

Reflecting on experimental archaeology

Even though most of his influential experimental work goes back to the 1970s, any introduction to experimental archaeology today will involve reading the works on this subject by John Coles.

Some of his favourite subjects to which he has made major contributions are wetland archaeology, Bronze Age archaeology, Palaeolithic archaeology, the archaeology of Scotland, rock art and of course experimental archaeology. Although John Coles' interests are broad, we will in this interview focus on experimental archaeology.

“Archaeology has had a long-standing interest in experimental work. However, for a very long time experimental archaeology was given little space in university circles, and was to a large extent performed by amateurs. John was in fact the first established academic who had the foresight and the courage to point out the necessity for and the possibilities of systematic experiments, and to argue for a professional experimental archaeology. By doing experiments himself, by setting up sound methodological and theoretical rules for experimental work, and by summarizing experimental archaeology in books published and distributed all over the world, he gave experimental archaeology an academic face.” (Gräslund, in Harding 1999, ix).

“He does not regard himself as a theorist and he does not normally take part in public theoretical discussions. Nevertheless, as I understand it, many of his works are imbued with a deep understanding of the complexity of archaeological thinking. ...” *“Meaningful scientific experiments simply cannot be performed and evaluated without some talent for theoretical thinking. John’s experimental works reflect a deep awareness*



■ **The logboat paddler** John Coles (photo was taken by Bryony Coles at the Archeon in 1987; the boat was modelled on Pesse).

of the subjective element in archaeological research, strongly underlining that element in archaeological interpretation. He teaches us that there are no truths and that “archaeologists can do nothing except deal with opinions”. (Gräslund, in Harding 1999, ix).

“The advance of knowledge and comprehension of human behaviour is the theme of all experimental work” (Coles 1997, 310).

How would you describe experimental archaeology and its position to archaeology in general in the 1960s?

“The origins of experimental archaeology lie in the 19th and 20th century examination and testing” (...) *All of these experiments were conducted by individuals with little institutional support” (...)* *Since about 1960, experimental archaeology has emerged as a distinct and sometimes dynamic discipline, with its own practitioners, various diffuse and widely-separated reports, and an uneasy place in the world of archaeological investigations”* (Coles, 1997, 307).

*“His books *Archaeology by Experiment* (1973) and *Experimental Archaeology* (1979) are classics of their kind. Their indirect influence has probably been even greater: they released an explosion of systematic experi-*

mental work around the world, even in universities.” (Gräslund, in Harding 1999, ix).

How come you wrote an overview on experimental archaeology (1973)?

“In 1973 I decided that some sort of statement, backed up by examples, should be made in support of experimental archaeology. I had been lecturing at Cambridge for some years on the subject, and found that examples were the best way to explain the concepts, the problems, the achievements of experimental archaeology.”

Can you explain the success of the 1973 overview and why it was translated 6 times?

“The 1973 book seemed to at once fill a gap for many archaeologists, as providing a guide to experiments and an overview of work done and being done.”

Why did you write a second overview (1979)?

“The 1979 book came about as a more reflective essay on experiments, allowing me to advance more structured approaches, more focussed upon particular problems, and to include more recent work. Several publishers wanted a book on experimental archaeology

and there was competition to get it! I think the 1973 book was more fun for me to write and use, but the 1979 book I hope set out some procedures in a more topical way.”

What publications on experimental archaeology have made the biggest impression on you?

“I was always intrigued by Semenov’s work on lithics, by Hansen of course on houses, by Reynolds on his farming practices. I think it is a tragedy that Peter Reynolds did not complete his great work by writing a fundamental book on the subject.”

In experiment, three levels of effort and achievement can be recognised (Coles 1997, 307-308):

1. Display. Superficial in the real sense of that word, concerned with appearances only. Designed often for public consumption, to interest, amuse and instruct, this level is increasingly preferred over the more scientific Levels 2 and 3. It might be argued that level 1 is wholly non-scientific. Nonetheless, replicas or presumptive replicas of ancient houses, or boats, or forts, or other large artefacts, have an attraction for the public, especially for its youngest members, and this fact should not be ignored. There are too many “heritage centres” using Level 1 experiments to single out any particular bad, or good, examples.

2. Level 2 is technological, concerned with the processes of production and manufacture.

3. Level 3 is to some the highest level of anticipation, in that it is concerned with the manipulation, use and presumptive purpose of the artefact. Clear answers at this level are never certain, although they are sometimes claimed.

Are there any anecdotes or experiments with unexpected outcome you can recall?

“I remember vividly my experiments with shields at the Society of Antiquaries in London (published in the Proceedings of the Prehistoric Society for 1962). I was studying Bronze Age shields and had made replicas of a metal shield and a leather shield, based on examples from Britain and Ireland. It seemed obvious to me that the beaten sheet copper shield, only slightly less strong than the prehistoric bronze shields, would not withstand any blow, but that the leather shield, being slightly flexible and moderately thick, would have served as a defensive weapon.

In front of an audience that held all of the leading professors in archaeology in Britain I held my replica Bronze Age metal shield and asked a colleague to strike it with a spear, then with a sword. I knew it would be cut and the sword blow nearly sliced it into two pieces; fortunately my hand holding the shield avoided the blow! Then the leather shield was attacked, and resisted all the blows. Applause. Experimental archaeology result supported my argument that metal shields were for display, not war or battle.

Sometimes I was able to ‘experiment’ with Bronze Age Irish horns, and it was enjoyable to work with their unusual character to produce accept-

able music notes. Of course such notes were mine and the sequences were mine; all we can say is that the basic notes were those created in the prehistoric period, but sequences, music, fanfares are totally beyond our re-creation. So any such experiments are for enjoyment, and not much scientific value (although some people disagree with me).

Perhaps the most interesting set of experiments I ever worked with were concerned with wood, and both Bryony Coles and I experimented with stone, bronze and iron axes to fell trees and sharpen wooden pegs, and split timber with wedges, and particularly to study the facets and other marks left by our tools on the wood. These were then compared with the multitude of axe-marks on our wetland-excavated wooden roads and tracks in the Somerset Levels. We learned a great deal about efficiency, variation, angles, axe-hafting et cetera.

My students at Cambridge became involved in some of this work and we also conducted educational experiments in pottery-making, in non-ferrous metal casting and beating and drawing (to make narrow rods and wire), in hurdle-making with willow, in debating with Peter Reynolds at Butser Farm, in viewing and assessing experimental earthworks at Overton and Wareham in Southern England and houses at

West Stow. The classes, of about 6-8 students, were enthusiastic about experimental archaeology as this was in part during the processual / post processual debates and I always thought experimental archaeology provided a good contrast with those concepts. The students were often very critical of any dogmatic statements uttered by people like Peter Reynolds (or myself), and good arguments about houses, storage pits, plough marks et cetera often took place in the field to the benefit of all parties. Reynolds was a special friend to me and we always enjoyed debating the issues of reconstruction / construction, and of decay over time, and variation in methods of work, of experience and initiation, and in the slow emergence of a theoretical basis for experimental archaeology.”

You were not alone in (international) experimental archaeology. Who should be mentioned? Could you say a few words about them?

“I have mentioned Hansen & Reynolds, and they were pioneers. The Polish workers at Biskupin did much experimental archaeology with their recreations of Iron Age houses and palisades. I think the people who worked with lithics did valuable research, Crabtree for example, and Errett Callahan whom I know well, carried on the concept of experimental archaeology as have Bruce Bradley, Linda Hurcombe and others too. The experimental centre at Lejre has been a long term and continuing achievement; the Pfahlbau land exhibition at Zurich made a great impression on many visitors during its six-month existence”

“Perhaps the best way to encourage and develop experimental archaeology as a discipline is to support the establishment of centres for experiment. Here a combination of studies can be supported, a base provided for individu-

al projects, and a permanent home for archives and publication achieved” ... “The importance of these (...) centres is to be measured in three ways:

1. By the scientific work completed and finished
2. By the interest and support of the public
3. By the use made of the centre by educational authorities” (Coles 1997, 310).

“Biskupin (and other experimental centres, ed.) ... has the position and opportunity to present archaeology through experiments to the wider world in the following ways:

1. To invite the public to contemplate how ancient people may have lived and worked
2. To lead the public to understand something about human urges to create and develop new technologies
3. To guide the public towards a comprehension of how archaeologists work, what their aims are and why support is needed
4. To persuade the public to appreciate and care for the heritage, for present and future generations” (Coles 1997, 310).

In the years 1980 – 1990, the Bulletin of Experimental Archaeology was published by the University of Southampton. You were an editorial advisor, just like Dr Peacock and Dr Reynolds. Could you mention something about its goal and role? From what backgrounds did it start?

“I don’t think the Bulletin of Experimental Archaeology ever got into mainstream archaeology. It needed a much stronger structure, targeted aims and authors, better distribution network. The advisors did not get much involved in it, I regret to say. Its origin lay in a conference on experimental archaeology but there was no real impetus



■ John Coles & R. J. Darrah felling an ash tree with bronze and stone axes (John Coles’ archive)

put towards it, the advisors were too busy with their own work to get deeply involved, a pity.”

Experimental archaeology is sometimes used as a phrase to cover, building house (re)constructions or life size models, educational programs for children, demonstrations for a tourist public et cetera. How would you explain the phrase experimental archaeology has become so popular outside academic circles?

“The term “experimental archaeology” has come to mean a large number and variety of things to many people. I would like it to be restricted to what practitioners of scientific experimental archaeology do, answering questions through practical and analytical work, but I know that today the words “experimental archaeology” mean all manners of approaches, popular reconstructions included, and even modern humans (TV personalities) pretending to be what they never were and never could be but “it looks authentic”, and it sells. No need to worry about it so long as real experimental archaeology continues to explore the questions we want answered.”

What is the added value of experimental archaeology to society?

“The ‘added value’ is surely that the general public comes to appreciate past societies and their contributions, and to respect and help protect the heritage. It has been said ‘any publicity is good publicity’; I don’t believe this but experimental archaeology can move along with the growth of archaeology in its work to explore, analyse, interpret and protect the heritage.”

“There are several problems which still face and will face experimental archaeology in the late 1990s and beyond.

1. The provision of funds for scientific work is always a concern, particularly as developer-funded rescue archaeology assumes more attention at the expense of research projects;

2. What we might call mainstream archaeology, the excavation and analysis of sites, and the study of material culture, do not yet include experiments as a normal part of archaeological investigation;

3. There has been a serious decline in the observation of traditional practices in non-industrial societies, as such societies are transformed by contact and influence;

4. With the increase in travel and tourism, and the pressures created by competition, there is a temptation to provide excitement and action for visitors, sometimes at the expense of accuracy and assessment;

5. Experiments, particularly those concerned with buildings, tend to become fossilised and accepted as truth just because they present a reasonable impression. On so doing, they can mislead and discourage future research” (Coles 1997, 310).

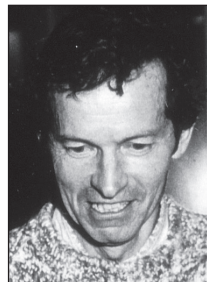
In 1997 you looked back on the developments in experimental archaeology: “Experimental archaeology in reality has not moved significantly beyond its pioneering phase, and it has little structure, it remains mostly ad hoc and individual, it has few well-acknowledged rules, and it has not produced a widely-circulated list of active experimentalists” (Coles, 1997, 307). “The most we can hope for is a greater understanding of the material evidence of the past, and that is the purpose of experimental archaeology” (Coles 1997, 309).

At present, what do you think are the biggest challenges and chances for experimental archaeologists? What infrastructure or instruments should be developed to ensure a bright

Selected biography

Prof. Dr. John Morton Coles, MA PhD FBA FSA
Born in March 1930 in Woodstock, Ontario.

- 1952:** Graduation from Toronto University
- 1955 – 1957:** Diploma in Prehistoric Archaeology, University of Cambridge
- 1959:** PhD, University of Edinburgh
- 1959 – 1960:** Carnegie Scholarship
- 1960 – 1986:** Assistant lecturer, lecturer, reader, professor, University of Cambridge
- 1970 – 1979:** Editor of the Proceedings of the Prehistoric Society
- 1975 – 1989:** Editor of the Somerses Levels Papers
- 1989:** Academia Europaea
- 1992 – 2002:** Royal Commission on the Ancient and Historical Monuments of Scotland
- 2001 – 2006:** Discovery Programme, Ireland Directorate



■ **John Coles**
anno 1980
and
anno 2008

Prizes and Awards

- 1995:** Grahame Clark Medal, the British Academy
- 1997:** Honorary doctorate, Uppsala University
- 1998:** British Archaeological awards, for book and project
- 2000:** Europa prize, the Prehistoric Society on the occasion of his Europa lecture to the society on Wetland Archaeology
- 2002:** Gold medal, Society of Antiquaries of London
- 2005:** Honorary member, Royal Irish Academy
- 2006:** the European Archaeological Heritage Prize, the European Association of Archaeologists (EAA).

Since 2007, the British Academy awards the “John Coles Medal for Landscape Archaeology”.

future for experimental archaeology?

“My opinion of 1997 has not changed much. There is a lot of good work being done, some wider grouping of experimentalists, in e.g. Germany, Denmark, America, but basically I think the individual worker is the driving force in experimental archaeology today. Maybe we don’t need an overall structure, rules, practical procedural methods et cetera, or a society or a journal. Instead, let the discipline evolve, let the results of experiments well done and published be our overall aim.”

“Since about 1985 I have not carried out any detailed ex-

periments on subjects that I used to be involved in, such as wood-working, metal-casting, flint-knapping, tool and weapon-testing, but I remain committed to the concept of experiments in archaeological research. This concept has been applied, I think, to my recent and current field-work in wetlands and on rock carvings, where I remain convinced that the principles of experimental archaeology are valid, a testing of the evidence and trying-out new ways of looking at, recording and indeed interpreting the traces of past activities. Some things work, some things do not, but unless you make the attempt, you’ll never discover the most fruitful lines of enquiry.



■ **Techniques at working timber** at West Stow Anglo Saxon Village were inspired by Coles' extensive research and experimental work (John Coles' archive).

I detect a great deal of experimental archaeology in modern archaeological studies, where we are forced to confront the problems of artifacts, structures and landscapes, their fragmentary nature, often their lack of organic components, and their loss of immediate context and environment. By at least considering the variety of options, we are in effect conducting an experiment or series of experiments in the mind."

by **Roeland Paardekooper**

Summary

Réfléchir sur l'archéologie expérimentale

Toute introduction à l'archéologie expérimentale aujourd'hui passe encore par la lecture des ouvrages que John Coles a écrit dans les années 1970. Le premier livre "Archéologie et expérimentations" publié en 1973 était, de l'avis de l'auteur, "une déclaration de soutien à l'archéologie expérimentale appuyée par des exemples". Le suivant, "Archéologie Expérimentale" (1979), présentait une approche structurée avec des réflexions orientées sur des problèmes précis. A propos de l'archéologie expérimentale actuelle, John Coles déclare qu'elle est toujours dépendante des individualités. "Le terme d'archéologie expérimentale a aujourd'hui de très nombreuses significations pour chacun. J'aimerais qu'il soit

restreint aux activités des scientifiques archéologues expérimentateurs, lorsqu'ils cherchent par la manipulation et l'analyse critique à trouver les réponses à leurs interrogations."

Gedanken über die Experimentelle Archäologie

Jede Einführung in die Experimentelle Archäologie umfasst auch heute noch das Studium der Bücher von John Coles, welche er in den 1970er Jahren schrieb. Das erste, 1973 publizierte Buch „Archäologie und Experiment“ war – nach Aussage des Autors – „eine von Beispielen getragene Stellungnahme zur Förderung der Experimentellen Archäologie“. Das folgende Buch „Experimentelle Archäologie“ präsentierte einen stärker strukturell ausgerichteten Ansatz, der sich auf spezifische Problemstellungen bezog. Wenn John Coles heute über die Experimentelle Archäologie spricht, dann ist er der Meinung, dass die Experimentelle Archäologie weiterhin von individuellen Forscherpersönlichkeiten vorangetrieben wird. Der Begriff „Experimentelle Archäologie“ umfasse seines Erachtens derzeit eine große Zahl und uneinheitliche Vielfalt von Themen für viele Personen. Coles sagt: „Ich würde den Begriff darauf beschränken wollen, was Praktiker der wissenschaftlich fundierten Experimentellen Archäologie tun, nämlich Fragen durch praktische und analytische Arbeit zu beantworten (...)“.

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