Journal of Anthropological Archaeology 27 (2008) 326–337

Contents lists available at ScienceDirect

Journal of Anthropological Archaeology

journal homepage: www.elsevier.com/locate/jaa

Neolithic rock art in context: Landscape history and the transition to agriculture in Mediterranean Spain

Sarah B. McClure [a,*], Lluis Molina Balaguer [b], Joan Bernabeu Auban [b]

[a] Department of Anthropology and Museum of Natural and Cultural History, 1218 University of Oregon, Eugene, OR 97403, USA
[b] Departament de Prehistòria i Arqueologia, Universitat de València, Valencia, Spain

ARTICLE INFO

Article history:
Received 5 May 2007
Revision received 22 April 2008
Available online 16 July 2008

Keywords:
Neolithic
Iberian peninsula
Rock art
Chronology
Landscape archaeology

ABSTRACT

Rock art is one of the most salient features of Neolithic societies in eastern Spain and an explicit form of landscape history. This paper summarizes current debates of Mediterranean rock art chronology and interpretation and explores the contextual differences in two areas of Neolithic settlement with rock art: the Canyoles Valley (Valencia) and the Alcoi Basin (Alicante). Large-scale survey of the Canyoles Valley resulted in a clearer understanding of agricultural land use during the Neolithic that contrasts with evidence from the Alcoi Basin. By analyzing Neolithic rock art in its archaeological context, we discuss the significance and limitations of rock art analysis for understanding and characterizing landscape histories and the transition to agriculture in the region.

Introduction

Archaeological landscapes are palimpsests of cultural remains from natural and cultural processes operating at different temporal and spatial scales (Anschuetz et al., 2001; Wandsnider, 1998). Although "landscape archaeology" is by no means a well-developed theoretical approach, the utility of regional perspectives in archaeology has been recognized and practiced for many years (e.g., Billman and Feinman, 1999; Binford, 1982; Chapman et al., 1996; Fish and Kowalewski, 1990; Wandsnider, 1998). In contrast to traditional settlement systems analyses, landscape approaches consider variation in physical properties and spatial patterns of archaeological assemblages as a part of a greater dynamic whole. A landscape approach complements traditional archaeological uses of space and time, while integrating human history and agency into their constructions (Anschuetz et al., 2001).

The transition to agriculture in the Mediterranean region of Spain offers an ideal framework for this kind of approach, including changes in economic land use, the creation of rock art, and social and ideational shifts within societies. In fact, one of the most salient records left by Neolithic societies in this region is the large quantity of rock art in rock shelters and shallow rock faces. Three rock art styles are found in the central Mediterranean region of Spain (Hernández, 2005): Macroschematic, Schematic and Levantine. This art dates to the Neolithic period (5600–2200/2000 cal BC), but it is impossible to determine if rock art production occurred throughout the period or only in punctual events. In the past few years, attempts have been made to interpret the social meaning of this artistic record, most recently by Cruz Berrocal and Vicent García (2007). Special attention has been given to the relationship between rock shelters with art and their surrounding landscape (Fairén, 2004, 2007; Cruz Berrocal, 2005; Cruz Berrocal and Vicent García, 2007) using GIS technologies and theoretical discourse to explore questions of visibility, access, spatial distribution, and relationships with natural corridors and historic pastoralism routes in addition to the evaluation of rock art's social contexts.

In this paper we present results from a regional scale archaeological survey of the Canyoles Valley (Valencia) in comparison with data from the Alcoi Basin (Alicante) in Eastern Spain. We discuss the distribution of Neolithic rock art in the two areas in order to emphasize differing contexts of rock art production, and highlight recent debates on its chronology and interpretation. Finally, the importance for examining rock art in its archaeological context is illustrated and implications for interpreting similar rock art in other parts of Mediterranean Spain are presented.

The Neolithic in central Mediterranean Spain

The transition to agriculture

The appearance of Neolithic lifeways in Iberia is part of a larger phenomenon in the western Mediterranean, where agriculture and associated technologies, particularly pottery, spread from Liguria in northern Italy to southern Spain and Portugal. Based on existing

* Corresponding author. Fax: +1 541 346 0668.
E-mail address: sbm@uoregon.edu (S.B. McClure).

0278-4165/$ - see front matter © 2008 Elsevier Inc. All rights reserved.
doi:10.1016/j.jaa.2008.05.001

radiocarbon dates, this process took less than 500 hundred years (Bernabeu, 2006; Zilhão, 2001) and once on the Iberian Peninsula, rapidly spread to the interior (Bernabeu et al., in press-a; Kunst and Rojo, 2000; Kunst, 2001). The absence of wild ancestors for the main domesticates—sheep and goat, emmer, einkorn wheat—indicate that key features of this mode of production were imported to the Iberian Peninsula. Recent genetic studies (Armelagos and Herper, 2005; Beja-Pereira et al., 2006; Fernández et al., 2006) support this, although the diversity within domestic animal herds point to genetic influences beyond a simple, direct transfer of species from the Near East and likely document interbreeding between introduced species with wild counterparts in the Western Mediterranean. However, the nature of the transition to agriculture, the relative roles of indigenous hunter-gatherers, and specific local, regional, and supra-regional processes, are still heavily debated. Several scholars consider the transition to agricultural societies in the Western Mediterranean as a product of colonization by farming groups with subsequent adoptions by indigenous foragers (Bernabeu, 1995, 1996; Binder, 2000; Fortea 1973; García Puchol, 2006; Martí and Juan-Cabanilles, 1987, 1997; Zilhão, 1993, 1997). Others apply transition models from other parts of Europe (Cruz Berrocal and Vicent García, 2007; Hernando Gonzalo, 1999; Schuhmacher and Weniger, 1995; Vicent García, 1997). These authors argue that the process of neolithization of the Iberian Peninsula is the result of indigenous hunter-gatherers adopting farming technologies and incorporating these into their existing social and economic networks.

Recently, Cruz Berrocal and Vicent García (2007) highlighted the argument for a local adoption model of agricultural practices, known as the "capillary diffusion model" (Hernando Gonzalo, 1999; Rodríguez et al., 1995; Vicent García, 1990, 1997), based on the premise of continuity between Mesolithic and Neolithic populations and the inherent ability of indigenous hunter-gatherers to "engender, by themselves, a process of economic transformation and increasing social complexity" (2007:687). Since hunter-gatherer studies emerged as a research focus with seminal works such as *Man the Hunter* (Lee and DeVore, 1969; see also Jochim, 1976, 1981), the inherent cognitive, adaptive, and creative abilities of foraging populations has not been questioned, and many instances of indigenous adoption or independent domestication processes are documented throughout the world. The problem of Cruz and Vicent's argument lies not in the *possibility* of this kind of transition, but rather in the archaeological data of Mediterranean Spain. The capillary diffusion model requires the introduction of domesticates as prestige items, the existence of local and long-distance kinship and reciprocity networks, strategies of intensification and diversification of the economic basis during the Mesolithic, cycles of delayed-return consumption, and the unexpected consequences of partial transformations in economic and social practices (Cruz Berrocal and Vicent García, 2007:687; see also Vicent García, 1990, 1997). However, as summarized below, the archaeological record of Mediterranean Spain does not support this model as the primary, supra-regional process of neolithization, rather it is limited to specific local and regional contexts.

Archaeological data indicate that the earliest agricultural technologies (domesticates, ceramic production, polished stone tools, and a specific lithic technology) appear together and are clearly delineated from preceding local hunter-gatherer cultural and economic traditions. Technologically, Early Neolithic pottery is highly varied, with a number of clay/temper recipes, firing, and decorative techniques used consistently at different Early Neolithic sites (McClure, 2004, 2007; McClure and Molina, in press), suggesting experienced potters practiced this technology from the Early Neolithic onwards. Furthermore, Early Neolithic sites demonstrate a widespread use of a variety of crops, and domesticated faunal remains represent over 65% of faunal assemblages (Martí and Juan-Cabanilles, 1997; McClure et al., 2006; Pérez, 1999). It appears, therefore, that early farmers in eastern Spain were not low-level food producers (*sensu* Smith, 2001), but rather had a well developed production economy.

The coastal distribution of most of the earliest evidence for farming further supports a diffusionist and maritime pioneering model (Zilhão, 2001, 2003). After initial settlement, interactions between farmers and the local populations may have taken many forms—co-evolution, acculturation, assimilation, substitution—depending on local context. The relative role that colonizers and local hunter-gatherers had on the spread of domestic animals and plants to the region is still heavily debated (e.g., Barnett, 1995, 2000; Bernabeu, 1995, 1996; Bernabeu et al., 2001a; Donahue, 1992; Martí and Juan-Cabanilles, 1987; Martí, 1988; Zilhão, 1993, 1997, 1998, 2000) and likely varied on local and regional scales. This model of colonization and subsequent interaction has been termed the "dual model" (Bernabeu, 1995, 1996, 2002, 2006).

New radiocarbon and ceramic data from a range of sites on the Iberian peninsula are shedding light on the timing and points of origin of Early Neolithic pottery dispersals (Bernabeu et al., in press-a; Manen et al., 2007). Included in these recent revisions is a renewed interest in the role of North Africa for pottery found in southern Spain and Portugal (Manen et al., 2007), as well as the identification of an Impressa-phase (pre-Cardial) in eastern Spain (Bernabeu et al., in press-a). Specifically, the presence of pottery decorated with *sillon d'impression* shows connections to southern France and Liguria, Italy, while *rocker* impressions and painted decorations are related to wares found in southern Italy (perhaps via northern Africa). These data are statistically contemporary with the 'classic' Cardial assemblages in sites in eastern Spain, and suggest that the spread of pottery to the Iberian Peninsula was multiphased, multi-directional, and much more complex than previously thought (Bernabeu et al., in press-a). The implications of these new data on models of neolithization are as yet unclear and ongoing studies of pottery assemblages and detailed re-analysis of the earliest levels at Neolithic sites throughout the Iberian Peninsula will likely change our understanding of specific issues relating to the transition to production economies (Bernabeu et al., in press-a). However, these findings further support the role of migration, possibly multiple migrations, as an important facet for the transition to agriculture in the Western Mediterranean.

The Alcoi Basin in northern Alicante is a core area of Early Neolithic settlement (Fig. 1), providing the earliest dates for farming populations in Mediterranean Spain. Available radiocarbon dates of short life samples document a 500 year gap between the last Mesolithic and first Neolithic dates (Fig. 2). As argued in detail elsewhere (Bernabeu, 1995; García Puchol, 2006; García Puchol and Aura, 2006; Juan-Cabanilles and Martí, 2002), the absence of Late Mesolithic industries in the region suggests that this area was only marginally used by hunter-gatherers at that time. This may have been part of a larger trend throughout the Western Mediterranean, where gaps of 300+ years between Late Mesolithic and Early Neolithic sites are common, despite increases in survey and excavation activity in the past 20 years (Biagi, 2003; Guilaine, 2003; Skeates, 2003; Zilhão, 2003). In contrast, adjacent areas such as the Upper Vinalopo Valley and Serra del Caroig mountains may have been cores of Mesolithic hunter-gatherer settlement that continued into the Neolithic (Fig. 1).

Once established, farming groups spread quickly across the landscape and currently more than 30 sites date to the second half of the 6th millennium cal BC. Interaction with surrounding foraging communities is documented (e.g., Fortea, 1973; García Robles et al., 2005), although the nature of contacts remains elusive. Recent data from the Meseta in central Spain highlight the rapid spread of agriculture (Kunst and Rojo, 2000; Kunst, 2001). Since Epipalaeolithic settlement is not documented in this area either,