Introduction

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INTRODUCTION

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Although fire is ubiquitous among humans and it appears to have been so for at least hundreds of thousands of years, its study as an artifact is relatively recent due to its sedimentary nature.

Archaeologists are only now beginning to properly document and sample combustion residues for their study as artifacts and to realize their potential as sinks of behavioral information, with clues concealed in ash, charcoal, burnt materials and the sedimentary substrate underlying hearths. Thus, archaeological combustion features are now analyzed at different scales using a variety of techniques to explore their spatial distribution, composition and formation. The physical and chemical transformations caused by heating on a variety of raw materials, as well as their social and technical implications, are equally at the center of current research. As a result, we are starting to unveil functional, technological and other behavioral aspects of fire in archaeological contexts from different regions and time periods.

Robust experimental studies, whose standards are progressively improving, along with ethnoarchaeology, have played an important role in these developments. Even though several aspects of ethnoarchaeology have been recurrently criticized, countless examples illustrate that it represents a privileged path for archaeological theory- and method-building. As ethnoarchaeological research on hunter-gatherer fire is scarce, it is particularly important that fire in living societies is observed and recorded in ways that are comparable to the archaeological sedimentary record and that both similarities and differences are analyzed from the macroscopic to the molecular level.

In light of this, and in the framework of ERC Consolidator Grant Project “PALEO-CHAR” geared towards interdisciplinary studies of archaeological charred organic matter, in February 2017 we organized an “Ethnoarchaeology of Fire” symposium at the University of La Laguna, Tenerife, Spain which brought together the experts in the field and gave rise to fruitful discussions on current research around anthropogenic fire. The success of the meeting revealed a great interest in archaeological fire and the benefits of articulating a community of different specialists around this topic has since been shown, among other things, by the creation of a “Pyroarchaeology” UISPP commission in June 2018.

In this volume, we present a selection of original research papers highlighting current approaches to anthropogenic fire involving ethnoarchaeology or ethnoarchaeological data and fieldwork. They all address essential issues linked to (ethno)archaeological fire in
different but complementary ways: prehistoric fuel use and cooking technology, uses of fire and combustion features, as well as site formation processes and taphonomy.

Through a review of extensive experimental work based on ethno-archaeo-historical data of earth-oven baking traditions in western North America, the paper by Thoms et al. reminds us of the massive impact of cooked food on human evolution, the ubiquitous character of hot-rock cooking in time and space, and the importance of robust macroscopic and microscopic reference datasets towards functional analysis of stone-filled combustion structures.

Equally important is the development of specific methodologies for multi-proxy investigations of fuel management to better understand site catchment areas and human behaviors around fire use and maintenance. Based on ethnoarchaeological work with Evenks of East Siberia and Athabascan communities in Alaska and British Columbia, Henry et al. propose a comprehensive synthesis on fuel use, a crucial resource in these northern environments, whose management illustrates the complex interactions between the landscape, settlement patterns, seasonality, varying technical and cultural contexts and ligneous fuels.

If ethnoarchaeology does help to acquire a more nuanced and less simplistic vision - truly benefitting archaeological interpretations-, current archaeological high-resolution approaches from different disciplines can also be confronted to ethnoarchaeological and ethnographic accounts to provide a whole set of new, additional information about fire uses and lifeways. This is illustrated well by the paper by García-Piquer et al., which presents an interdisciplinary case-study of archaeological combustion residues from recent Yamana hunter-fisher-gatherer groups in Tierra del Fuego.

An important aspect of archaeological combustion evidence involves the formation processes involved in their sedimentation and taphonomic transformation. Two papers of the volume have a focus on this perspective. The paper by D. Friesem presents a review of geo-ethnoarchaeological approaches to anthropogenic fire, addressing the main site formation agents and processes as documented in different ethnoarchaeological case studies. In it, the impact of human actions such as cleaning and sweeping on the sedimentary record are highlighted and it shows us the benefits of sampling not only living contexts but also abandoned settlements whose activity areas are well-known and described by the local collaborators to address taphonomic issues. Moving away from fire, the paper by Egüez and Makarewicz also focuses on formation processes as investigated through coupled micromorphology and biomarkers, using this novel method to investigate dung residues originating from present-day nomadic pastoralists of eastern Mongolia. Though the authors focus is not on fire, by dealing with various ethnoarchaeological aspects of dung, a primary fuel since early prehistoric times, this study contributes to our understanding of the formation and diagenesis of anthropogenic dung deposits, increasing our ability to identify them in the archaeological fire record.

In sum, through a variety of approaches, the papers in this volume illustrate how much there is to learn from living societies and show that ethnoarchaeology goes well beyond its role as an aid to archaeological interpretation. As to the preservation of cultural and technical traditions, there is no doubt ethnoarchaeology has a purpose of its own.
Disclosure statement

No potential conflict of interest was reported by the authors.

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