MAKING, UNDERSTANDING, STORYTELLING
A Workshop on Experimental Archaeology

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Irish Institute of Hellenic Studies at Athens (IIHSA) & Centre of Experimental Archaeology (UCD School of Archaeology, University College Dublin).
In collaboration the Museum of Cycladic Art.

ABSTRACTS

KEYNOTE ADDRESS

Experimental archaeology: making, understanding, and storytelling about Prehistoric and Early Medieval Houses

Aidan O' Sullivan, Eileen Reilly & Brendan O' Neill (University College Dublin, UCD School of Archaeology)

Experimental archaeology can be defined as the reconstruction of past buildings, technologies, things and contexts, to create a better understanding of materiality and material culture in peoples lives in the past and present. It can adopt a scientific approach, emphasizing the proposal of hypotheses, data gathering, replication, analysis and interpretation. It can involve a recreation and investigation of crafts skills, to gain insights into how the making of things involves mind and body interactions, as well as knowledge and skills. More recently, influenced by developments in theoretical archaeology, experimental archaeology can also explore the experiential, sensory and emotional aspects of how we make and use things.

Experimental archaeology involves research, education and public outreach. This paper will explore aspects of experimental archaeology as they relate to the construction of prehistoric and medieval buildings. It will describe the challenges in building structures, in recording their uses, and in witnessing their deterioration and destruction, and how this helps us understand houses and buildings in the past. The paper will take a particular focus on the reconstruction of an early medieval roundhouse, dated to AD 700, at the UCD Centre for Experimental Archaeology and Material Culture, at University College Dublin, and how this enables us to gain a better understanding of the use of houses in early medieval Ireland, AD 600-100.

Stone knapping in Prehistory and the contribution of Experimental archaeology

Georgia Kourtessi-Philippakis (National and Kapodistrian University of Athens, Greece)

Stone knapping is the first technological achievement of humankind. Attributed to *Homo habilis*, discovered in Africa, it dates back to 2.6 million years ago. The ability to produce tools in Prehistory is considered as the principal indicator of humanization. Chipped stone tools reveal human cognitive processes and highlight development of the brain and of the neuropsychological system of the human species as a whole. Experimental archeology in the field of lithic technology, which developed mainly after the Second World War, but especially since the 1960s in the

hands of some archaeologists themselves (J. Coles, F. Bordes, J. Tixier, D. Crabtree) aims to contribute to the understanding of the principles governing this early technology as well as human behavior and adaptability. The aim of this paper is to demonstrate, through the use of examples, the close relationship and interactivity between Prehistoric technology and Experimental archaeology.

Recreating Neolithic textiles: an exercise on woven patterns

Kalliope Sarri (Saxo Institute, University of Copenhagen) & Ulrikka Mokdad (Saxo Institute, University of Copenhagen)

In contrast to several other Aegean Neolithic crafts, which have been yielding numerous artefacts leading to the reconstruction of their operational chain, textile arts and crafts are difficult to reconstruct due to the total lack of relevant finds. Instead of actual objects, however, there are many indirect testimonies coming mainly from the rich decorative and figurative art, the main sources of information being the ceramic *textile decoration*. This paper presents a series of experimental approaches to Neolithic weaving technologies based on a 'textile interpretation' of certain decorative motifs.

The manufacture of Early Cycladic figurines: experimental approaches and archaeological implications

Yiannis Papadatos (National and Kapodistrian University of Athens, Greece) & Epaminondas Venieris

The marble Cycladic-type figurines have been traditionally regarded as the hallmark and the peak of the culture that developed in the Cyclades during the 3rd millennium BC. However, most of the parameters related to their manufacture, symbolism and use remain largely unknown, mainly due to the fact that only a small number of figurines derive from proper excavations. For this reason they are often approached as objects of 'high' art, detached from their cultural and historic context. Moreover, because of the lack of sufficient contextual evidence concerning their manufacture, many interpretations are based on untenable hypotheses and unfounded theories about the existence of 'masters' or artists, a high degree of specialization, increased technical knowledge, special toolkits and increased investment of time and energy for the making of these figurines.

With the above in mind, in 2013, the authors started a research project involving the experimental manufacture of Cycladic-type figurines with the aim of recording the parameters related to the manufacturing of Cycladic-type figurines: the potentials and limitations of the raw materials and the tools, the necessary time and energy, the intermediate stages of the manufacturing procedure, the possible pitfalls and the degree of craft specialization needed for their production. The results of our experiments allow some interesting conclusions concerning not only the manufacture of these figurines, but also their role and importance for the small communities of the Early Bronze Age Cyclades.

Reconstructing a Minoan pottery kiln from Priniatikos Pyrgos, Crete

Jo Day (University College Dublin, UCD School of Classics) & Maggie Kobik (UCD University College Dublin, UCD School of Archaeology)

Excavations at the east Cretan site of Priniatikos Pyrgos in 2005 revealed the remains of a small updraft kiln in Trench H. While the preliminary publication suggested this was an early Protopalatial feature, recent study of the related ceramic material (including plentiful distinctive Vasilike Ware of EM IIB) points towards an Early Bronze Age date, which would make it the earliest kiln in Crete. In 2017, this kiln was reconstructed in the Centre for Experimental Archaeology and Material Culture at UCD to test its potential for producing pottery, and to explore issues such as dome construction, position of vents, temperatures possible, and heat retention. A further aim of the project was the production and use of the unique large clay items known as "firebars" that are thought to have formed the floor of the firing chamber. This paper presents some of the results of this collaborative project and sheds new light on ceramic technologies of mid-third millennium BC Crete.

Mycenaean jewellery: investigating questions of craftsmanship and technology

Eleni Konstantinidi-Syvridi (National Archaeological Museum), Nikolas Papadimitriou (Museum of Cycladic Art) & Akis Goumas (Metalsmith-Researcher of ancient technologies)

Gold jewellery is considered as one of the hallmarks of Mycenaean culture. Since Schliemann's discovery of Grave Circle A, it has become clear that Mycenaean goldwork was characterized by top-quality craftsmanship and by a distinct style with a strong sense of originality – despite obvious influences from other cultures. Although Minoan, Anatolian and even Balkan traits are identified in Mycenaean gold ornaments, few of them find exact parallels outside Mainland Greece. The local goldsmiths apparently borrowed foreign elements but transformed them into a genuinely "Mycenaean" artistic idiom. Until now, the study of Mycenaean goldwork (and the identification of affinities with other traditions) has been heavily based on stylistic observations. The current project attempts to investigate technological and crafting aspects. Drawing on the collaboration of archaeologists with an experienced goldsmith, it seeks to reconstruct in detail the technical processes that led to the creation of specific artefacts. To achieve that, the project adopts a multi-disciplinary approach, which combines microscopic observations, laboratory analyses and experimentation. In this paper, we will present the results of our work so far on three techniques: granulation, gold-foil impression on carved bone cores, and the so-called 'gold-embroidery'. Granulation was quite common in the 2nd millennium BC throughout the Eastern Mediterranean, yet technical aspects, such as the forging of gold into its final shape and the joining of granules, have not been sufficiently explored in Aegean contexts. Gold-foil impression on carved bone cores and 'gold embroidery' were less common but typically "Mycenaean" techniques, the affinities of which lay in Central or perhaps Northern Europe, and not in the Aegean or the East. Experimental

reconstructions provide full documentation of the crafting processes, and pose new questions as to how such special techniques circulated among Late Bronze Age elites.

Experimental archaeology. The case of Eleutherna
Nicholas Ch. Stampolidis (University of Crete & Museum of Cycladic Art)

The excavations at the necropolis of Orthi Petra in ancient Eleutherna have contiributed to the development of Experimental Archaeology already since the 1990s.
1. In the years 1990/91 a funeral pyre of a warrior prince with its rich gravegoods dating from the 8th century BC came to light. In front of the pyre, a captive had been killed as the «γέρας» θανόντων ('the honorable portion due to the dead'). This find was followed by presentations in International Conferences and reports in the Press as well as by the publication of the monograph «Αντίποινα» (*Reprisals*) in Greek and in English in 1994/1996. Thus, the disagreement between Plato and Aristotle as to whether or not Homer was truthful in his account of the funerary pyre of Patroclus and the killing of 12 Trojan captives, came to a conclusion with the 'scale of truth' weighing on the side of Aristotle. Then, in the summer of 1996, we dared reconstruct the pyre itself, relying on the techniques we learned from archaeological research, but also from Homer's narratives. By filming the procedure we also retained it in our memory. Our idea was to be able to excavate the pyre 20-25 years later so as to observe the behavior of the materials and the connection with the then reconstruction. It was an experiment of long duration of which the final act will be played out when the site is excavated two years from now.
2. The discovery of bronze objects belonging to the 9th, 8th and 7th centuries BC, including a shield of the type known from Idaion Andron and special types of bowls gave us the opportunity to experiment with their reproduction using the same techniques to those used by their creators in the Early iron Age. In the process of reconstructing the objects from Orthi Petra using similar tools and metals, and D. Alexandrou acting as the modern creator, the «workshop of Hephaestos» came to light as did, in part, the Homeric descriptions.

"Cutting edge technology": reconstruction and use of LBA woodworking tools
Elena Maragoudaki (Independent Researcher)

The present study aims to answer questions of utility and efficiency of the Late Bronze Age woodworking tool kit. Based on the critical assessment of the data that emerged from the archaeological research and in combination with a specialized experimental methodological approach, woodworking tools were reconstructed and evaluated qualitatively, quantitatively and ergonomically through various woodworking tasks. Actually, the wood craftsman of that period, as master of his craft and tool use, had at his disposal a good array of tools and a great knowledge of wood working techniques.

At the same time, knowledge of tool production of the Late Bronze Age has been furthered. Questions on the casting of the metal parts of tools and the elaboration of their different parts have been answered. Through a thorough study, the details of tools' constructional geometry were traced while innovative elements emerged. Experimental methods proved useful in the allocation of efficient criteria for the use-based classification of tools. Functional differences between the tools were shown, and questions on utility were answered. Not only did the reconstructed tools

appear to be suitable for use in pegged mortise-and-tenon joinery in woodworking, but also showed to be user-friendly.

Experimental archaeology in the study of painting techniques and materials
Antonis Vlavogilakis (University of the Aegean)

The paper will examine the potential of applying experimental archaeology in the research of painting techniques and materials. It will present the factors involved and the problems faced in this field of research. The methodologies that can be followed and some of the many possible avenues for study will be discussed. The requirements in space, equipment, as well as health and safety management issues will also be introduced briefly. All of the above will be illustrated with examples from various categories of experiments.

Forged in fire? Experimental archaeology and investigating the social aspects of crafts in Early Medieval societies
Brendan O'Neill (University College Dublin, UCD School of Archaeology)

This presentation will discuss the role of crafts and craftsmanship in early medieval Ireland, focusing specifically on the production of iron, non-ferrous, and ceramic objects. Until now interpretations of the crafts, craftspeople and their outputs have been constructed through narrow lenses, focusing on specific crafts or sites. These have tended to present an image of Ireland between AD 400-1100 as being simplistic, insular and only advancing through interaction with external powers.

Instead, this project has sought to revaluate the evidence for three of the most archaeologically recognisable crafts, using them all to test previous assumptions and refine our narrative for this period. As a result, a spectrum of specialism became apparent where the production of objects out of non-ferrous metal was highly specialist and making ceramic cooking vessels was not. Making and working iron on the other hand fell between these two, incorporating elements of specialisation into a broadly domestic craft.

Food evolutions: using Anthropology, Experimental archaeology, Food Sciences and Culinary arts to fuse ancient and modern foodways
William Schindler, Prof. (Washington College, USA/UCD School of Archaeology), Jason O'Brien (Odaios Foods) and Aidan O'Sullivan (University College Dublin, UCD School of Archaeology)

The Food Evolutions Project is a cooperative effort aimed at *applying* experimental archaeology to address one of the biggest health issues facing humans today… diet. This multidisciplinary research is aimed at understanding and documenting ancestral and modern food practices and fusing them to develop relevant, meaningful and accessible strategies to increase the density and bioavailability of nutrients in modern diets, and to use these in modern culinary techniques primarily focused on taste, texture and visual appeal.

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