The Southern Patagonia Geoarchaeology Project (SPGP)

Report of the 2006 activities

prepared

by

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Introduction

Southern Patagonia (lat 48° S and south, comprising both Argentina and Chile) is a unique region that holds evidence of the southernmost Late Pleistocene expansion of human communities in the Americas, as well as some of the earliest data about their co-existence with megafauna. The changing landscape of Southern Patagonia posited novel challenges to human adaptation from the early Holocene: whilst the first known inhabitants of the region focused on the foraging of terrestrial resources, ameliorating climatic conditions of the 6th millennia before present enabled the expansion of groups using sea-worthy vessels from the archipelagic regions of Chiloé Island (Legoupil & Fontugne 1997). From the mid-Holocene onwards these contrasting lifeways - terrestrial and maritime – characterised human inhabitation of Southern Patagonia. Our understanding of this millennial-scale human history relies on knowledge developed through the study of a handful of archaeological sites, some excavated in the 1930s (Bird 1938, 1988), others in the 50s-70s (Emperaire & Laming 1961; Ortiz-Troncoso 1975, 1979), and others at which research was conducted in the 80s-90s and/or is ongoing (Massone 1987; Borrero 1986, 1997; Legoupil 1997; Nami & Menegaz 1991; Prieto 1991; San Román et al. 2000). The nature of archaeological research in Southern Patagonia has meant that as new questions are formulated, novel techniques are used to look at new evidence afresh and old evidence anew. Examples of the latter are attempts to re-evaluate sites excavated before the 1980s (e.g. Massone 1997, Legoupil 1997, Morello et al. 1998, Morello 1999, San Roman 2004) as well as an ever more critical understanding of the zooarchaeological evidence based on studies of regional taphonomy (Borrero & Martin 1996; Martin et al. 2004).

The Southern Patagonia Geoarchaeology Project - supported by Chile Projects, Centre of Latin American Studies, University of Cambridge - has recently added to this long and exciting tradition of research by conducting the first round of sampling for the geoarchaeological study of three archaeological sites in the Chilean part of Southern Patagonia. In what follows, research activities of the first year of the project (2006) are reported.

Activities 2006

In January 2006 the proponent, Manuel Arroyo-Kalin and his doctoral advisor Dr Charles French, both at the Department of Archaeology, University of Cambridge, travelled to Southern Patagonia to team up with archaeologists Manuel San Román, Flavia Morello, Alfredo Prieto, Pedro Cárdenas, and Fabiana Martin, of the Quaternary Studies Centre (Cequa), University of Magallanes, Chile. During this visit, the Cambridge-CEQUA team conducted an intense 10 days of fieldwork which required travelling long distances on a 4x4 truck and also navigation on a Zodiac vessel fitted with an outboard engine. The purpose of this travel was to visit three important archaeological sites in the region. Two of these sites stand as the earliest evidence for maritime hunter-gatherers in continental/insular Southern Patagonia, dating to approximately the 6th millennium before present. Punta Santa Ana, located some 60 km south of the city of Punta Arenas, was excavated in the 1960s by Omar Ortiz-Troncoso (1975, 1979). Pizzulic, located on the Englefield island north of Punta Arenas, was recently discovered by San Román and his team. Both sites are shell middens located over 10 m a.s.l., a clear indication that their occupants inhabited a landscape characterised by a higher sea-level associated to the early-mid Holocene Flandrian transgression. Both are also buried under the present soil surface, making their detection
extremely difficult. The evidence collected at these sites is unique: apart from settlement-related sediments, both sites have buried ancient land surfaces that date back to the beginning of the Holocene. Dedicated study of these sites will therefore provide important information about the past landscape of Southern Patagonia. The third site visited by the Cambridge-CEQUA team was the Cueva de los Chingues, a rockshelter located in the Pali Aike National Park. This is the region where Junius Bird established the terminal Pleistocene antiquity of human colonisation of the Southern Cone in the 1930s. The team re-opened excavations conducted in the late 1990s by San Román and his team and extensively sampled the exposed profiles with a view to characterising site formation processes. The evidence that will result from the study of this site will be crucial to disentangle possible terminal Pleistocene and definitive mid to late Holocene human occupations that took place in this region. It will also provide much needed stratigraphic control for the ongoing archaeological and taphonomic studies being conducted by San Román and by Martin.

When the three sites are considered, a total of 28 undisturbed block samples for soil micromorphology and additional bulk samples for geochemistry were collected by Arroyo-Kalin and French. All samples were collected with the due authorisation of the Chilean Council of National Monuments and sent to the UK under the MAFF permit of the McBurney Geoarchaeology laboratory. These samples are now in Cambridge and work on their preparation into thin sections for micromorphological analysis is going according to schedule. Analysis of this material will constitute the core data produced within the first year of the project.

The visit also served to establish important research liaisons between Cambridge and the CEQUA team. Arroyo-Kalin is currently co-investigator in a 4-year research project led by Flavia Morello, scheduled to begin fieldwork in late 2006. This research project, funded by the Chilean Science Committee (CONICYT), will survey hitherto unexplored reaches of the Isla Grande of the Tierra del Fuego archipelago, in hope to fill gaps in the early to mid Holocene archaeological sequence of Southern Patagonia. The Chile Projects-supported visit by Arroyo-Kalin and French led to an invitation to C. French to participate in the research project in the northern coast of Tierra del Fuego. It is therefore expected that both Arroyo-Kalin and French will once again visit Southern Patagonia towards the end of 2007 to continue research in the area.

In short, the support of Chile Projects has enabled Arroyo-Kalin and French to conduct a successful first round of sampling for geoarchaeological purposes and also led to the establishment of encouraging research linkages between scholars of the University of Cambridge and the Quaternary Studies Centre of the University of Magallanes. The samples collected during this first year will be studied Arroyo-Kalin and French, providing a pilot data set for geoarchaeological investigations in Southern Patagonia, Chile. A publication on this material has been committed for the CEQUA peer-reviewed journal Magallania.

Bibliography

Bird, J., 1988. Travels and Archaeology in South Chile (Ed. J. Hyslop), University of Iowa Press, Iowa City


