

Landscape, Power, and Ideology at Khonkho Wankane, Bolivia

Arik Ohnstad

The archaeological site of Khonkho Wankane was a major ceremonial center in the southeastern Lake Titicaca Basin during the region's Late Formative period (AD 1–500). Across the basin, this phase witnessed the formation of polities that incorporated multiple communities, a large increase over previous periods in both political complexity and the social distribution of power; Khonkho was one of these centers. Power, identity, and social relations at Khonkho were asserted, contested, and conditioned through religious and cosmological symbols that were encoded in both the natural and the built landscapes of the site and its surrounding area. I examine the radical transformations in settlement patterns over the course of the Late Formative period in light of the spatial, temporal, and iconographic patterning of the site's monumental stelae, and outline the role of religious ideology, cosmology, and social memory as encoded in natural and built landscapes, in shaping and subverting the political projects of local and external leaders.

Landscapes of Religious and Ecological Change in the Titicaca Basin

Report of research carried out as a CSRC fellow, summer 2005

Arik Ohnstad, 15 September 2005

My proposal to the Center for the Study of Religion and Culture's 2005 Graduate Student Summer Research Fellowship described plans for archaeological research focused on patterns of human settlement on the Bolivian altiplano, the zone where the Andes' first truly urban society, Tiwanaku, arose. It was proposed to investigate the relationships of settlement patterns to changing religious ideologies, power relations, and the ecological substratum on which the agrarian societies of this vast and important region. Specifically, funds were requested for the first stage of an ecological survey and analysis aimed at elaborating a database of ecological resources and characteristics covering the entire research area. It was hoped that the research carried out in the summer of 2005 would provide a baseline of data and methodology which could serve as the basis for both dissertation proposals and grants for further research. Excellent progress was made in realizing all of these goals.

Despite a serious transportation strike (actually an annual or near-annual event in that country since their first eruption in 2001), which paralyzed travel over much of Bolivia and delayed my departure by three weeks, I was able to spend more than two months in the field from June 15–August 15. Over the course of this visit, ecological survey was carried out in the region of Jesús de Machaca, which is separated from the southern shore of Lake Titicaca and the Tiwanaku zone by the rugged Kimsachata range. The Machaca zone represents one of the four distinct zones in the planned larger study area; the others are located along the lake shore and two of the major river valleys that drain the basin. Three transects cross-cutting the major physiographic zones (lower foothills, upper and lower colluvia, valley floor, alluvial zone, and springs/wetlands) were marked out. Surficial soil samples were collected at specific intervals (every 100 or 200 m) along these transects, with subsidiary samples taken in areas of substantial variation in soils or vegetation cover. Vegetation cover at each site was also recorded. More than 250 soil samples were thus collected, and 202 of these were submitted to the Laboratorio de Calidad Ambiental (Laboratory of Environmental Quality) of the Instituto Ecológico at San Andrés University in La Paz, Bolivia, where they will be analyzed to determine the particle size distribution (sand, silt, clay), pH, electrical conductivity (a general measure of salinity), and—in a subset of the samples—organic matter content. The results of these analyses should be available by mid- to late- October (2005). Their primary use for the larger project will be to extrapolate, using regression analysis on multispectral data from NASA's Terra satellite, a soil map of the entire Machaca region; it is anticipated that very little further ground survey will be needed to complete this task. This soil map can also be subjected to further analyses, for example it will provide the base for a model of drought susceptibility under reconstructed paleoclimatological conditions. The soil map and its derivatives will be key in analyzing the ecological-economic component of human settlement, relating the locations of human settlement to the exploitable soil resources nearby. It is hoped that at least a preliminary soil map of the Machaca area will be available by the end of 2005.

During the course of the ecological survey, it became clear that the region's hydrological balance is key to understanding the distribution of vegetation resources—especially grass for livestock fodder, herding being the primary economic engine of the Machaca both today and probably also in the ancient past. While water is abundant in the Machaca region, most of it is underground; since there is little to no snow accumulation in the Kimsachata range, the area depends for water during the nine-month dry season on groundwater-fed springs in the mountains and a number of small wetlands on the valley floor. Given the known volatility of precipitation and hydrological balance that the high Andes have experienced over the past 2000 years, the groundwater of both Machaca and the larger study area emerges as one of the most important variables in the landscape over time. For this reason, groundwater levels were measured at 55 wells and springs in the Machaca region. These will be monitored for their response to future precipitation conditions, with the intent of retrodicting a model of past hydrological conditions based in existing paleoclimatic reconstructions which have been carried out for the region.

Concurrently with the ecological survey, work was continued on the iconography of the five carved stone stelae at the site of Khonkho Wankane, the premier archaeological site in the Machaca region. The first drawings of these monuments suitable for scholarly study were completed. Previously, only rough, inaccurate sketches and poorly detailed photographs had been available, and in fact two of the monuments have never been published in any form. My ongoing analysis suggests that the designs carved on the monuments, which date to the Titicaca Basin's Late Formative period (AD 1–AD 500, a time of developing social complexity which culminated in the emergence of the Andes' first truly urban settlement), speak to a number of themes, including ancestor worship, the cycling of nutrients between generations (between the living and their ancestors), irrigation agriculture, the nature of public ritual, and the landscape itself as a repository of social memory and community identity. One of the central goals of my future research will be the integration of this iconographic dataset with the settlement data for Khonkho Wankane and surrounding area, in order to arrive at an understanding of the dynamics between religious ideology and social, political, and economic/ecological factors over the course of this critical time period.

The funding of the CSRC's Summer Research Fellowship was critical to the success of the research undertaken. The fellowship paid the cost of air travel to and from Bolivia, for soil sampling equipment (soil probes and other collection apparatus), and for a large portion of the soil analyses underway at the Laboratorio de Calidad Ambiental in La Paz. Tangible academic results of the funded research include a paper written for the Simposio Internacional Sobre Arqueología del Area Centro-Sur Andina (International Symposium for Archaeology of the South-Central Andes), which the IFEA (French Institute of Andean Studies) will publish in 2006. Academic papers based in the funded research are also to be delivered at the Midwest Conference of Andean and Amazonian Archaeology and Ethnology in February of 2006, and at the Society for American Archaeology's Annual Meeting in April of 2006. I also anticipate that the dissertation proposal, on which I am presently actively engaged, will be completed during the 2005–2006 academic year; it draws heavily upon data, ideas, and insights gained during the fieldwork funded by the Summer Research Fellowship. I would like to take this opportunity to thank the Center for the Study of Religion and Culture for their generous support.

