

Early Complexity in the South-Central Andes: Khonkho Wankane and its Hinterland

Archaeology in the Machaca Region of Bolivia, Volume I

Edited by **John W. Janusek**

This volume presents and synthesizes eight years (2001-2008) of archaeological research in the Machaca Region of Bolivia, located in the Upper Desaguadero Basin of the Andean altiplano. Begun in 2001, the bulk of this research has focused on the monumental center of Khonkho Wankane and its environs, located on a vast plain at the foot of the Kimsachata-Chilla mountain range. Bolivian archaeologists first identified the site in 1936, and it was the second to be nationally registered, after Tiwanaku. Since then, it has been considered among Bolivia's most significant archaeological sites. However, systematic archaeological research only commenced with our collaborative project, the Proyecto Jach'a Machaca, in 2001.

Since it was first discovered, Khonkho Wankane has been a conundrum. Early research conducted by the Bolivian archaeologist Maks Portugal and colleagues brought to light elaborately sculpted stone monoliths. Beginning in the 1950s, Bolivian archaeologists were promoting the site of Tiwanaku, across the Kimsachata-Chilla range, as the center of a great Prehispanic culture, and as Bolivia's crowning jewel of archaeological national patrimony. Ongoing research by Carlos Ponce Sanginés and colleagues confirmed that Tiwanaku was first settled in formative times but reached its peak during the Andean Middle Horizon, roughly AD 400-1000. In light of the emerging dominant ideology regarding Bolivia's past, Khonkho Wankane was considered to be a major Tiwanaku regional center, and very likely its "second city." Its monoliths, however, were wrought in a distinctly pre-Tiwanaku sculptural style that fits into the formative pan-Lake Titicaca Basin, Yayamama religious tradition.

This book summarizes the project that sought to resolve this conundrum and to address several broad research questions: When was Khonkho Wankane first settled, and when did it thrive? Was it a Tiwanaku or pre-Tiwanaku regional center? What kind of center was Khonkho Wankane? What social, economic, or ritual processes were responsible for its rise? What was its productive basis? Why did it eventually wane in importance, and when?

Early Complexity in the South-Central Andes, Vol. I, will be the definitive volume in presenting the preliminary results of research at Khonkho Wankane and in its environs. Our research indicates that Khonkho was first settled and its major platform constructed in the first century of the common era, toward the beginning of the Late Formative period (100 BC – AD 500). It crystallized as a major ritual-political center that reached its peak in the latter part of this period, after AD 200. Extensive regional analysis, geophysical survey, broad excavations, and multiple laboratory and specialized analyses flesh out Khonkho's complex chronology and shifting nature. It outlines the importance of

Khonkho in Late Formative sociopolitical networks, its rise as a major ceremonial center, and its role in the formation of the Tiwanaku state. More broadly, our research at Khonkho offers valuable insights into the dynamics of emergent complexity and early urbanism in the highland Andes.

This volume will synthesize the vast corpus of data that various core members of Proyecto Jach'a Machaca have produced over the past eight years. That is, while the volume is not conceived as a collection of field reports, individual chapters will present abundant data bearing on particular aspects of Khonkho's shifting significance. Yet individual chapters and the volume overall will synthesize the results of our project's research in light of its broader significance in our understanding of Andean prehispanic history and emergent complexity worldwide. Thus, the volume is conceived as a synthetic, data-rich monograph.

The volume will appeal to archaeological scholars and advanced student interested in Andean prehistory, and more specifically to those with an interest in the Andean highlands and the Lake Titicaca Basin. In light of the volume's broad theoretical net, it will appeal secondarily to scholars and students interested in emergent complexity and urbanism in various world regions.

The volume consists of twenty-three chapters divided into four sections: Introduction, Regional and Site Archaeology, Specialized Analyses, and Conclusion. While chapters will vary in length, I estimate chapters to average approximately 25 pages of text each (or approximately 8,000 words, thus reaching ~176,000 words in total. Since data presentation is critical to the successful impact of the volume, we request a significant number of grayscale photos and illustrations and a smaller number of color images. I request approximately 18 grayscale illustrations/photos for each chapter and a variable number of color images (to be determined by available funding), or approximately 400 of the former and up to 25 color pages. As volume editor, I will apply for the maximum amount of available subvention funding from Vanderbilt University to help defray costs. The model for the volume is *Tiwanaku and its Hinterland: Archaeology and Paleoecology of an Andean Civilization, Volume II*, Alan L. Kolata, ed. Smithsonian Institution Press, 2003.

This volume will be the first of two volumes to synthesize results of Proyecto Jach'a Machaca's research in the Machaca region. Volume two will synthesize archaeological research in and around the site of Iruhito, located some twenty-five kilometers to the west on the Desaguadero River's east bank.

Chapter 1:*Section I: Introduction*

Khonkho Wankane and the Machaca Region: An Introduction

John W. Janusek, Vanderbilt University

This chapter introduces the site and its geographical and archaeological contexts. It synthesizes past research and thinking about Khonkho, our project's goals and methodologies, and introduces the various chapters that follow.

*Section II: Regional and Site Archaeology***Chapter 2:**

Regional Analysis and Long-Term History in Machaca

Carlos Lemuz, SALP, La Paz

This chapter summarizes the results of settlement survey in Khonkho's hinterland, presenting evidence for human occupation beginning in the Late Archaic through the Early Spanish Colonial period.

Chapter 3:

Resources, Routes, and Production in Khonkho Wankane's Hinterland

Multiple Authors (Lemuz, Ohnstad, Janusek, Gladwell, Giesso).

This chapter discusses multiple resources (e.g., salt, plaster, stone, mineral pigments, clays) available to inhabitants of Khonkho and its hinterland, the likely Prehispanic routes used to move goods to and from the region, and the productive systems (e.g., qochas, hill slope terraces) that were constructed and used in the past.

Chapter 4:

Geophysical Survey at Khonkho Wankane

P. Ryan Williams, Field Museum of Natural History

Chris Dayton and Ben Vining, Boston University

This chapter presents the results of geophysical survey at Khonkho Wankane, comparing the multiple techniques used to locate sub-surface features. It discusses the variable results of these techniques and the level of success of geophysical survey at Khonkho overall.

Chapter 5:

Khonkho Wankane and the Construction of Landscape in Machaca

Arik T. Ohnstad, Vanderbilt University

This chapter outlines the foundation of Khonkho, the construction of its main platform, and its overall history in relation to the region's natural elements and the production of an anthropogenic landscape in the site's immediate vicinity.

Chapter 6:

Monoliths and Monolithic Iconography at Khonkho

Arik T. Ohnstad, Vanderbilt University

This chapter continues the themes raised in the last chapter by summarizing an in-depth analysis of the site's monoliths and their elaborate iconography. It discusses the chronology of monolith carving at Khonkho, as well as origins and significance of the stones and the recent discovery of quarries in the mountain range behind the site.

Chapter 7:

Ceremonial Construction and the Shifting Significance of Khonkho Wankane

Scott C. Smith, University of California, Riverside

Maribel Perez, Pittsburgh University

This chapter continues the discussion of Khonkho's shifting significance by focusing on changing configurations of ceremonial construction at the site. It contains an in-depth treatment of excavations in one major compound on the east sector of the platform in which team members located evidence for the production of human ritual relics.

Chapter 8:

Platform Construction and Water Management at Khonkho Wankane

Victor Plaza, SALP, La Paz

This chapter further extends the discussion of Khonkho's shifting spatial configurations by focusing on the construction of the south section of the platform and its hydraulic management.

Chapter 9:

Archaeoastronomy at Khonkho Wankane and beyond

Leonardo Benitez, University of Pennsylvania

This chapter summarizes the results of archaeo-astronomical analysis at Khonkho and the role of monuments in facilitating visual and proxemic pathways with major celestial observations and natural features. It compares results with similar analysis at other sites in the region, most notably Tiwanaku.

Chapter 10:

Residential Life at Khonkho Wankane and Beyond

Erik Marsh, University of California, Santa Barbara

This chapter discusses evidence for domestic habitation at Khonkho and the various activities of its inhabitants. It focuses discussion on evidence for Late Formative

habitation in the west platform with habitation in the site periphery and at other nearby centers, most notably Tiwanaku.

Chapter 11:

Communal Food Production at Khonkho Wankane
Jennifer Zovar, Vanderbilt University

This chapter summarizes results of research in a compound adjacent to Khonkho Wankane's primary temple areas, in which evidence for communal food production was located. It discusses this evidence in relation to other areas of the site and other sites in the region.

Chapter 12:

Tiwanaku Occupation at Khonkho Wankane
John W. Janusek and Arik T. Ohnstad, Vanderbilt University

This chapter synthesizes evidence for Tiwanaku re-use and occupation on Khonkho's main platforms and in the immediate hinterland. It discusses evidence in relation to sociopolitical and cultural shifts throughout the region after AD 500.

Chapter 13:

Late Intermediate and Inca Occupation in Khonkho's hinterland: Archaeology on the Pukara de Khonkho and Kula Marka.
Jennifer Zovar, Vanderbilt University

This chapter summarizes results of research at sites just north of Khonkho Wankane, which yielded evidence for major demographic shifts following Tiwanaku collapse (AD 1100-1200) and the onset of Inca hegemony in the region (AD 1450-1535). It discusses changing settlement patterns in relation to the later use of Khonkho Wankane itself.

Section III: Specialized Analysis

Chapter 14:

Camelids and Feasting in Khonkho Wankane
Randi Gladwell, Vanderbilt University

Continuing the themes introduced in Chapter 11, this chapter discusses the ritualization of camelid (domesticated llamas and alpacas) consumption in ceremonial and feasting events at Khonkho Wankane. The bulk of the data derives from the author's comparative faunal analysis of camelid remains from the site.

Chapter 15:

The Worked Bones of Khonkho Wankane
Randi R. Gladwell, Vanderbilt University

This chapter continues the focus on camelids by discussing their post-mortem use in making tools that were used in daily life by inhabitants of Khonkho Wankane.

Chapter 16:

Micro-fauna in Ceremonial and Domestic Contexts at Khonkho Wankane
James Pokines, CILHI

This chapter discusses results of micro-faunal analysis and the significance of various small species in Khonkho's domestic and ceremonial contexts.

Chapter 17:

Ceramic Vessels at Khonkho Wankane
John Janusek, Vanderbilt University
Scott C. Smith, University of California, Riverside

This chapter discusses the results of ceramic analysis at Khonkho Wankane, outlining a chronology of changing ceramic production and use at the site in relation to that at other sites in the region.

Chapter 18:

Lithic Production and Distribution at Khonkho Wankane
Martin Giesso, Northeastern Illinois University

This chapter synthesizes ongoing lithic analysis at Khonkho Wankane, emphasizing the distribution and use of valued minerals (e.g., basalt, obsidian) and the production of lithic tools. Patterns of lithic production and use are compared those those at other sites in the region, most notably Tiwanaku.

Chapter 19:

Groundstone Tools and Food production at Khonkho Wankane
Amanda Garrison, University of California, Santa Barbara

This chapter summarizes results of an analysis of groundstone tools located in Khonkho's various sectors. It discusses differences in the quantity and type of groundstone implements across Khonkho Wankane in light of differences in activity areas and food production at the site.

Chapter 20:

Human Remains at Khonkho Wankane
Deborah E. Blom, University of Vermont
Catherine Domanska, University of Pennsylvania

This chapter synthesizes results of excavations in mortuary contexts at Khonkho Wankane, focusing on the analysis of human remains from Late Formative and Tiwanaku period contexts. It discusses overall patterns of human interment and post-mortem bodily

curation during the Late Formative, in relation to changes attendant on the Tiwanaku occupation of the site.

Chapter 21:

Isotope Analyses and the Movement of Humans and Camelids in Machaca
Kelly Knudson, Arizona State University

This chapter summarizes the results of isotope analyses for human and camelid remains at Khonkho Wankane and nearby sites. It discusses emerging patterns in the variability of isotopic signatures in relation to the movement of humans and camelids during the Late Formative and Tiwanaku periods.

Chapter 22:

Dietary Shifts and the Rise of Complexity in Khonkho Wankane and Tiwanaku
Carrie Anne Berryman, Vanderbilt University

This chapter presents the results of human isotopic analyses as they relate to dietary patterns at Khonkho Wankane. Data and results are discussed in relation to other sites in the region, most notably Tiwanaku.

Section IV: Conclusions

Chapter 23:

Khonkho Wankane in Space and Time: Proto-Urbanism and Emergent Complexity in the South-Central Andes.
John W. Janusek, Vanderbilt University

This chapter summarizes some of the key results derived from Proyecto Jach'a Machaca's research at Khonkho Wankane and its environs and draws some conclusions. It discusses the significance of Khonkho Wankane in its regional setting, and in relation to overall archaeological patterns preceding and post-dating the Late Formative. Conclusions are discussed in relation to broad theories and ideas relating to emergent complexity, the rise of state societies, and the crystallization of urbanism.