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# Technological Changes and Social Interaction Networks during the Colonization of Central and Southern Atacama Highlands

Rodrigo Loyola\*<sup>†1</sup>, Lautaro Núñez<sup>2</sup>, and Isabel Cartajena<sup>3</sup>

<sup>1</sup>Phd Program, UMR 7055 Prehistoire et Technologie (PreTéch) – Université Paris Ouest Nanterre La Défense – 92023 Nanterre cedex, France

<sup>2</sup>Instituto de Arqueología y Antropología, San Pedro de Atacama, Universidad Católica del Norte – Gustavo Le Paige N° 380, San Pedro de Atacama, Chili

<sup>3</sup>Facultad de Ciencias Sociales, Departamento de Antropología – Ignacio Carrera Pinto 10, Santiago, Chili

## Résumé

The initial peopling of the Central and Southern Atacama (22-25 ° S, northern Chile) began around *ca.* 13,000 yr BP and conclude nearly to *ca.* 9,000 yr BP. During this period, the human groups dispersed to an unknown landscape, characterized by extreme aridity, a steep topography and altitudes ranging between 2,000 to 4,500 masl.

Changes in the social organization and a greater knowledge of the environment, allowed them to integrate new territories, until reaching all habitable environments. Each of those spaces involved different *tempos* and rhythms of colonization, at a time of severe climatic changes. In some cases, they were intensely populated from the beginning and then abandoned, as happened in the Tuina mountains and the Atacama, Imilac and Punta Negra basins, in the Andean *precordillera* (3,000 to 3,800 masl). The occupation of the foothill oasis located in lower altitudes (2,000 masl) instead, took almost two thousand years in the case of the Tambillo marshes. However, they harbored intense human occupations where residential structures and semi-permanent site-camps were built. The access to the high *puna* (above 3,800 masl) occurred only after *ca.* 9,000 yr BP, during brief intra-annual lapses, but stably and continuously in the inter-annual scale, as has been noted in Aguas Calientes, Tuyajto and San Martin.

The study of lithic assemblages provides us an exceptional entry to discuss the process of colonization. The classical archaeological approach has explained technical variability through historical-cultural periods and concept as ‘traditions’, based on the distribution of diagnostic artifacts at micro-regional scales. Contrary to this vision, certain disruptions and continuities in technological systems suggest an extremely dynamic scenario. We propose that in a context of settlement diversification and familiarization with the landscape, learning by ‘trial and error’ were privileged. This encouraged continuous and simultaneous innovations, with different degrees of success. As a result, technologies circulated at different spatial-temporal scales, within the framework of the interaction networks of the human groups. Finally, we link the diversification of lithic technologies during the terminal Early Holocene with an

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\*Intervenant

†Auteur correspondant:

intensification and greater complexity of social networks.

To contrast this hypothesis, we evaluate and discuss changes in lithic technologies, experienced by the human groups during the colonization of Central and Southern Atacama, favoring the use of broad spatial and temporal scales. Lithic assemblages of archaeological sites distributed in different areas are studied, such as the foothill oasis (Tambillo-1), the Andean *precordillera* (Tuina-1, 5, Tulan-67, -68, -109, San Lorenzo-1, Punta Negra-1, -6, -19, -20 and Imilac-7, -13) and the lacustrine basins of the high *puna* (Aguas Calientes-1, San Martín-4A and Tuyajto-1B).

**Mots-Clés:** Lithic Technology, Social Networks, Colonization, Early peopling, Central, South Atacama