORVIK (all in York UK) and elsewhere.

It will dwell on 10 years experience operating one of these looms at the ARC involving volunteers, school children, students, enthusiasts and other adults.

Two major themes emerge, first the practicalities of operating ancient technology and second issues over ownership and symbolic significance of objects to contemporary and past human groups.

In short, by using and observing other people using a warp-weighted loom we learn some of the subtler points of this ancient technology. Second, the process is both very interesting and great fun.

Single bladed canoe paddles of the UK and Ireland Investigations and experiments

L. Williams

This paper reports on the results of research and experimentation investigating single-bladed paddles, suitable for use in small boats.

Paddles, and other methods of boat propulsion, have been largely ignored in the field of boat archaeology, although a number of items have been interpreted as paddles or oars.

This report utilizes modern canoeing knowledge and the results of experiments with replicas to demonstrate that many interpretations of items as paddles can be called into question.

Reconstructions of archaeological instruments in education and research

A. Tamboer

Music archaeology studies relics of music cultures, being largely musical instrument: Stone Age and medieval bone pipes, Bronze Age lures, Roman panpipes, early medieval lyres, 16th century citterns are but a few of the many types of instruments that tell us of the musical and sounding activities of our forebears. Written sources, depictions, living folk music traditions and the history of technology can contribute to interpreting the finds.

Archaeological instruments occasionally are intact but more often they are damaged or even fragmentary. Replicas or reconstructions can give a tactile and imaginative image of an instrument and serve education as well as research. Musical archaeological research at its best should be a process of collaboration of archaeologists as well as musicologists, instrument makers and musicians.

Experimental archaeology in museum mediation

U. Drews

For over 6 years, the Wikinger Museum Haithabu, shows its visitors in the summertime a program under the name "Viking handwork in experiment". This event should focus - with the background of scientific results - in illustrative way on examples of crafts from early medieval Haithabu. The experiments carried out in the open area in front of the museum should clarify the processes of production of archaeological finds which are kept in showcases inside the museum.

The possibilities as well as the borders of this special form of mediation are clarified by means of some examples. At the end will be made clear that the Experiment - also in this adjusted form - implies



an expressive illustration, which fascinates both the little and the large visitors heavily. As a consequence, for the future mediation work of the museum it must be made clear, that scientific funded experiments should be obtained to present them after they have been didactically edited to the open. Only such a funded working procedure will mark out the museum in the future from the year market-like events "in the steps of the past". With that it will help the museum to secure its own high place in the offer in information and entertainment of the "experience-society".

A Celtic farmstead is being reconstructed

T. Bader

In the open air, on the grounds of the Keltenmuseum Hochdorf/Enz a farm was reconstructed and built. Part of it are a house to live in, a pit house, a storage place, an earthen cellar and a garden. The first reconstruction - of the house to live in - which was performed by four carpenters in the framework of an unemployment program - was finished at November 28th. Already the following morning, it was a victim of arson. The second reconstruction followed in 1999, by a firm from Renningen, specialised in wooden constructions. The straw thatched roof was both times constructed by a team from the open air museum in Biskupin, Poland. The thatch was connected to the roof in the old way, by means of willow rods - not with metal wire. The other roofs are covered with wooden plates, which originate from the Carpat area. In the hut, a weaving area has been arranged. In the house to live in, different areas are put up: a party area, a Symposium after Etruscan model and a kitchen. The farmstead was opened in June 2001, celebrating the 10 year's jubilee of the Keltenmuseum Hochdorf.

Archaeology by experiment and public - on the example of Biskupin Archaeological Festivals

W. Piotrowski & W. Zajaczkowski

The idea of arranging archaeological festivals at Biskupin Museum and archaeological reserve, north-west Poland, came to the light in 1995, when dr Aleksander Bursche from the Institute of Archaeology of Warsaw University and Biskupin Museum scientists decided to create a popular-scientific event on the base of rich infrastructure, vast area and popularity of Biskupin reserve.

Until now seven archaeological festivals were organized there, every year occupying nine days within second and third weekend of September. More than 200 participants present most of known prehistoric and early medieval crafts and handworks. These activities are enriched by competitions, knights tournaments, ancient and traditional music concerts as well as various additional occurrences. In this lecture we intend to discuss a matter of reaction and interest of public -according to quality, scale, level of understanding. There will be some examples of crafts and stands as displayed at Biskupin.

Open air museum Elsarn - a Germanic farmstead from the Roman Era

W. Lobisser

During the last few years, on the basis of archaeological information from the neighborhood of Straß in the Staßertal in Lower Austria, an idealized Germanic farmstead has been reconstructed. In most cases, tools were used which were reconstructed following originals. The area is a model summary of the state of the art of research, in which the smallest economic unity of its days are shown.

Experimental archaeological hypotheses were built into the structures, different imaginable stages in development of wood technology have been made visible. Only materials were used, which were available to the people of the first millennium AD.

The museum is open to public from June 2001 on.

Archaeology, research and education in Spain: integrated experiences

P. González Marcén

In the last years, Spanish archaeology (specially in Catalonia) is beginning to develop some educational projects related to prehistoric sites and research processes. These educational projects are mainly (but not exclusively) based on experimental activities. Both the different research tradition and organisation and the "Mediterranean" characteristics of its archaeological record, make Spanish experience in some points different from the long and rich trajectory of experimental and educational projects from Atlantic and Nordic Europe.

In this presentation it is shown which strategies can be developed for decoding the historical value of these specific material remains of the past summarizing some experiences that have been developed



in Catalan universities.

The aim of these projects is to make possible that non-specialists get involved in the process of historic interpretation about archaeological assemblages. For that, it is needed to develop technical and scientific actions for supporting all kind of initiatives to promote an active approach in relation to material culture.

These educational projects are addressed mainly to school public, but they also can be considered as examples for general dissemination. It is the intention of these experiences to break down the apparent dichotomy between scientific research and historical-archaeological displays that reinforces their consideration as mutually excluded worlds.

Experimental Archaeology in Czechia at the Turn of the Millennium

Ondrej Tikovský

The report (not a paper) is to make a survey of experimental archaeology centres in Czechia. It does not evaluate the individual and isolated attempts, but approaches towards experimental archaeology (the scientific one - and the didactic one).

The Experimental Archaeology Centre of Všestary (Czechia)

Radomír Tichý - Richard Thér

Since 1996 the authors of the paper have been supervising and coordinating a construction of the Experimental Archaeology Centre in Všestary, nearby the city of Hradec Králové in Eastern Bohemia. Reconstructions of the houses and working activities in the Centre represent periods from the Neolithic to the Early Iron Age. The project as such is focused on constructing, processing, manufacturing and functional experiments, which are carefully monitored. We consistently use only replicas of ancient tools for each activity.

The centre also has a tertiary training function for future history teachers. However, the manual work is carried out by members of the Society of Experimental Archaeology only.

Regional archaeological artefacts and excavations (some of them being examined by the experiment-researchers themselves) have been used as models to our activities.

Ten years later

M.C.Frere Sautot, Archéodrome de Beaune, Association Pour l'Archéologie en Bourgogne (APAB) and Société des Autoroutes Paris Rhin Rhone (SAPRR); presented by C. Sestier

1988 was for the Archeodrome and for their 42 contributors attending to the International Colloquium "experimentation in archaeology, balance and perspectives" held at Beaune (F) a cornerstone in the life of the association APAB and a real achievement for its main Sponsor, the SAPRR.

Ten years later, another colloquium was organized on the subject "Palaeometallurgy of copper" soon followed by "Fire and combustion structures". This illustrates a fundamental evolution in the philosophy of experimental work supported by APAB and SAPRR, the drift from individual works to organized international teams concentrating their efforts onto a common study.

We will present in this short communication the current realizations and links of APAB/SAPRR with experimental archaeology in France and European collaborators. Three subjects will be taken as example: palaeometallurgy, use wear analysis applied to obsidian and finally: combustion structures. Special attention for the links between fundamental research and current public presentations will be discussed.

Reconstructing the past - Archaeological Park Százhalombatta, Hungary

I. Poroszlai

Hungary's only archaeological open air museum is situated within the area of a Hallstatt cemetery.

The southernmost tumulus is reconstructed in situ. Visitors can get inside the burial chamber and see architectural remains together with a multimedia show about burial customs of those days.

Three houses and some ovens are constructed, based on Bronze Age archaeological evidence from the vicinity. The Iron Age part is still under construction.

With 're'planting LBA-EIA vegetation, the environmental (re)construction is also attended for. A seed experiment is running for 6 years. Courses in experimental archaeology are presented regularly.

Besides this, different prehistoric handicraft activities are available like cooking and baking.