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Guest Editorial

## Contemporary topics and propositions in the study of procurement sources in ancient societies from Argentina



During the last few years, there has been a notable increase in the number of archaeological investigations focused on mineral outcrops and sources in Argentina, taking into account different chronological periods and the peculiarities of each geographical region in the country. Empirical references present novel characteristics, so there has been a growing sophistication of the methodological tools, and original techniques are being used for their identification. In this context, there has been an update in the research questions and a greater emphasis on the development of theoretical concepts and perspectives.

These tendencies and innovations aim to reconstruct the dynamics of the management of mineral resources in different social, chronological, and spatial scales. Technological and economic topics are being discussed. These include different strategies for the procurement, transport, storage, conservation, transformation, use, and discard of the artifacts. Similarly, other social issues such as mobility, the circulation of raw materials and artifacts, and the use of the landscape are being addressed. Symbolic aspects related to the life of the societies which used these resources are also analyzed.

This special volume of *Quaternary International* is the result of the rich discussions given in the Symposium “Desde las fuentes: el aprovisionamiento de rocas como problemática arqueológica” which was held at the XVIII National Congress of Argentine Archaeology, in the province of La Rioja in 2013. It compiles the work of different research teams which investigate throughout Argentina, in different natural and social landscapes of Patagonia, the Pampas and the Northwestern region of the country. These papers show a multiplicity of theoretic positions on technology, a wide range of topics addressed and the use of distinct methodologies and techniques. However, they share their interest for ancient ways of life and the processes of selection, acquisition, and preparation of raw materials by past societies. At the same time, these studies have a scope which goes beyond the scale of a site and take into consideration other stratigraphic and surface archaeological records. They evaluate the availability of raw materials, the geomorphology of the sources and their visibility, their characteristics as well as how they were exploited. They cover a wide range of chronological periods, from the final Pleistocene until the late Holocene.

The questions raised go along the research concerns and goals for each analyzed region and therefore are related to different realities. Nevertheless, the approaches can go beyond arbitrary regional borders and represent promissory proposals that can be imitated at

the national and international levels. Besides they show an interdisciplinary approach for the resolution of archaeological problems.

One of the topics addressed in this volume is the characterization of the regional base of mineral resources, which is fundamental for the understanding of productive processes. It allows to discuss their planning, the knowledge of the sources by ancient societies and to analyze how the availability of raw materials conditions the organization of technology. In this sense, Heider and Demichelis present an intense survey of the North of the Pampa Seca region and complement it with petrographic studies. They identify a quarry of chalcedony in an area which was supposed to lack raw material sources, and then discuss issues related to the mobility of the groups which used this type of stone. Ratto and co-workers try to define the diversity and variability of mud-clay banks in a sector of the Argentine northwestern, in order to discuss the source of the minerals used in the production of pottery. For this, the authors made geochemical analyses from samples of different environments.

Another issue discussed in this volume is the origin of raw materials through the evaluation of their properties, their quality for knapping (in the case of stones), and intra-source variability. This enables the analysis of the behavior and decisions of the societies regarding the selection and circulation of raw materials at different scales. Several methodologies were applied. Carrera and collaborators perform the analysis of thin sections to describe the cherts of the southwestern Pampas. This approach was useful for the recognition of the internal variability of the outcrops and the discussion on the preferred characteristics of the stones by the knappers. They were also able to determine markers for the identification of this raw material in distant sites and to define its use throughout time. Fernández and collaborators carry out the geochemical study of obsidians from archaeological sites from a sector of Southern Patagonia. They discuss the use of preference of certain obsidian sources, and analyze possible chronological differences on the exploitation of this raw material and their patterns of circulation. Furthermore, this study enabled them to identify signals of a possible new, unknown source. In her work, Magnin studies the origin of raw materials in a landscape with a high availability of these resources, using geographic information systems. She discusses a model of social mobility taking into consideration the circulation of stones and the knowledge hunter-gatherer groups had about their distribution. Franco and coworkers try to determine the source of raw materials using evidence from surveys and

background information regarding macroscopic and geochemical characteristics of obsidian and siliceous stones from southern Patagonia. They then check this information against the characteristics of lithic assemblages in stratigraphic sites. They make a preliminary assessment of the circulation of these raw materials and try to link it with changes in the circuits of mobility of the human groups throughout time.

The characterization of procurement sources and the material identified in them is also problematized. The framework for this topic is the study of the processes of manufacture of lithic tools in micro and macroregional levels. Frank and collaborators focus their attention in the study of two quarries of flint and silicified wood in the Central Plateau of Santa Cruz. The work by Barros and others makes a technomorphological analysis of phtanite remains recovered from a quarry-workshop in the Tandilia System. Both papers describe the sources taking into account the peculiarities of the landscape where they are located, the availability of stones, and the exposures. They seek to discuss the variety of tasks performed at the quarries, the techniques applied in the acquisition of raw materials and the sequences of reduction. Inferences are made regarding the provisioning strategies in both study areas. For this, systematic surveys and a technomorphological analysis of the remains (sometimes *in situ*) are performed. Visible modifications of the terrain are recorded and knapping debris from excavated and open-air sites are described.

Besides, there are investigations focused on the processes of tool production with specific raw materials in several archaeological sites. These papers aim to understand the decisions which intervened in the manufacture of artifacts, with a special emphasis in the reduction sequences and knapping techniques applied. With a perspective which highlights social practices, they inquire into the selection of raw materials and link the evidence from open-air or sheltered sites with local or exotic sources. For instance, Turnes evaluates if there is a relationship between the raw material selected, the intensity of retouch, and the final morphology of tools through morphometric methods which are novel at the local level, such as the invasiveness and curvature indices. He suggests that, for

the chronological period under study, technological decisions are similar for the exploitation of different lithologies. The paper by De Angelis and Mansur investigates the exploitation of silicified tuff remains from a site in the Isla Grande de Tierra del Fuego. They carry out an analysis which combines the knapping quality of this stone and the examination of its efficacy in the manufacture and use of tools. In order to achieve this, the authors make technofunctional experimentations and technomorphological and functional analyses of the archaeological remains. Hermo and Lynch make a diachronic comparison of reduction sequences, looking closely at the exploitation of cores and analyze models and tendencies in the processes of selection, provisioning and transportation taking into consideration economic and symbolic factors based on the type and duration of the occupation of a site, the abundance/scarcity of cores and their potential utility at the time they were left behind.

Finally, we would like to thank the researchers who shared with us their valuable discussions and contributions, first during the Symposium and now in the edition of this volume. We are grateful to the reviewers who were really helpful with their comments and observations. Finally, we thank Norm Catto, editor in chief of *Quaternary International*, for his effort and support during this process.

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