

Dragos Gheorghiu & George Nash:
The Archaeology of Fire – Understanding Fire as Material Culture.
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The Archaeology of Fire – Understanding Fire as Material Culture is the publication of a session organised at the Lisbon EAA meeting in 2000. It contains 12 chapters and an introduction by the editors Dragos Gheorghiu & George Nash. The overall aim is to develop a pyro-archaeological approach to the past, perceiving fire as a material culture element, by emphasising ‘the pyro-technologies of transforming the nature of materials as ceramic studies, archaeometallurgy, glassmaking studies, the pyro-technologies of building and destroying things, the pyro-technologies of cremation, techniques of food preparation and conservation, systems of heating, techniques of landscape modelling, techniques of war’ (p. 21). In the spirit of the book, this contribution is

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warmly welcomed. Although it does not cover all the proposed areas, the range of topics includes archaeological, ethnographical and experimental studies of pottery technologies, ovens and hearths, cremation, the quality and effects of light, metallurgy, folklore, and fire as a means to develop the landscape. Moreover, apart from fire which is the overall theme, many of the case studies are of great interest in themselves because parts of the empirical material, for instance from eastern parts of Europe, are not often referred to and discussed in parts of the 'mainstream' or typical Anglo-American archaeology.

As an anthology, the strength of the book is that it emphasises not only one single type of artefact, but addresses a phenomenon by which large parts of society have been structured around and attributed various cultural and religious meanings and values to. By using fire, which is both a natural phenomenon but also a culturally and religiously mediated element, the cultural and natural dichotomy is challenged as well as it is an entrance into prehistory where fire literally unites, transforms and fuses different and seemingly incommensurable spheres and process in society together. In the words of Gaston Bachelard, 'Fire is thus a privileged phenomenon which can explain anything ... Among all phenomena, it is really the only one to which there can be so definitely attributed the opposing values of good and evil. It shines in Paradise. It burns in Hell. It is gentle and torture ... It is a tutelary and a terrible divinity, both good and bad. It can contradict itself; thus it is one of the principles of universal explanation' (Bachelard 1968:7). This dual and contradicting nature of fire enables humans to spin webs of significance (Geertz 1973:5) around fire in a way few other elements or agencies may render possible, and the various chapters aim to analyse specifically and contextually parts of the meanings attributed to, and the role fire has played, in prehistory.

Two chapters are concerned with pottery technologies and the making of ceramics. Dragos Gheorghiu's (Ch. 1) experimental archaeological investigations with the Chalcolithic air draught kiln, which is the first machine functioning with fire, are particularly useful for further interpretations of prehistoric material due to the technical descriptions of the kilns and the successive temperature measures. Kevin Andrews

(Ch. 10) analyses bonfire pyrotechnology in Iron Age France. By combining X-ray analyses, re-firing experiments and macroscopic investigations he is able to show how La Tène black burnished ware was produced through a meticulous process of various pyro-techniques.

Five chapters focus specifically on the role of hearths. Anthony Harding (Ch. 2) analyses hearths and ovens in Early Iron Age Sobiejuchy in Central Poland; Ulla Odgaard (Ch. 3) approaches the Palaeo-Eskimo tradition from a number of angles and Raimond Thörn (Ch. 5) describes the great rows of fire as evident from lines of hearths and cooking pits in Southern Scandinavia. Odgaard's article is particularly thought-provoking in the way she discusses how the fireplace was the centre of life among the earliest Palaeo-Eskimos in the extreme, cold Arctic, by experimental studies of melting fat in the hearth, the differences between summer and winter hearths and various types of fuels for fire in hunter-gatherer societies. Two of these chapters analyse the role of fire and the evolution of humanity and hominids. François Audouze (Ch. 8) studies uses of fire at the Magdalenian site of Verberie in France where traces of ochre in the hearths indicate ritual and religious symbolism structures around fire, although the specific meaning is more difficult to detect. Ralph Rowlett (Ch. 11) analyses ancient fires and simple fireplaces in the Old World from the very first traces of domesticated fire and hearths made by *Homo erectus* 1.6 million years ago. Circumstantial evidence also suggests that *Homo erectus* was cooking food, and this article truly illuminates the importance of fire in the evolution of humanity structured around the hearth.

The last five chapters cover various topics. Paula Purhonen (Ch. 5) analyses symbolic meanings of cremations based on Finnish material in a fertility rites perspective, with emphasis on both the individual's afterlife but also on how cremation is a means for the welfare of the community. George Nash (Ch. 6) emphasises one of the most obvious, but often forgotten, aspects of fire apart from heat, and that is light; a perspective which he employs on Megalithic art in British passage graves to literally illuminate how rock-art was perceived. Marie-Chantal Frère-Sautot (Ch. 7) approaches copper smelting from a comparative perspective in the Copper and Bronze Age and

discusses both technological aspects but also societal implications, since 'metallurgical societies, although they might have kept their technical process confidential if not secret, were all open because commerce and exchange presided in this type of work' (p. 161). Ann Marie Kroll-Lerner (Ch. 9) interprets ethnographic accounts and religious myths of fire among nomads in Western Siberia where the temperatures drop to -70° Celsius. Fire played a crucial role in all life cycle rituals, as well as the hearth having a fundamental structuring role in society. Roberta Robin Dods (Ch. 12) analyses how fire was used in North America by the indigenous people to develop a landscape of plenty, which created productive areas, favourable micro-environments and domesticated spaces for selected animal species.

The introduction binds together the various chapters by presenting an overall theoretical framework for a pyro-archaeology at a general level. Nevertheless, particularly parts of the religious dimensions of fire could have been emphasised more, as well as the cognitive aspects of why fire has unique qualities which enable the phenomenon to be used symbolically cross-culturally (e.g. Bachelard 1968, 1988, 1990). Although the main aim is to study the pervasive and structuring role of fire in society and perceptions of cosmos uniting different spheres and realms, parts of this potential is still latent in this book. As the articles stand, they are individual case studies where the emphasis is on how one material category is mediated by or related to fire. Some of the analyses also have more focus on traditional archaeological material (artefacts/constructions) than why and how fire has been a historical agency and used explicitly as a transformative medium. Finally, one might wish that more case studies on metallurgy (iron, bronze, silver and gold), slash and burn agriculture, the diversity of cremation, warfare, etc., were included. These objections must, however, be seen in light of the fact that this is an anthology based on conference papers with the obvious limitations for selection of topics.

The ordering of the chapters seems somehow a bit random. One could have expected the Palaeolithic chapters and those concerned with various analyses of pottery or hearths to have been grouped together or that there would have been a chronological ordering of the chapters, but

there is not. A positive aspect is that some of the material, particularly the experimental studies and the lighting of megalithic art, are illustrated with colour photos which increase the value of the analyses and applicability for comparative studies.

Anthologies are like cocktails; some taste good, others do not. The totality of the mixture of articles in this book is good food for thought. Fire as a natural phenomenon is at the first glance a singular phenomenon, but the different temperatures represent various qualities with particular potentials for different uses, mediations and transformations. This makes fire a plural phenomenon – it is the one and the many but still the same – it is cultivated, modified, and ritualised for particular purposes which have specific cultural and religious meanings ascribed to it. In order to reveal the full potential of a pyro-archaeology one has to conduct synchronic and synthetic studies of all the spheres in a given society where different types of fires at various temperatures have been employed; in metallurgy, ceramic production, cremation, ovens, hearths, etc. By combining all the uses of fire one can better understand the totality of cultural meanings and religious dimensions of fire and its role in society and cosmos within a given culture. *The Archaeology of Fire* does not manage to reveal such a complexity, but this criticism is unfair since it is an anthology with studies from a wide range of areas and periods, which renders it impossible to conduct such a synchronic synthesis. Nevertheless, the totality of the different chapters in *The Archaeology of Fire* reveals the potentials of a pyro-archaeological approach to the past with fire as the axis for an understanding of society and cosmos. Hence, due to the potentials for new knowledge production through a pyro-archaeology the readers might be inspired to conduct such a synchronic synthesis combining all the different uses and meanings of fires in a given society within a defined time period. *The Archaeology of Fire* is therefore good food for thought because it opens up new possibilities and ways for interpretations.

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